# PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5627689

| SUBMISSION TYPE:      | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT     |

#### **CONVEYING PARTY DATA**

| Name                     | Execution Date |
|--------------------------|----------------|
| GENERAL ELECTRIC COMPANY | 06/17/2019     |
| GE FUEL CELLS LLC        | 06/17/2019     |
| YSZ ENERGY INC.          | 06/17/2019     |

## **RECEIVING PARTY DATA**

| Name:           | ANGELA B FREEMAN       |
|-----------------|------------------------|
| Street Address: | 301 EAST MARKET STREET |
| City:           | INDIANAPOLIS           |
| State/Country:  | INDIANA                |
| Postal Code:    | 46204                  |

## **PROPERTY NUMBERS Total: 1**

| Property Type       | Number   |
|---------------------|----------|
| Application Number: | 15605227 |

## CORRESPONDENCE DATA

Fax Number: (317)231-7433

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: 3172317479

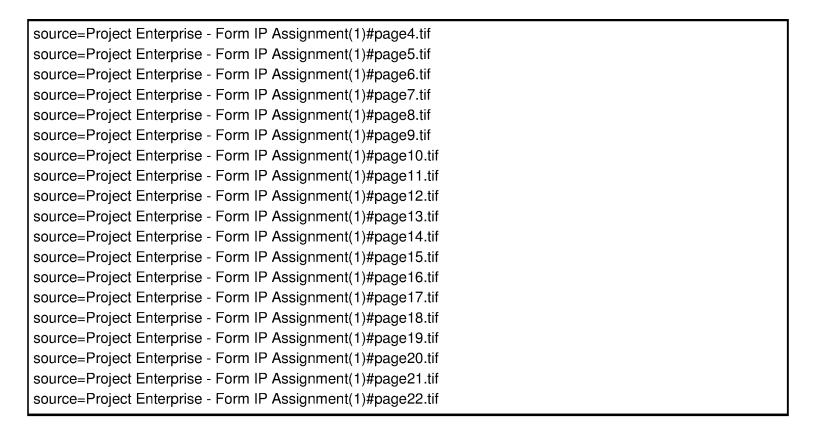
Email: gtwyman@btlaw.com ANGELA B. FREEMAN **Correspondent Name:** 

Address Line 1: 11 SOUTH MERIDIAN STREET Address Line 2: **BARNES & THORNBURG LLP** Address Line 4: INDIANAPOLIS, INDIANA 46204

| ATTORNEY DOCKET NUMBER: | 29766-296814        |
|-------------------------|---------------------|
| NAME OF SUBMITTER:      | ANGELA B. FREEMAN   |
| SIGNATURE:              | /Angela B. Freeman/ |
| DATE SIGNED:            | 07/19/2019          |

## **Total Attachments: 22**

source=Project Enterprise - Form IP Assignment(1)#page1.tif source=Project Enterprise - Form IP Assignment(1)#page2.tif source=Project Enterprise - Form IP Assignment(1)#page3.tif



#### INTELLECTUAL PROPERTY ASSIGNMENT AGREEMENT

This INTELLECTUAL PROPERTY ASSIGNMENT AGREEMENT (this "<u>Agreement</u>") is made and entered into as of June 17, 2019 by and among General Electric Company, a New York corporation ("<u>Parent</u>"); GE Fuel Cells LLC, a Delaware limited liability company ("<u>GE Fuel Cells</u>"); YSZ Energy Inc., a Delaware corporation ("<u>YSZ Energy</u>" and together with Parent and GE Fuel Cells, the "<u>Assignor</u>"); and Cummins Enterprise LLC, an Indiana limited liability company ("<u>Cummins</u>" or "<u>Assignee</u>"). Assignor and Assignee are collectively referred to in this Agreement as the "Parties."

## **RECITALS**

WHEREAS, pursuant to that certain Asset Purchase Agreement, dated as of June 17, 2019, by and among Assignor and Assignee (the "<u>Asset Purchase Agreement</u>"), the Parties desire that Assignor transfer to Assignee all of the right, title and interest of Assignor in and to the Intellectual Property Assets referred to in the Asset Purchase Agreement, which include, but are not limited to, the patents and patent applications set forth on <u>Attachment A</u> attached hereto (the "<u>Assigned IP</u>"); and

WHEREAS, Assignee wishes to acquire all of Assignor's right, title and interest in and to the Assigned IP, and Assignor wishes to assign such right, title and interest in and to such Assigned IP to Assignee.

NOW, THEREFORE, in consideration of the foregoing recitals and the mutual representations, warranties, covenants and agreements set forth herein, the Parties hereby agree as follows:

- 1. <u>Certain Defined Terms</u>. Unless otherwise defined herein, all capitalized terms used herein shall have the meanings ascribed to such terms in the Asset Purchase Agreement.
- 2. <u>Transfer of Assigned IP</u>. Assignor does hereby grant, bargain, sell, transfer, convey, assign, alienate, release and deliver to Assignee and its successors and assigns, and Assignee does hereby accept, all of Assignor's right, title and interest in and to the Assigned IP, including any renewals and extensions of the registrations that are or may be secured under the laws of the United States and all foreign countries, now or hereafter in effect, as well as all causes of action and enforcement rights, whether currently pending, filed or otherwise, for the Assigned IP, including all rights to damages, injunctive relief and other remedies for past, current and future infringement of the Assigned IP.
- 3. <u>Further Assurances</u>. Assignor covenants and agrees that, at any time and from time to time upon the request of Assignee, Assignor shall provide any further necessary documentation and do all further acts reasonably requested by Assignee or necessary to confirm and perfect title in and to the Assigned IP in Assignee, its successors and assigns.
- 4. <u>Entire Agreement</u>. This Agreement and the applicable provisions of the Asset Purchase Agreement, the Intellectual Property Cross License Agreement and the Transition Services Agreement constitute the sole and entire agreement of the Parties to this Agreement with respect to the subject matter contained herein and therein, and supersede all prior and contemporaneous understandings and agreements, both written and oral, with respect to such subject matter, including that certain SOFC Term Sheet, dated as of March 18, 2019, by and between Cummins Inc., an Indiana corporation, and Parent (the "<u>Letter of Intent</u>"). In the event of any inconsistency between

the statements in the body of this Agreement and those in the other Ancillary Documents and the Disclosure Schedules (other than an exception expressly set forth as such in the Disclosure Schedules) or the Letter of Intent, the statements in the Asset Purchase Agreement will control.

- 5. <u>Successors and Assigns</u>. This Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns.
- 6. <u>Governing Law and Venue</u>. This Agreement shall be governed by and construed in accordance with the internal the laws of the State of Delaware without giving effect to any choice or conflict of law provision or rule (whether of the State of Delaware or any other jurisdiction).
- 7. <u>Dispute Resolution</u>. Any dispute relating to, or arising out of, any provision of this Agreement shall be resolved in accordance with <u>Section 8.11</u> of the Asset Purchase Agreement.
- 8. <u>Counterparts</u>. This Agreement may be executed in one or more counterparts, each of which shall be considered an original instrument, but all of which shall be considered one and the same agreement, and shall become binding when one or more counterparts have been signed by each of the Parties and delivered to each of the Parties. Delivery of an executed counterpart of a signature page to this Agreement shall be as effective as delivery of a manually executed counterpart of this Agreement. Facsimile or e-mail transmission of .pdf signatures or other electronic copies of signatures shall be deemed to be originals.

Remainder of page intentionally left blank.

IN WITNESS WHEREOF, Assignor and Assignee have caused this Agreement to be executed by their duly authorized representatives as of the Effective Date.

**ASSIGNOR:** 

| PARENT:                  |
|--------------------------|
| GENERAL ELECTRIC COMPANY |
| By:                      |
| GE FUEL CELLS:           |
| GE FUEL CELLS LLC        |
| By:Name:Title:           |
| YSZ ENERGY:              |
| YSZ ENERGY INC.          |
| By:                      |
| Name:Title:              |

IN WITNESS WHEREOF, Assignor and Assignee have caused this Agreement to be executed by their duly authorized representatives as of the Effective Date.

ASSIGNOR:

| <i>ያ</i> ርያ ጊዜ የ ይ    | RAL ELECTRIC COMPANY |      |
|-----------------------|----------------------|------|
| UENI                  | RAL ELECTRIC COMPANY |      |
| Bv.                   | TERMINA ALL          |      |
|                       |                      |      |
| Title:                |                      |      |
|                       |                      |      |
| GE F                  | UEL CELLS:           |      |
| GE FI                 | JEL CELLS LLC        |      |
|                       |                      |      |
| D /                   | 42 H.                |      |
| Dy: <u>"∈</u><br>Name | Michael Peraces      |      |
| Title:                | Resident             |      |
| •                     |                      | **** |
| V97. I                | ENERGY:              |      |
| x (363 x              | 33 T 2 3 3 T C 2     |      |
| YSZ F                 | NERGY INC.           |      |
|                       |                      |      |
| By:                   |                      |      |
|                       |                      |      |

[Signature Page to Intellectual Property Assignment Agreement]

IN WITNESS WHEREOF, Assignor and Assignee have caused this Agreement to be executed by their duly authorized representatives as of the Effective Date.

| ASSIGNOR:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PARENT:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| GENERAL ELECTRIC COMPANY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Ву:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Name:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Title:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| GE FUEL CELLS:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| GE FUEL CELLS LLC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| _                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| By:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Nainc.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Title:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| YSZ ENERGY:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| R MAN ENTER ENTER E :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| YSZ ENERGY INC.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| The state of the s |
| Mark & Manual A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| By: July Confirm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Nature / Jaffyey Prop kc/                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Title: Direcher                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

ASSIGNEE:

**CUMMINS:** 

CUMMINS ENTERPRISE LLC

Name: Thaddeus B. Ewald

Title: President

# **Attachment A**

1. See attached list.

| 121105-US-1 | 120588-US-1                                                              | 120539-US-13                                                                                             | 120539-US-7                                                | 120539-US-1                                 | 120373-US-1                                           | 282569-DE-8                                                                     | 282569-GB-7                                                               | 282569-FR-6                                                               | 282569-JP-5                                                               | 282569-KR-4                                                               | 282569-EP-3                                                               | 282569-CN-2                                                               | 282569-US-1                                                               | Patent Reference |
|-------------|--------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------|---------------------------------------------------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------|------------------|
| US10/246066 | US10/268420                                                              | US11/757370                                                                                              | US10/955508                                                | US10/166909                                 | US10/063467                                           | EP20160203682                                                                   | EP20160203682                                                             | EP20160203682                                                             | JP20160242823                                                             | KR20160180115                                                             | EP20160203682                                                             | CN201611244988                                                            | US14/983004                                                               | rence AppNo      |
| US7090942   | US7910158                                                                | US7651810                                                                                                | US7595122                                                  | US7575821                                   | US7022429                                             | EP3188337                                                                       | EP3188337                                                                 | EP3188337                                                                 | JP2017121169                                                              | KR20170078531                                                             | EP3188337                                                                 | CN106933293                                                               | US10097009                                                                | PubNo            |
| CELL        | MATERIALS FOR USE IN SOLID OXIDE FUEL CELLS FLOW DISRUPTOR ENHANCED FUEL | ASSEMBLY, PREFORM AND METHOD OF FABRICATION METHOD FOR FABRICATING AN ARRAY OF ELECTRODE AND ELECTROLYTE | AND METHOD OF FABRICATION INTERCONNECT SUPPORTED FUEL CELL | ASSEMBLY AND PREFORM INTERCONNECT SUPPORTED | GENERATION EQUIPMENT INTERCONNECT SUPPORTED FUEL CELL | METHOD AND SYSTEMS FOR<br>MANAGING POWER SYSTEMS<br>FLUID PASSAGES FOR POWER    | METHOD AND SYSTEMS FOR<br>MANAGING POWER SYSTEMS                          | Title            |
| USA         | USA                                                                      | USA                                                                                                      | USA                                                        | USA                                         | USA                                                   | Germany                                                                         | United Kingdom 13-Dec-16                                                  | France                                                                    | Japan                                                                     | Korea                                                                     | European<br>Patent                                                        | China                                                                     | USA                                                                       | Country          |
| 18-Sep-02   | 10-Oct-02                                                                | 3-Jun-07                                                                                                 | 1-0ct-04                                                   | 11-Jun-02                                   | 25-Apr-02                                             | 13-Dec-16                                                                       | n 13-Dec-16                                                               | 13-Dec-16                                                                 | 15-Dec-16                                                                 | 27-Dec-16                                                                 | 13-Dec-16                                                                 | 29-Dec-16                                                                 | 29-Dec-15                                                                 | Filed Date       |
| Granted     | Granted                                                                  | Granted                                                                                                  | Granted                                                    | Granted                                     | Granted                                               | Granted                                                                         | Granted                                                                   | Granted                                                                   | Application                                                               | Application                                                               | Granted                                                                   | Examination<br>Requested                                                  | Granted                                                                   | Status           |
| Business    | Exclusive use for GE SOFC Business Exclusive use for GE SOFC             | Exclusive use for GE SOFC Business                                                                       | Exclusive use for GE SOFC<br>Business                      | Business                                    | Business<br>Exclusive use for GE SOFC                 | Could potentially be used in other GE Business Exclusive use for GE SOFC        | Could potentially be used in other GE Business                            | Could potentially be used in other GE Business                            | Could potentially be used in other GE Business                            | Could potentially be used in other GE Business                            | Could potentially be used in other GE Business                            | Could potentially be used in other GE Business                            | Could potentially be used in other GE Business                            | Characterization |
|             |                                                                          |                                                                                                          |                                                            |                                             |                                                       | Relates to power system with<br>multiple power sources and<br>power controllers | Relates to power system with multiple power sources and power controllers | Relates to power system with multiple power sources and power controllers | Relates to power system with multiple power sources and power controllers | Relates to power system with multiple power sources and power controllers | Relates to power system with multiple power sources and power controllers | Relates to power system with multiple power sources and power controllers | Relates to power system with multiple power sources and power controllers | Comments         |
| .2.         | 55                                                                       | 9-A<br>5-9                                                                                               | ; <u>-</u> 3                                               | 10                                          | 9                                                     | රස                                                                              | 7                                                                         | m                                                                         | UT                                                                        | 4.                                                                        | w                                                                         | N                                                                         | k-1                                                                       | Column1          |

| 215520-US-1<br>215816-US-1                                                                                                 | 214413-US-1                                                    | 202252-US-1                                            | 186214-US-1                                                                       | 177728-US-1 | 163855-US-1                                                            | 161443-US-1                                                                                                 | 155242-US-1                                                                                                 | 153593-US-1                                               | 130024-US-1                                                            | 128613-US-1                                                                                                                                         | 126347-US-1                                | 125646-US-1                                                 | 123800-US-1            | 123579-US-1                                   | 123338-US-3                                                     | 123335-US-1                                         | 123320-US-1                                                                |
|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|--------------------------------------------------------|-----------------------------------------------------------------------------------|-------------|------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|-------------------------------------------------------------|------------------------|-----------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------------|----------------------------------------------------------------------------|
| US11/854702<br>US11/863747                                                                                                 | US11/640064                                                    | US12/199937                                            | US11/307265                                                                       | US11/172262 | US11/235555                                                            | US11/271946                                                                                                 | US11/593927                                                                                                 | US10/711477                                               | US10/881407                                                            | US10/665942                                                                                                                                         | US10/248166                                | US10/315750                                                 | US09/832625            | US10/038471                                   | US09/827843                                                     | US09/520276                                         | US09/415467                                                                |
| US8337939<br>US8617762                                                                                                     | US7748259                                                      | US8163434                                              | US8021795                                                                         | US8216323   | US9985295                                                              | US7645535                                                                                                   | US7745029                                                                                                   | US7521387                                                 | US7803473                                                              | US7358005                                                                                                                                           | US7410713                                  | US7329471                                                   | US6632554              | US6756144                                     | US6803136                                                       | US6589681                                           | US6838204                                                                  |
| METHOD OF PROCESSING A CERAMIC LAYER AND RELATED ARTICLES METHOD OF PROCESSING A CERAMIC ELECTROLYTE, AND RELATED ARTICLES | SYSTEMS AND METHODS FOR SOLID OXIDE FUEL CELL SURFACE ANALYSIS | INTERCONNECTS; RELATED DEVICES, AND METHODS OF FORMING | METHOD FOR MANUFACTURING SOLID OXIDE ELECTROCHEMICAL DEVICES BARRIER COATINGS FOR | PRODUCTION  | AND RELATED COMPOSITIONS AND PROCESSES  SYSTEM AND METHOD FOR HYDROGEN | BONDING ELECTRODES TO INTERCONNECT LAYERS IN SOLID OXIDE FUEL CELL STACKS SOLID OXIDE FUEL CELL STRUCTURES, | FERRITIC STEELS FOR SOLID OXIDE FUEL CELLS AND OTHER HIGH TEMPERATURE APPLICATIONS METHOD AND MATERIALS FOR | MATERIALS FOR SOLID OXIDE FUEL CELLS                      | SYSTEM AND METHOD INCORPORATING THE SAME ALKALL-FREE COMPOSITE SEALANT | METHODS AND APPARATUS FOR ASSEMBLING SOLID OXIDE FUEL CELLS   METHODS AND APPARATUS FOR ISOLATING SOLID OXIDE FUEL CELLS INTEGRATED POWER PLANT AND | PLANT WITH RE-CIRCULATED AIR AND FUEL FLOW | METHODS AND APPARATUS FOR ASSEMBLING SOLID OXIDE FUEL CELLS | SOLID OXIDE FUEL CELLS | FUEL CELL STACK HIGH PERFORMANCE CATHODES FOR | UNITIZED SOLID OXIDE FUEL CELLS INTEGRATED RECUPERATION LOOP IN | PLANAR FUEL CELL STACKS STACKING AND MANIFOLDING OF | METHOD AND APPARATUS FOR FUEL CELL PACKAGING SERIES/PARALLEL CONNECTION OF |
| USA                                                                                                                        | USA                                                            | USA                                                    | USA                                                                               | USA         | USA                                                                    | E<br>USA                                                                                                    | USA<br>E                                                                                                    | USA                                                       | USA                                                                    | NSA I                                                                                                                                               | USA                                        | USA                                                         | USA                    | USA                                           | USA                                                             | USA                                                 | USA                                                                        |
| 13-Sep-07<br>28-Sep-07                                                                                                     | 15-Dec-06                                                      | 28-Aug-08                                              | 30-Jan-06                                                                         | 30-Jun-05   | 26-Sep-05                                                              | 14-Nov-05                                                                                                   | 7-Nov-06                                                                                                    | 21-Sep-04                                                 | 30-Jun-04                                                              | 18-Sep-03                                                                                                                                           | 23-Dec-02                                  | 10-Dec-02                                                   | 10-Apr-01              | 3-Jan-02                                      | 5-Apr-01                                                        | 6-Mar-00                                            | 8-Oct-99                                                                   |
| Granted<br>Granted                                                                                                         | Granted                                                        | Granted                                                | Granted                                                                           | Granted     | Granted                                                                | Granted                                                                                                     | Granted                                                                                                     | Granted                                                   | Granted                                                                | Granted                                                                                                                                             | Granted                                    | Granted                                                     | Granted                | Granted                                       | Granted                                                         | Granted                                             | Granted                                                                    |
| Could potentially be used in other GE Business Exclusive use for GE SOFC Business                                          | Exclusive use for GE SOFC<br>Business                          | Exclusive use for GE SOFC Business                     | Exclusive use for GE SOFC<br>Business                                             | Business    | Exclusive use for GE SOFC Business Exclusive use for GE SOFC           | Exclusive use for GE SOFC<br>Business                                                                       | Could potentially be used in other GE Business                                                              | Could potentially be used in other GE Business            | Exclusive use for GE SOFC<br>Business                                  | Exclusive use for GE SOFC<br>Business                                                                                                               | Exclusive use for GE SOFC<br>Business      | Exclusive use for GE SOFC<br>Business                       | Business               | Business                                      | Business Exclusive use for GE SOFC                              | Business  Fxclusive use for GF SOFC                 | Exclusive use for GE SOFC Business Exclusive use for GE SOFC               |
| microcracks in a ceramic<br>layer                                                                                          | Relates to method of filling                                   |                                                        |                                                                                   |             |                                                                        |                                                                                                             | Relates to oxidation-resistant<br>ferritic steel alloy for high<br>temperature applications                 | Relates to glass or glass-<br>ceramic sealant composition |                                                                        |                                                                                                                                                     |                                            |                                                             |                        |                                               |                                                                 |                                                     |                                                                            |
| 33 32                                                                                                                      | μ<br>ω                                                         | 30                                                     | 29                                                                                | 28          | 27                                                                     | 26                                                                                                          | 1.<br>25                                                                                                    | 1 24                                                      | 23                                                                     | 22                                                                                                                                                  | 21                                         | 20                                                          | 13                     | çç.<br>7-7,                                   | 17                                                              | b)                                                  | 55                                                                         |

| 314224-US-1                                                               | 314017-US-1                                        | 314012-US-2                                    | 313963-US-1                         |                                                                | 313958-US-1                                        | 313534-US-1                          |                                                                                       | 313250-US-1                  | 285297-US-2                           | 282657-US-2                                   |                              | 281932-US-1           | 791080-03-1                                                                   |                                | 277551-US-5    | 275750-US-2                                    |                              | 275432-US-1 | 2/4249-05-1                                                  |                             | 263/20-US-1                                                                                    |                           | 258210-US-1            | 250546-US-1                                      |                                 |
|---------------------------------------------------------------------------|----------------------------------------------------|------------------------------------------------|-------------------------------------|----------------------------------------------------------------|----------------------------------------------------|--------------------------------------|---------------------------------------------------------------------------------------|------------------------------|---------------------------------------|-----------------------------------------------|------------------------------|-----------------------|-------------------------------------------------------------------------------|--------------------------------|----------------|------------------------------------------------|------------------------------|-------------|--------------------------------------------------------------|-----------------------------|------------------------------------------------------------------------------------------------|---------------------------|------------------------|--------------------------------------------------|---------------------------------|
| US15/400190                                                               | US15/343318                                        | US15/795084                                    | US15/382847                         |                                                                | US15/234865                                        | US15/281740                          |                                                                                       | US15/263505                  | US15/605227                           | US15/379342                                   |                              | US14/867391           | 0314/88/409                                                                   |                                | US15/160032    | US14/876438                                    |                              | US14/321124 | US14/445696                                                  |                             | US14/145088                                                                                    |                           | US13/907647            | US13/076664                                      | ,                               |
|                                                                           |                                                    |                                                |                                     |                                                                |                                                    |                                      |                                                                                       |                              |                                       |                                               |                              |                       |                                                                               |                                |                |                                                |                              |             |                                                              |                             |                                                                                                |                           |                        |                                                  |                                 |
| US20180198143                                                             | US20180131020                                      | US20180145351                                  | US20180175418                       |                                                                | US20180048002                                      | US20180097250                        |                                                                                       | US20180076472                | US20170346118                         | US20170179503                                 |                              | US20170092964         | 03201/00929/6                                                                 | 7700000                        | US20160344048  | US20160104906                                  |                              | US10256496  | 05815152                                                     |                             | US201501881/3                                                                                  |                           | US9819038              | US8778545                                        |                                 |
| SYSTEMS AND METHODS FOR DISTRIBUTED FAULT MANAGEMENT IN FUEL CELL SYSTEMS | CASCADED FUEL CELLS AND ASSOCIATED METHODS THEREOF | METHOD THEREOF  BOWER GENERATION SYSTEM LISING | SYSTEMS  SYSTEMS  SYSTEMS           | STACKS, AND ADJUSTING OPERATIONAL CHARACTERISTICS IN FUEL CELL | HEAT EXCHANGER ASSEMBLIES METHOD AND APPARATUS FOR | METHODS AND POWER SYSTEMS AND        | AN INTERCONNECT FOR AN INTERNALLY-MANIFOLDED SOLID OXIDE FUEL CELL STACK; AND RELATED | INTEGRATED FUEL CELL SYSTEMS | METHOD THEREOF                        | POWER PLANT<br>FUEL CELL SYSTEM AND OPERATING | METHOD THEREOF AND FUEL CELL | OPERATING SUCH MODULE | OPERATING SOCH MODULE FUEL CELL MODULE INCLUDING HEAT EXCHANGER AND METHOD OF | FUEL CELL MODULE AND METHOD OF | METHOD THEREOF | CONTROLLING FLOW RATE RATIO                    | SYSTEM AND METHOD FOR        | CELLS       | POWER GENERATION SYSTEMS AND METHODS UTILIZING CASCADED FUEL | AND METHOD OF OPERATING THE | SOLID OXIDE FUEL CELL SYSTEMS SOLID OXIDE FUEL CELL-BASED POWER GENERATION AND DELIVERY SYSTEM |                           | CARBON DIOXIDE REMOVAL | WITH CO2 CAPTURE FUEL CELL REFORMING SYSTEM WITH | INCREASING YIELD FROM FUEL CELL |
| USA                                                                       | USA                                                | USA                                            | USA                                 | ·                                                              | USA                                                | USA                                  |                                                                                       | USA                          | USA                                   | USA                                           |                              | USA                   | OSA                                                                           | •                              | USA            | USA                                            |                              | USA         | USA                                                          |                             | USA                                                                                            |                           | USA                    | USA                                              |                                 |
| 6-Jan-17                                                                  | 4-Nov-16                                           | 26-Oct-17                                      | 19-Dec-16                           |                                                                | 11-Aug-16                                          | 30-Sep-16                            |                                                                                       | 13-Sep-16                    | 25-May-17                             | 14-Dec-16                                     |                              | 28-Sep-15             | cr-dac-97                                                                     | נ<br>נ<br>נ                    | 20-May-16      | 6-0ct-15                                       |                              | 1-Jul-14    | 29-JUI-14                                                    | -                           | 31-Dec-13                                                                                      |                           | 31-May-13              | 31-Mar-11                                        |                                 |
| Published                                                                 | Published                                          | Published                                      | Published                           |                                                                | Published                                          | Published                            |                                                                                       | Allowed                      | Published                             | Published                                     |                              | Published             | rublished                                                                     | P                              | Allowed        | Allowed                                        |                              | Granted     | Granted                                                      |                             | Allowed                                                                                        |                           | Granted                | Granted                                          |                                 |
| Could potentially be used in other GE Business                            | Exclusive use for GE SOFC<br>Business              | Business                                       | Business  Fxclusive use for GF SOFC | Exclusive use for GE SOFC                                      | Business                                           | Business  Fyclusive lise for GF SOFC | Exclusive use for GE SOFC                                                             | Business                     | Business<br>Exclusive use for GE SOFC | Business<br>Exclusive use for GE SOFC         | Exclusive use for GE SOFC    | Business              | Exclusive use for GE SOFC                                                     | Exclusive use for GE SOFC      | Business       | other GE Business<br>Exclusive use for GE SOFC | Could potentially be used in | Business    | Exclusive use for GE SOFC                                    | Exclusive use for GE SOFC   | Business                                                                                       | Exclusive use for GE SOFC | Business               | Business Exclusive use for GE SOFC               | Exclusive use for GE SOFC       |
|                                                                           | Relates to distributed fault                       |                                                |                                     |                                                                |                                                    |                                      |                                                                                       |                              |                                       |                                               |                              |                       |                                                                               |                                |                |                                                | rate ratio at high           |             |                                                              |                             |                                                                                                |                           |                        |                                                  |                                 |
| ដ                                                                         | 50                                                 | 49                                             | \$                                  |                                                                | 47                                                 | 46                                   |                                                                                       | 45                           | 44                                    | 43                                            |                              | 42                    | 1                                                                             | 2                              | 45             | 39                                             |                              | 33          | 3/                                                           |                             | 36                                                                                             |                           | 35                     | 34<br>4                                          |                                 |

RECIRCULATION COMPLEX FOR

| 177728-CH-9   | 177728-GB-8                               | 177728-FR-7                               | 177728-DE-6                               | 177728-JP-5                               | 177728-CN-3                               | 155242-JP-2                                    |                                                              | 153489-GB-8              |                                                              | 153489-FR-7                          |                                                              | 153489-DE-6                          |                             | 4-41-60+CCT                                                           |                             |                                  | 149801-JP-6                                              | 125646-JP-7                                                        | 123800-JP-4                           | 122595-JP-7                                                           | 121105-JP-6                           | 120373-JP-7                                              | 314657-US-1                                                                         | 314638-US-1                                    | 314300-US-1                                                 |
|---------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|------------------------------------------------|--------------------------------------------------------------|--------------------------|--------------------------------------------------------------|--------------------------------------|--------------------------------------------------------------|--------------------------------------|-----------------------------|-----------------------------------------------------------------------|-----------------------------|----------------------------------|----------------------------------------------------------|--------------------------------------------------------------------|---------------------------------------|-----------------------------------------------------------------------|---------------------------------------|----------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------------|-------------------------------------------------------------|
| EP20060785109 | EP20060785109                             | EP20060785109                             | EP20060785109                             | JP20080519368                             | CN2006823168                              | JP20070284683                                  |                                                              | EP20060251993            |                                                              | EP20060251993                        |                                                              | EP20060251993                        |                             | JEZUUBULUOOHO                                                         |                             |                                  | JP20060104881                                            | JP20030409747                                                      | JP20020581613                         | JP20010531169                                                         | JP20030323817                         | JP20030119169                                            | US15/397422                                                                         | US15/419776                                    | US15/331421                                                 |
| EP1904401     | EP1904401                                 | EP1904401                                 | EP1904401                                 | JP5148489                                 | CN101208263                               | JP5306631                                      |                                                              | EP1713141                |                                                              | EP1713141                            |                                                              | EP1713141                            |                             | JF3C1309                                                              | 222                         |                                  | JP5486758                                                | JP4764597                                                          | JP4981239                             | JP5101775                                                             | JP5057634                             | JP4642325                                                | US20180191010                                                                       | US20180219373                                  | US10283804                                                  |
| PRODUCTION    | PRODUCTION SYSTEM AND METHOD FOR HYDROGEN | APPLICATIONS<br>SYSTEM AND METHOD FOR HYDROGEN | FERRITIC STEELS FOR SOLID OXIDE FUEL                         | GENERATION               | CONTROLLED SOLID OXIDE FUEL CELL (SOFC)/TURBINE HYBRID POWER | GENERATION METHODS AND APPARATUS FOR | CONTROLLED SOLID OXIDE FUEL CELL (SOFC)/TURBINE HYBRID POWER | GENERATION METHODS AND APPARATUS FOR | (SOFC)/TURBINE HYBRID POWER | GENERATION METHODS AND APPARATUS FOR CONTROLLED SOLID OXIDE FUEL CELL | (SOFC)/TURBINE HYBRID POWER | CONTROLLED SOLID OXIDE FUEL CELL | MANUFACTURING FUEL CELL STACKS METHODS AND APPARATUS FOR | Solid oxide fuel cell and fuel cell stack<br>SYSTEM AND METHOD FOR | state oxide                           | Unit solid oxide type fuel cell Advanced cathode null anode of solid- | CELL                                  | ENHANCEMENT FOR SOFC LAYERS FLOW DISRUPTOR ENHANCED FUEL | PROTECTION CIRCUIT FOR A FUEL CELL<br>AND METHOD OF USE<br>DIMPLED BAFFLE COOLING   | AUXILIARY POWER CIRCUIT AND<br>METHOD OF USE   | FLANGE ASSEMBLY FOR USE WITH A SOLID OXIDE FUEL CELL SYSTEM |
| Switzerland   | United Kingdom                            | France                                    | Germany                                   | Japan                                     | China                                     | Japan                                          |                                                              | United Kingdo            |                                                              | France                               |                                                              | Germany                              |                             | тарап                                                                 | Ī                           |                                  | Japan                                                    | Japan                                                              | Japan                                 | Japan                                                                 | Japan                                 | Japan                                                    | USA                                                                                 | USA                                            | USA                                                         |
| 19-Jun-06     | om 19-Jun-06                              | 19-Jun-06                                 | 19-Jun-06                                 | 19-Jun-06                                 | 19-Jun-06                                 | 1-Nov-07                                       |                                                              | United Kingdom 10-Apr-06 |                                                              | 10-Apr-06                            |                                                              | 10-Apr-06                            |                             | 11-Apr-06                                                             |                             |                                  | 6-Apr-06                                                 | 9-Dec-03                                                           | 5-Apr-02                              | 12-Oct-00                                                             | 17-Sep-03                             | 24-Apr-03                                                | 3-Jan-17                                                                            | 30-Jan-17                                      | 21-Oct-16                                                   |
| Granted       | Granted                                   | Granted                                   | Granted                                   | Granted                                   | Granted                                   | Granted                                        |                                                              | Granted                  |                                                              | Granted                              |                                                              | Granted                              |                             | Granted                                                               |                             |                                  | Granted                                                  | Granted                                                            | Granted                               | Granted                                                               | Granted                               | Granted                                                  | Published                                                                           | Published                                      | Granted                                                     |
| Business      | Business<br>Exclusive use for GE SOFC     | other GE Business<br>Exclusive use for GE SOFC | Could potentially be used in                                 | Business                 | Exclusive use for GE SOFC                                    | Business                             | Exclusive use for GE SOFC                                    | Business                             | Exclusive use for GE SOFC   | business                                                              | Exclusive use for GE SOFC   |                                  | Business                                                 | Business Exclusive use for GE SOFC                                 | Business<br>Exclusive use for GE SOFC | Business<br>Exclusive use for GE SOFC                                 | Business<br>Exclusive use for GE SOFC | Business<br>Exclusive use for GE SOFC                    | Could potentially be used in other GE Business Exclusive use for GE SOFC            | Could potentially be used in other GE Business | Exclusive use for GE SOFC<br>Business                       |
|               |                                           |                                           |                                           |                                           |                                           | temperature applications                       | Relates to oxidation-resistant ferritic steel alloy for high |                          |                                                              |                                      |                                                              |                                      |                             |                                                                       |                             |                                  |                                                          |                                                                    |                                       |                                                                       |                                       |                                                          | Relates to protection circuit used when coupling a fuel cell with an auxiliary load | circuit coupled to a power source              | Relates to auxiliary power                                  |
| 71            | 70                                        | 69                                        | 83                                        | 67                                        | <u>6</u>                                  | 65                                             | Ħ.                                                           | <b>6</b> 2               |                                                              | 63                                   |                                                              | 62                                   |                             | D.                                                                    | 2                           |                                  | 8                                                        | 59                                                                 | 58                                    | 57                                                                    | 95                                    | ភ                                                        | 55<br>\$                                                                            | 53                                             | 52                                                          |

| 250546-GB-15             | 250546-FR-14                                                                                                | 250546-FI-13                                                               | 250546-ES-12                                                               | 250546-DK-11                                                               | 250546-DE-10                                                               | 250546-CH-9                                                                | 250546-BE-8                                                                | 250546-AT-7                                | 250546-RU-5                                | 250546-JP-4                                                                | 250546-CN-3                                                                | 215816-JP-2                                                                                                                  | 215723-JP-2                                           | 215520-JP-2                                                                             | 206325-JP-2                                 | 202252-JP-2                                                                          | 186214-JP-4                                                                             |
|--------------------------|-------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|----------------------------------------------------------------------------|----------------------------------------------------------------------------|----------------------------------------------------------------------------|----------------------------------------------------------------------------|----------------------------------------------------------------------------|--------------------------------------------|--------------------------------------------|----------------------------------------------------------------------------|----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|-----------------------------------------------------------------------------------------|---------------------------------------------|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| EP20120722564            | EP20120722564                                                                                               | EP20120722564                                                              | ES20120722564T                                                             | DK20120722564T                                                             | EP20120722564                                                              | EP20120722564                                                              | EP20120722564                                                              | EP20120722564                              | RU20130143732                              | JP20140502784                                                              | CN2012816188                                                               | JP20080243476                                                                                                                | JP20080138810                                         | JP20080232782                                                                           | JP20070307222                               | JP20090197542                                                                        | JP20060324941                                                                           |
| EP2692007                | EP2692007                                                                                                   | EP2692007                                                                  | ES2575730                                                                  | DK2692007                                                                  | EP2692007                                                                  | EP2692007                                                                  | EP2692007                                                                  | EP2692007                                  | RU2589884                                  | JP6063922                                                                  | CN103443982                                                                | JP5550223                                                                                                                    | JP5389378                                             | JP5552222                                                                               | JP5355878                                   | JP5607903                                                                            | JP5318345                                                                               |
| WITH CO2 CAPTURE         | INCREASING YIELD FROM FUEL CELL WITH CO2 CAPTURE RECIRCULATION COMPLEX FOR INCREASING YIELD FROM ELIEL CELL | INCREASING YIELD FROM FUEL CELL WITH CO2 CAPTURE RECIRCULATION COMPLEX FOR | INCREASING YIELD FROM FUEL CELL WITH CO2 CAPTURE RECIRCULATION COMPLEX FOR | INCREASING YIELD FROM FUEL CELL WITH CO2 CAPTURE RECIRCULATION COMPLEX FOR | INCREASING YIELD FROM FUEL CELL WITH CO2 CAPTURE RECIRCULATION COMPLEX FOR | INCREASING YIELD FROM FUEL CELL WITH CO2 CAPTURE RECIRCULATION COMPLEX FOR | INCREASING YIELD FROM FUEL CELL WITH CO2 CAPTURE RECIRCULATION COMPLEX FOR | WITH CO2 CAPTURE RECIRCULATION COMPLEX FOR | WITH CO2 CAPTURE RECIRCULATION COMPLEX FOR | WITH CO2 CAPTURE RECIRCULATION COMPLEX FOR INCREASING YIELD FROM FUEL CELL | WITH CO2 CAPTURE RECIRCULATION COMPLEX FOR INCREASING YIELD FROM FUEL CELL | A METHOD OF PROCESSING A CERAMIC ELECTROLYTIE AND RELATED ARTICLES RECIRCULATION COMPLEX FOR INCREASING YIELD FROM FUEL CELL | STRUCTURE AND METHOD OF FORMING; AND RELATED ARTICLES | METHOD OF PROCESSING A CERAMIC LAYER AND RELATED ARTICLES COMPOSITE CERAMIC ELECTROLYTE | AND METHOD OF FORMING; AND RELATED ARTICLES | INTERCONNECTS, RELATED DEVICES, AND METHODS OF FORMING CERAMIC ELECTROLYTE STRUCTURE | Method for Manufacturing Solid Oxide<br>Electrochemical Devices<br>BARRIER COATINGS FOR |
| United Kingd             | France                                                                                                      | Finland                                                                    | Spain                                                                      | Denmark                                                                    | Germany                                                                    | Switzerland                                                                | Belgium                                                                    | Austria                                    | Federation                                 | Japan<br>Russian                                                           | China                                                                      | C<br>Japan                                                                                                                   | Japan                                                 | Japan                                                                                   | Japan                                       | Japan                                                                                | Japan                                                                                   |
| United Kingdom 29-Mar-12 | 29-Mar-12                                                                                                   | 29-Mar-12                                                                  | 29-Mar-12                                                                  | 29-Mar-12                                                                  | 29-Mar-12                                                                  | 29-Mar-12                                                                  | 29-Mar-12                                                                  | 29-Mar-12                                  | 29-Mar-12                                  | 29-Mar-12                                                                  | 29-Mar-12                                                                  | 24-Sep-08                                                                                                                    | 28-May-08                                             | 11-Sep-08                                                                               | 28-Nov-07                                   | 28-Aug-09                                                                            | 30-Nov-06                                                                               |
| Granted                  | Granted                                                                                                     | Granted                                                                    | Granted                                                                    | Granted                                                                    | Granted                                                                    | Granted                                                                    | Granted                                                                    | Granted                                    | Granted                                    | Granted                                                                    | Granted                                                                    | Granted                                                                                                                      | Granted                                               | Granted                                                                                 | Granted                                     | Granted                                                                              | Granted                                                                                 |
| Business                 | Exclusive use for GE SOFC Business Exclusive use for GE SOFC                                                | Exclusive use for GE SOFC<br>Business                                      | Business                                   | Business  Evaluation use for GE SOEC       | Business Exclusive use for GE SOFC                                         | Business  Exclusive use for GE SOFC                                        | Exclusive use for GE SOFC  Exclusive use for GE SOFC                                                                         | Exclusive use for GE SOFC Business                    | Could potentially be used in other GE Business                                          | Exclusive use for GE SOFC Business          | Exclusive use for GE SOFC<br>Business                                                | Exclusive use for GE SOFC<br>Business                                                   |
|                          |                                                                                                             |                                                                            |                                                                            |                                                                            |                                                                            |                                                                            |                                                                            |                                            |                                            |                                                                            |                                                                            |                                                                                                                              |                                                       | n microcracks in a ceramic layer                                                        | Dolaton to mothod of filling                |                                                                                      |                                                                                         |
| 63                       | 88                                                                                                          | 8.7                                                                        | 88                                                                         | 85                                                                         | <b>00</b>                                                                  | 33                                                                         | 82                                                                         | 81                                         | 88                                         | 79                                                                         | 78                                                                         | 77                                                                                                                           | 76                                                    | 75                                                                                      | 74                                          | 73                                                                                   | 72                                                                                      |

| 263720-SE-12                  | 263720-NO-11                       | 263720-NL-10                       | 263720-HU-9                        | 263720-GB-8                        | 263720-FR-7                        | 263720-DE-6                        | 263720-KR-5                        | 263720-CN-4                        | 263720-JP-3                        | 255359-KR-5                        | 233333-17-4                       | 255359-CN-3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 25U54b-I R-24                                      |                                 | 250546-SE-23                               |                                                           | 250546-PT-22     | 250546-PL-21                               |                                                           | 250546-NO-20              | 250546-NL-19                               |                                                           | 250546-IT-18     | 250546-IE-17                               |                                 | 250546-GR-16                               |                                                           |
|-------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|---------------------------------|--------------------------------------------|-----------------------------------------------------------|------------------|--------------------------------------------|-----------------------------------------------------------|---------------------------|--------------------------------------------|-----------------------------------------------------------|------------------|--------------------------------------------|---------------------------------|--------------------------------------------|-----------------------------------------------------------|
| EP20140199454                 | EP20140199454                      | EP20140199454                      | EP20140199454                      | EP20140199454                      | EP20140199454                      | EP20140199454                      | KR20140191866                      | CN20141845726                      | JP20140259652                      | KR20150044049                      | Jr 20130003393                    | CN2U15115U828                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | EP20120/22564                                      |                                 | EP20120722564                              |                                                           | PT20120722564T   | PL12722564T                                |                                                           | FP20120722564             | EP20120722564                              |                                                           | EP20120722564    | EP20120722564                              |                                 | EP20120722564                              |                                                           |
| EP2889942                     | EP2889942                          | EP2889942                          | EP2889942                          | EP2889942                          | EP2889942                          | EP2889942                          | KR20150079444                      | CN104752747                        | JP2015130337                       | KR20150114421                      | JE ZOTOOTJ3000                    | CN1U5U4/96U                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | EP2692007                                          | 10000                           | EP2692007                                  |                                                           | PT2692007        | PL2692007                                  |                                                           | FP2692007                 | EP2692007                                  |                                                           | EP2692007        | EP2692007                                  |                                 | EP2692007                                  |                                                           |
| SOLID-OXIDE FUEL CELL SYSTEMS | SOLID-OXIDE FUEL CELL SYSTEMS      | SOLID-OXIDE FUEL CELL SYSTEMS      | SOLID-OXIDE FUEL CELL SYSTEMS      | SOLID-OXIDE FUEL CELL SYSTEMS      | SOLID-OXIDE FUEL CELL SYSTEMS      | SOLID-OXIDE FUEL CELL SYSTEMS      | SOLID-OXIDE FUEL CELL SYSTEMS      | SOLID-OXIDE FUEL CELL SYSTEMS      | SOLID-OXIDE FUEL CELL SYSTEMS      | CELL DEVICE                        | INTERCONNECT AND SOLID OXIDE FUEL | CELL DEVICE  OF THE D | WITH COZ CAPTURE INTERCONNECT AND SOLID OXIDE FUEL | INCREASING YIELD FROM FUEL CELL | WITH CO2 CAPTURE RECIRCULATION COMPLEX FOR | RECIRCULATION COMPLEX FOR INCREASING YIELD FROM FUEL CELL | WITH CO2 CAPTURE | WITH CO2 CAPTURE RECIRCULATION COMPLEX FOR | RECIRCULATION COMPLEX FOR INCREASING YIELD FROM FUEL CELL | WITH CO2 CAPTURE          | WITH CO2 CAPTURE RECIRCULATION COMPLEX FOR | RECIRCULATION COMPLEX FOR INCREASING YIELD FROM FUEL CELL | WITH CO2 CAPTURE | WITH CO2 CAPTURE RECIRCULATION COMPLEX FOR | INCREASING YIELD FROM FUEL CELL | WITH CO2 CAPTURE RECIRCULATION COMPLEX FOR | RECIRCULATION COMPLEX FOR INCREASING YIELD FROM FUEL CELL |
| Sweden                        | Norway                             | Netherlands                        | Hungary                            | United Kingd                       | France                             | Germany                            | Korea                              | China                              | Japan                              | Korea                              |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                    | H                               | Sweden                                     |                                                           | Portugal         | Poland                                     |                                                           | Norway                    | Netherlands                                | ,                                                         | ltalv            | Ireland                                    |                                 | Greece                                     |                                                           |
| 19-Dec-14                     | 19-Dec-14                          | 19-Dec-14                          | 19-Dec-14                          | United Kingdom 19-Dec-14           | 19-Dec-14                          | 19-Dec-14                          | 29-Dec-14                          | 31-Dec-14                          | 24-Dec-14                          | 30-War-15                          | 27- v d -13                       | 1-Apr-15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 29-War-12                                          |                                 | 29-Mar-12                                  |                                                           | 29-Mar-12        | 29-Mar-12                                  |                                                           | 29-Mar-12                 | 29-Mar-12                                  |                                                           | 29-Mar-12        | 29-Mar-12                                  |                                 | 29-Mar-12                                  |                                                           |
| Granted                       | Granted                            | Granted                            | Granted                            | Granted                            | Granted                            | Granted                            | Application                        | Published                          | Application                        | Application                        | Application                       | Application                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Granted                                            |                                 | Granted                                    |                                                           | Granted          | Granted                                    |                                                           | Granted                   | Granted                                    |                                                           | Granted          | Granted                                    |                                 | Granted                                    |                                                           |
| Business                      | Business Exclusive use for GE SOFC | Exclusive use for GE SOFC         | Business Exclusive use for GE SOFC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Exclusive use for GE SOFC                          | Exclusive use for GE SOFC       | Business                                   | Exclusive use for GE SOFC                                 | Business         | Business                                   | Exclusive use for GE SOFC                                 | Exclusive use for GE SOFC | Business                                   | Exclusive use for GE SOFC                                 | Business         | Business Exclusive use for GF SOFC         | Exclusive use for GE SOFC       | Business                                   | Exclusive use for GE SOFC                                 |
| 111                           | 110                                | 661                                | 801                                | 107                                | :<br>5                             | 105                                | 104                                | 103                                | 192                                | 101                                |                                   | , 100<br>66                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>3</b>                                           | 2                               | 97                                         |                                                           | 98               | 95                                         |                                                           | 70                        | 53                                         |                                                           | 92               | 91                                         |                                 | 90                                         |                                                           |

| 275750-DE-6                                       | 275750-KR-5                                       | 275750-JP-4                                       | 275750-EP-3                                                   | 275750-CN-1                                                   | 275432- T-9                           | 275432-GB-8                                                        | 275432-FR-7                                                        | 275432-DE-6                                                        | 275432-KR-5                                                        | 275432-CN-4                                                        | 275432-JP-3                                                        | 274249-KR-5                                                                                   | 274249-CN-4                                                                                         | 274249-JP-3                                                                                        | 274249-EP-2                                                                                       |
|---------------------------------------------------|---------------------------------------------------|---------------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| EP20150187115                                     | KR20150139116                                     | JP20150195526                                     | EP20150187115                                                 | CN20141525550                                                 | EP20150173808                         | EP20150173808                                                      | EP20150173808                                                      | EP20150173808                                                      | KR20150093989                                                      | CN20151375653                                                      | JP20150129370                                                      | KR20150104194                                                                                 | CN20151453145                                                                                       | JP20150145409                                                                                      | EP20150177569                                                                                     |
| EP3007026                                         | KR20160041783                                     | JP2016076213                                      | EP3007026                                                     | CN105576268                                                   | EP2963722                             | EP2963722                                                          | EP2963722                                                          | EP2963722                                                          | KR20160008114                                                      | CN105244525                                                        | JP2016015318                                                       | KR20160014532                                                                                 | CN105322572                                                                                         | JP2016031932                                                                                       | EP2980948                                                                                         |
| SYSTEM AND METHOD FOR CONTROLLING FLOW RATE RATIO | SYSTEM AND METHOD FOR CONTROLLING FLOW RATE RATIO | SYSTEM AND METHOD FOR CONTROLLING FLOW RATE RATIO | SYSTEM AND METHOD FOR CONTROLLING FLOW RATE RATIO             | SYSTEM AND METHOD FOR CONTROLLING FLOW RATE RATIO             | METHODS UTILIZING CASCADED FUEL       | METHODS UTILIZING CASCADED FUEL CELLS POWER GENERATION SYSTEMS AND | METHODS UTILIZING CASCADED FUEL CELLS POWER GENERATION SYSTEMS AND | METHODS UTILIZING CASCADED FUEL CELLS POWER GENERATION SYSTEMS AND | METHODS UTILIZING CASCADED FUEL CELLS POWER GENERATION SYSTEMS AND | METHODS UTILIZING CASCADED FUEL CELLS POWER GENERATION SYSTEMS AND | METHODS UTILIZING CASCADED FUEL CELLS POWER GENERATION SYSTEMS AND | GENERATION AND DELIVERY SYSTEM AND METHOD OF OPERATING THE SAME BOWLER GENERATION SYSTEMS AND | GENERATION AND DELIVERY SYSTEM AND METHOD OF OPERATING THE SAME SOULD DAYING FILE OF IL-BASED POWER | GENERATION AND DELIVERY SYSTEM AND METHOD OF OPERATING THE SAME SOULD DAYING FILE CELL-BASED BOWER | SOLID OXIDE FUEL CELL-BASED POWER GENERATION AND DELIVERY SYSTEM AND METHOD OF OPERATING THE SAME |
| Germany                                           | Korea                                             | Japan                                             | European<br>Patent                                            | China                                                         | Italy                                 | United Kingdom                                                     | France                                                             | Germany                                                            | Korea                                                              | China                                                              | Japan                                                              | Korea                                                                                         | China                                                                                               | Japan                                                                                              | European<br>Patent                                                                                |
| 28-Sep-15                                         | 2-0ct-15                                          | 1-Oct-15                                          | 28-Sep-15                                                     | 8-Oct-14                                                      | 25-Jun-15                             | lom 25-Jun-15                                                      | 25-Jun-15                                                          | 25-Jun-15                                                          | 1-Jul-15                                                           | 1-Jul-15                                                           | 29-Jun-15                                                          | 23-Jul-15                                                                                     | 29-Jul-15                                                                                           | 23-Jul-15                                                                                          | 20-Jul-15                                                                                         |
| Granted                                           | Application                                       | Application                                       | Granted                                                       | Granted                                                       | Granted                               | Granted                                                            | Granted                                                            | Granted                                                            | Application                                                        | Published                                                          | Application                                                        | Application                                                                                   | Published                                                                                           | Application                                                                                        | Published                                                                                         |
| Could potentially be used in other GE Business    | Could potentially be used in other GE Business    | Could potentially be used in other GE Business    | Could potentially be used in other GE Business                | Could potentially be used in other GE Business                | Exclusive use for GE SOFC<br>Business | Exclusive use for GE SOFC<br>Business                              | Exclusive use for GE SOFC<br>Business                              | Exclusive use for GE SOFC<br>Business                              | Exclusive use for GE SOFC<br>Business                              | Exclusive use for GE SOFC<br>Business                              | Exclusive use for GE SOFC<br>Business                              | Exclusive use for GE SOFC<br>Business                                                         | Exclusive use for GE SOFC<br>Business                                                               | Exclusive use for GE SOFC<br>Business                                                              | Exclusive use for GE SOFC<br>Business                                                             |
| rate ratio at high temperatures                   | rate ratio at high temperatures                   | rate ratio at high temperatures                   | rate ratio at high temperatures Relates to controlling a flow | rate ratio at high temperatures Relates to controlling a flow | Relates to controlling a flow         |                                                                    |                                                                    |                                                                    |                                                                    |                                                                    |                                                                    |                                                                                               |                                                                                                     |                                                                                                    |                                                                                                   |
| 127                                               | 126                                               | 225                                               | 124                                                           | 123                                                           | 222                                   | 121                                                                | 120                                                                | 13<br>13                                                           | 118                                                                | 117                                                                | 116                                                                | 1-<br>1-<br>1-<br>1-<br>1-<br>1-<br>1-<br>1-<br>1-<br>1-<br>1-<br>1-<br>1-<br>1               | 1-1<br>1-2<br>-0-1                                                                                  | 7.<br>1.1                                                                                          | 55<br>17<br>17                                                                                    |

| 282657-JP-5                                 | 282657-KR-4                                                                | 282657-EP-3                                                          | 282657-CN-1                                                          | 281932-KR-5                                                               | 281932-JP-4                                                                     | 281932-EP-3                                                                   | 281932-CN-2                                                                   | 281080-CN-5                                           | 281080-JP-4                                          | 281080-KR-3                                          | 281080-EP-2                                          | 278638-CN-1                                       | 277551-JP-4                                    | 277551-KR-3                                     | 277551-EP-2                                     | 277551-CN-1                                     | 275750-IT-9                                                                        | 275750-GB-8                                                         | 275750-FR-7                                                                                          |
|---------------------------------------------|----------------------------------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------|-------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|---------------------------------------------------|------------------------------------------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| JP20160240004                               | KR20160167693                                                              | EP20160202588                                                        | CN20151962881                                                        | KR20160122886                                                             | JP20160183596                                                                   | EP20160189764                                                                 | CN20161857511                                                                 | CN20161857755                                         | JP20160183595                                        | KR20160124684                                        | EP20160188775                                        | CN20171414461                                     | JP20160097536                                  | KR20160061250                                   | EP20160169768                                   | CN20151258296                                   | EP20150187115                                                                      | EP20150187115                                                       | EP20150187115                                                                                        |
| JP2017174799                                | KR20170073487                                                              | EP3182493                                                            | CN106910912                                                          | KR20170037834                                                             | JP2017076609                                                                    | EP3147984                                                                     | CN106997957                                                                   | CN106898806                                           | JP2017069192                                         | KR20170037858                                        | EP3147985                                            | CN108977242                                       | JP2016219413                                   | KR20160137394                                   | EP3096384                                       | CN106299401                                     | EP3007026                                                                          | EP3007026                                                           | EP3007026                                                                                            |
| METHOD THEREOF AND FUEL CELL<br>POWER PLANT | METHOD THEREOF AND FUEL CELL<br>POWER PLANT<br>FUEL CELL SYSTEM, OPERATING | METHOD THEREOF AND FUEL CELL POWER PLANT FUEL CELL SYSTEM, OPERATING | METHOD THEREOF AND FUEL CELL POWER PLANT FUEL CELL SYSTEM, OPERATING | EXCHANGER AND METHOD OF OPERATING SUCH MODULE FUEL CELL SYSTEM, OPERATING | EXCHANGER AND METHOD OF OPERATING SUCH MODULE FIRE CELL MODULE FINCTIONING HEAT | EXCHANGER AND METHOD OF OPERATING SUCH MODULE FUEL CELL MODULE INCLUDING HEAT | EXCHANGER AND METHOD OF OPERATING SUCH MODULE FUEL CELL MODULE INCLUDING HEAT | OPERATING SUCH MODULE FUEL CELL MODULE INCLUDING HEAT | OPERATING SUCH MODULE FUEL CELL MODULE AND METHOD OF | OPERATING SUCH MODULE FUEL CELL MODULE AND METHOD OF | OPERATING SUCH MODULE FUEL CELL MODULE AND METHOD OF | AND METHOD THEREOF FUEL CELL MODULE AND METHOD OF | METHOD THEREOF COKE OVEN GAS PROCESSING SYSTEM | METHOD THEREOF FUEL CELL SYSTEM AND CONTROLLING | METHOD THEREOF FUEL CELL SYSTEM AND CONTROLLING | METHOD THEREOF FUEL CELL SYSTEM AND CONTROLLING | SYSTEM AND METHOD FOR CONTROLLING FLOW RATE RATIO FUEL CELL SYSTEM AND CONTROLLING | SYSTEM AND METHOD FOR CONTROLLING FLOW RATE RATIO                   | SYSTEM AND METHOD FOR CONTROLLING FLOW RATE RATIO                                                    |
| Japan                                       | Korea                                                                      | European<br>Patent                                                   | China                                                                | Korea                                                                     | Japan                                                                           | European<br>Patent                                                            | China                                                                         | China                                                 | Japan                                                | Korea                                                | Patent                                               | China<br>European                                 | Japan                                          | Korea                                           | Patent                                          | China<br>European                               | Italy                                                                              | United Kingdom 28-Sep-15                                            | France                                                                                               |
| 12-Dec-16                                   | 9-Dec-16                                                                   | 7-Dec-16                                                             | 18-Dec-15                                                            | 26-Sep-16                                                                 | 21-Sep-16                                                                       | 20-Sep-16                                                                     | 28-Sep-16                                                                     | 28-Sep-16                                             | 21-Sep-16                                            | 28-Sep-16                                            | 14-Sep-16                                            | 5-Jun-17                                          | 16-May-16                                      | 19-May-16                                       | 16-May-16                                       | 20-May-15                                       | 28-Sep-15                                                                          | om 28-Sep-15                                                        | 28-Sep-15                                                                                            |
| Application                                 | Application                                                                | Granted                                                              | Published                                                            | Application                                                               | Application                                                                     | Published                                                                     | Published                                                                     | Published                                             | Application                                          | Application                                          | Published                                            | Published                                         | Requested                                      | Application<br>Examination                      | Published                                       | Published                                       | Granted                                                                            | Granted                                                             | Granted                                                                                              |
| Exclusive use for GE SOFC<br>Business       | Exclusive use for GE SOFC<br>Business                                      | Exclusive use for GE SOFC<br>Business                                | Exclusive use for GE SOFC<br>Business                                | Exclusive use for GE SOFC<br>Business                                     | Exclusive use for GE SOFC<br>Business                                           | Exclusive use for GE SOFC<br>Business                                         | Exclusive use for GE SOFC<br>Business                                         | Business                                              | Business<br>Exclusive use for GE SOFC                | Business<br>Exclusive use for GE SOFC                | Business<br>Exclusive use for GE SOFC                | Business<br>Exclusive use for GE SOFC             | Business<br>Exclusive use for GE SOFC          | Business<br>Exclusive use for GE SOFC           | Business<br>Exclusive use for GE SOFC           | Business<br>Exclusive use for GE SOFC           | Could potentially be used in other GE Business Exclusive use for GE SOFC           | Could potentially be used in other GE Business                      | Could potentially be used in other GE Business                                                       |
|                                             |                                                                            |                                                                      |                                                                      |                                                                           |                                                                                 |                                                                               |                                                                               |                                                       |                                                      |                                                      |                                                      |                                                   |                                                |                                                 |                                                 |                                                 | rate ratio at high<br>temperatures                                                 | rate ratio at high<br>temperatures<br>Relates to controlling a flow | Relates to controlling a flow<br>rate ratio at high<br>temperatures<br>Relates to controlling a flow |
| 147                                         | 146                                                                        | 245                                                                  | 144                                                                  | 143                                                                       | 142                                                                             | 11<br>45<br>11                                                                | 140                                                                           | 139                                                   | 138                                                  | 137                                                  | 136                                                  | 135                                               | 134                                            | 133                                             | 132                                             | 131                                             | 130                                                                                | 129                                                                 | 128                                                                                                  |

| 313534-CN-2                                                                             | 313250-JP-5                                            | 313250-KR-4                        | 313250-EP-3                           | 313250-CN-2                           | 311310-CN-1                           | 287486-KR-5                                                                                 | 287486-JP-4                           | 287486-EP-3                           | 287486-CN-2                           | 287486-US-1                           | 285297-GB-8                           | 285297-DE-7                                   | 285297-FR-6                                   | 285297-JP-5                                   | 285297-KR-4                                   | 285297-EP-3                                   | 285297-CN-1                                      | 282657-GB-9                                   | 28265/-11-8                                              | 20203/-05-/                                         | 70265                        | 282657-FR-6                                                          |                             |
|-----------------------------------------------------------------------------------------|--------------------------------------------------------|------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|--------------------------------------------------|-----------------------------------------------|----------------------------------------------------------|-----------------------------------------------------|------------------------------|----------------------------------------------------------------------|-----------------------------|
| CN20171907102                                                                           | JP20170166360                                          | KR20170112597                      | EP20170189359                         | CN20171823236                         | CN20171374463                         | KR20180083012                                                                               | JP20180133820                         | EP20180183616                         | CN20181789647                         | US15/652448                           | EP20170171360                         | EP20170171360                                 | EP20170171360                                 | JP20170100488                                 | KR20170064121                                 | EP20170171360                                 | CN20161363148                                    | EP20160202588                                 | EP20160202588                                            | EL 20100202300                                      | ED20160202E00                | EP20160202588                                                        |                             |
| CN107887623                                                                             | JP2018060780                                           | KR20180029871                      | EP3293803                             | CN107819141                           | CN108963305                           | KR20190009262                                                                               | JP2019024000                          | EP3432403                             | CN109273751                           | US20190027774                         | EP3249728                             | EP3249728                                     | EP3249728                                     | JP2017216230                                  | KR20170134235                                 | EP3249728                                     | CN107464944                                      | EP3182493                                     | EP3182493                                                | EF3102433                                           | ED3103                       | EP3182493                                                            |                             |
| INTERNALLY-MANIFOLDED SOLID OXIDE FUEL CELL STACK AND RELATED METHODS AND POWER SYSTEMS | INTEGRATED FUEL CELL SYSTEMS<br>AN INTERCONNECT FOR AN | INTEGRATED FUEL CELL SYSTEMS       | INTEGRATED FUEL CELL SYSTEMS          | INTEGRATED FUEL CELL SYSTEMS          | CELLSYSTEM                            | FUEL CELL STACK ASSEMBLY FUEL CELL SYSTEM AND METHOD FOR INCREASING FUEL EFFICIENCY OF FUEL | FUEL CELL STACK ASSEMBLY              | METHOD THEREOF                        | METHOD THEREOF FUEL CELL SYSTEM AND OPERATING | METHOD THEREOF<br>FUEL CELL SYSTEM AND OPERATING | POWER PLANT<br>FUEL CELL SYSTEM AND OPERATING | FUEL CELL SYSTEM, OPERATING METHOD THEREOF AND FUEL CELL | FUEL SYSTEM, OPERATING METHOD THEREOF AND FUEL CELL | METHOD THEREOF AND FUEL CELL | METHOD THEREOF AND FUEL CELL POWER PLANT FUEL CELL SYSTEM, OPERATING | FUEL CELL SYSTEM, OPERATING |
| E China                                                                                 | Јарап                                                  | Korea                              | Patent                                | China<br>European                     | China                                 | Korea                                                                                       | Japan                                 | Patent                                | China<br>European                     | USA                                   | United Kingd                          | Germany                                       | France                                        | Japan                                         | Korea                                         | Patent                                        | China<br>European                                | United Kingd                                  | Ітају                                                    | dellially                                           |                              | France                                                               |                             |
| 29-Sep-17                                                                               | 31-Aug-17                                              | 4-Sep-17                           | 5-Sep-17                              | 13-Sep-17                             | 24-May-17                             | 17-Jul-18                                                                                   | 17-Jul-18                             | 16-Jul-18                             | 18-Jul-18                             | 18-Jul-17                             | United Kingdom 16-May-17              | 16-May-17                                     | 16-May-17                                     | 22-May-17                                     | 24-May-17                                     | 16-May-17                                     | 27-May-16                                        | United Kingdom 7-Dec-16                       | /-Dec-16                                                 |                                                     | 7 000 16                     | 7-Dec-16                                                             |                             |
| Application                                                                             | Application                                            | Application                        | Published                             | Published                             | Published                             | Application                                                                                 | Application                           | Published                             | Published                             | Published                             | Granted                               | Granted                                       | Granted                                       | Application                                   | Application                                   | Granted                                       | Published                                        | Granted                                       | Granted                                                  | o Galler                                            |                              | Granted                                                              |                             |
| Exclusive use for GE SOFC<br>Business                                                   | Business                                               | Business Exclusive use for GE SOFC | Business<br>Exclusive use for GE SOFC | Business<br>Exclusive use for GE SOFC | Business<br>Exclusive use for GE SOFC | Business Exclusive use for GE SOFC                                                          | Business<br>Exclusive use for GE SOFC | Business<br>Exclusive use for GE SOFC | Business<br>Exclusive use for GE SOFC | Business<br>Exclusive use for GE SOFC | Business<br>Exclusive use for GE SOFC | Business<br>Exclusive use for GE SOFC         | Business<br>Exclusive use for GE SOFC         | Business<br>Exclusive use for GE SOFC         | Business<br>Exclusive use for GE SOFC         | Business<br>Exclusive use for GE SOFC         | Business<br>Exclusive use for GE SOFC            | Business<br>Exclusive use for GE SOFC         | Exclusive use for GE SOFC                                | Exclusive use for GE SOFC                           | Exclusive use for GE SOFC    | Exclusive use for GE SOFC<br>Business                                |                             |
| 169                                                                                     | 1.68                                                   | 167                                | 166                                   | 165                                   | 164                                   | 163                                                                                         | 152                                   | 161                                   | 160                                   | 159                                   | 158                                   | 157                                           | 156                                           | 155                                           | 154                                           | 153                                           | 152                                              | 151                                           | 150                                                      |                                                     | 2                            | 148                                                                  |                             |

| 314017-JP-2                                        | 314012-KR-4                                  | 314012-JP-3                                  | 314012-CN-1                                  | 313963-CN-4                           |                              |                                                                 | 313963-KR-3                         |                                                                |                               | 313963-JP-2                      |                              |                                                                 | 313958-KR-5                                        | 313958-JP-4                                                 | 313958-EP-3                       |                                   | 313958-CN-2               | 313534-GB-7                                                 |                             | 313534-DE-6                                      |                             |                                   | 313534-FR-5                                      |                             | 313534-EP-4                                      |                             |                                   | 313534-KR-3                                      |                                                               |                        |
|----------------------------------------------------|----------------------------------------------|----------------------------------------------|----------------------------------------------|---------------------------------------|------------------------------|-----------------------------------------------------------------|-------------------------------------|----------------------------------------------------------------|-------------------------------|----------------------------------|------------------------------|-----------------------------------------------------------------|----------------------------------------------------|-------------------------------------------------------------|-----------------------------------|-----------------------------------|---------------------------|-------------------------------------------------------------|-----------------------------|--------------------------------------------------|-----------------------------|-----------------------------------|--------------------------------------------------|-----------------------------|--------------------------------------------------|-----------------------------|-----------------------------------|--------------------------------------------------|---------------------------------------------------------------|------------------------|
| JP20170206710                                      | KR20170155633                                | JP20170215178                                | CN201611041688                               | CN201/11381346                        |                              |                                                                 | KR20170173016                       |                                                                |                               | JP20170232999                    |                              |                                                                 | KR20170101684                                      | JP20170144990                                               | EP201/0184449                     |                                   | CN20171686493             | EP20170190671                                               |                             | EP201/01906/1                                    |                             |                                   | EP20170190671                                    |                             | EP20170190671                                    |                             |                                   | KR20170128071                                    |                                                               |                        |
| JP2018137209                                       | KR20180057555                                | JP2018139207                                 | CN108091907                                  | CN108206293                           |                              |                                                                 | KR20180071176                       |                                                                |                               | JP2018129290                     |                              |                                                                 | KR20180018425                                      | JP2018041720                                                | EP3282513                         |                                   | CN107732277               | EP3301747                                                   |                             | EP3301/4/                                        |                             |                                   | EP3301747                                        |                             | EP3301747                                        |                             |                                   | KR20180036629                                    |                                                               |                        |
| CASCADED FUEL CELLS AND ASSOCIATED METHODS THEREOF | METHOD THEREOF POWER GENERATION SYSTEM USING | METHOD THEREOF FUEL CELL SYSTEM AND SHUTDOWN | METHOD THEREOF FUEL CELL SYSTEM AND SHUTDOWN | SYSTEMS FUEL CELL SYSTEM AND SHUTDOWN | CHARACTERISTICS IN FUEL CELL | DETECTING DAMAGE IN FUEL CELL STACKS, AND ADJUSTING OPERATIONAL | SYSTEMS<br>METHOD AND APPARATUS FOR | STACKS, AND ADJUSTING OPERATIONAL CHARACTERISTICS IN FUEL CELL | DETECTING DAMAGE IN FUEL CELL | SYSTEMS METHOD AND APPARATUS FOR | CHARACTERISTICS IN FUEL CELL | DETECTING DAMAGE IN FUEL CELL STACKS, AND ADJUSTING OPERATIONAL | HEAT EXCHANGER ASSEMBLIES METHOD AND APPARATUS FOR | HEAT EXCHANGER ASSEMBLIES MULTI-STACK FUEL CELL SYSTEMS AND | MULTI-STACK FUEL CELL SYSTEMS AND | MULTI-STACK FUEL CELL SYSTEMS AND | HEAT EXCHANGER ASSEMBLIES | METHODS AND POWER SYSTEMS MULTI-STACK FUEL CELL SYSTEMS AND | FUEL CELL STACK AND RELATED | METHODS AND POWER SYSTEMS AN INTERCONNECT FOR AN | FUEL CELL STACK AND RELATED | INTERNALLY-MANIFOLDED SOLID OXIDE | METHODS AND POWER SYSTEMS AN INTERCONNECT FOR AN | FUEL CELL STACK AND RELATED | METHODS AND POWER SYSTEMS AN INTERCONNECT FOR AN | FUEL CELL STACK AND RELATED | INTERNALLY-MANIFOLDED SOLID OXIDE | METHODS AND POWER SYSTEMS AN INTERCONNECT FOR AN | INTERNALLY-MANIFOLDED SOLID OXIDE FUEL CELL STACK AND RELATED | AN INTERCONNECT FOR AN |
| Japan                                              | Korea                                        | Japan                                        | China                                        | China                                 |                              | '                                                               | Korea                               | ·                                                              |                               | Japan                            |                              | •                                                               | Korea                                              | Japan                                                       | Patent                            | European                          | China                     | United Kingd                                                |                             | Germany                                          |                             |                                   | France                                           |                             | Patent                                           | European                    |                                   | Korea                                            | •                                                             |                        |
| 26-Oct-17                                          | 21-Nov-17                                    | 8-Nov-17                                     | 22-Nov-16                                    | 19-Dec-1/                             |                              |                                                                 | 15-Dec-17                           |                                                                |                               | 5-Dec-17                         |                              |                                                                 | 10-Aug-17                                          | 27-Jul-17                                                   | 2-Aug-1/                          |                                   | 11-Aug-17                 | United Kingdom 12-Sep-17                                    |                             | 12-5ep-17                                        |                             |                                   | 12-Sep-17                                        |                             | 12-Sep-17                                        |                             |                                   | 29-Sep-17                                        |                                                               |                        |
| Application                                        | Application                                  | Application                                  | Published                                    | Published                             |                              |                                                                 | Application                         |                                                                |                               | Application                      |                              |                                                                 | Application                                        | Application                                                 | Published                         | ;<br>;<br>-                       | Published                 | Granted                                                     |                             | Granted                                          |                             |                                   | Granted                                          |                             | Granted                                          |                             |                                   | Application                                      |                                                               |                        |
| Exclusive use for GE SOFC Business                 | Business                                     | Business Exclusive use for GE SOFC           | Business Exclusive use for GE SOFC           | Business Exclusive use for GE SOFC    | Exclusive use for GE SOFC    |                                                                 | Business                            | Exclusive use for GE SOFC                                      |                               | Business                         | Exclusive use for GE SOFC    |                                                                 | Business                                           | Business Exclusive use for GE SOFC                          | Exclusive use for GE SOFC         | Exclusive use for GE SOFC         | Business                  | Business Exclusive use for GE SOFC                          | Exclusive use for GE SOFC   | Business                                         | Exclusive use for GE SOFC   |                                   | Business                                         | Exclusive use for GE SOFC   | Business                                         | Exclusive use for GE SOFC   |                                   | Business                                         | Exclusive use for GE SOFC                                     |                        |
| 185                                                | 184                                          | 183                                          | 182                                          | :::<br>:::                            |                              |                                                                 | 180                                 |                                                                |                               | 179                              |                              |                                                                 | 178                                                | 177                                                         | 1/5                               | į                                 | 175                       | 274                                                         |                             | 1/3                                              |                             |                                   | 172                                              |                             | 171                                              |                             |                                   | 170                                              |                                                               |                        |

| 319373-US-1                                                   | 318197-US-1                  | 314638-KR-5                                                              | 314638-SA-4                                    | 314638-JP-3                                    | 314638-CN-2                                                  | 314300-KR-4                  | 314300-EP-3                                                 | 314300-CN-2                           | 314224-SA-5                                    |                                                         | 314224-KR-4                                                                       | 314224-JP-3                                                                       | 314224-CN-2                                                                                | 314197-WO-2                              | 314197-US-1                              | 314017-KR-4                                                                    | 314017-CN-3                                                                                                    |
|---------------------------------------------------------------|------------------------------|--------------------------------------------------------------------------|------------------------------------------------|------------------------------------------------|--------------------------------------------------------------|------------------------------|-------------------------------------------------------------|---------------------------------------|------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|------------------------------------------|------------------------------------------|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| US15/866494                                                   | US15/590157                  | KR20180011525                                                            | SA118390248                                    | JP20180005251                                  | CN2018190497                                                 | KR20170135888                | EP20170194596                                               | CN20171990785                         | SA118390230                                    |                                                         | KR20170179688                                                                     | JP20170244567                                                                     | CN2018111534                                                                               | WO2018US24743                            | US15/471716                              | KR20170145212                                                                  | CN201711075317                                                                                                 |
| Unpublished Appl.                                             | US20180331385                | KR20180089319                                                            | Unpublished Appl.                              | JP2018157742                                   | CN108376978                                                  | KR20180044206                | EP3312924                                                   | CN107978781                           | Unpublished Appl.                              |                                                         | KR20180081449                                                                     | JP2018137210                                                                      | CN108306029                                                                                | WO2018183433                             | US20180287173                            | KR20180050235                                                                  | CN108023103                                                                                                    |
| A POWER GENERATION SYSTEM AND A METHOD FOR OPERATING THE SAME | INTEGRATED FUEL CELL SYSTEMS | AUXILIARY POWER CIRCUIT AND METHOD OF USE                                | AUXILIARY POWER CIRCUIT AND METHOD OF USE      | AUXILIARY POWER CIRCUIT AND METHOD OF USE      | AUXILIARY POWER CIRCUIT AND METHOD OF USE                    | SOLID OXIDE FUEL CELL SYSTEM | SOLID OXIDE FUEL CELL SYSTEM FLANGE ASSEMBLY FOR USE WITH A | SOLID OXIDE FUEL CELL SYSTEM          |                                                | SYSTEMS AND METHODS FOR DISTRIBUTED FAULT MANAGEMENT IN | SYSTEMS AND METHODS FOR DISTRIBUTED FAULT MANAGEMENT IN FUEL CELL SYSTEMS         | SYSTEMS AND METHODS FOR<br>DISTRIBUTED FAULT MANAGEMENT IN<br>FUEL CELL SYSTEMS   | SYSTEMS AND METHODS FOR DISTRIBUTED FAULT MANAGEMENT IN FUEL CELL SYSTEMS                  | OXIDE FUEL CELLS WITH STAGED FUEL SUPPLY | OXIDE FUEL CELLS WITH STAGED FUEL SUPPLY | CASCADED FUEL CELLS AND ASSOCIATED METHODS THEREOF SYSTEM AND METHOD FOR SOLID | POWER GENERATION SYSTEM USING CASCADED FUEL CELLS AND ASSOCIATED METHODS THEREOF POWER GENERATION SYSTEM USING |
| USA                                                           | USA                          | Korea                                                                    | Saudi Arabia                                   | Japan                                          | China                                                        | Korea                        | Patent                                                      | China                                 | Saudi Arabia                                   |                                                         | Korea                                                                             | Japan                                                                             | China                                                                                      | Patent Coop.<br>Treaty                   | USA                                      | Korea                                                                          | China                                                                                                          |
| 10-Jan-18                                                     | 9-May-17                     | 30-Jan-18                                                                | 10-Jan-18                                      | 17-Jan-18                                      | 30-Jan-18                                                    | 19-Oct-17                    | 3-0ct-17                                                    | 20-Oct-17                             | 2-Jan-18                                       |                                                         | 26-Dec-17                                                                         | 21-Dec-17                                                                         | 5-Jan-18                                                                                   | 28-Mar-18                                | 28-Mar-17                                | 2-Nov-17                                                                       | 3-Nov-17                                                                                                       |
| Application                                                   | Published                    | Application                                                              | Application                                    | Application                                    | Published                                                    | Application                  | Published                                                   | Published                             | Application                                    |                                                         | Application                                                                       | Application                                                                       | Published                                                                                  | Published                                | Allowed                                  | Application                                                                    | Published                                                                                                      |
| Exclusive use for GE SOFC<br>Business                         | Business                     | Could potentially be used in other GE Business Exclusive use for GE SOFC | Could potentially be used in other GE Business | Could potentially be used in other GE Business | Could potentially be used in other GE Business               | Business                     | Business Exclusive use for GE SOFC                          | Business<br>Evelusive use for GE SOEC | other GE Business<br>Exclusive use for GE SOFC | Could potentially be used in                            | Could potentially be used in other GE Business                                    | Could potentially be used in other GE Business                                    | Could potentially be used in other GE Business                                             | Exclusive use for GE SOFC<br>Business    | Exclusive use for GE SOFC<br>Business    | Exclusive use for GE SOFC<br>Business                                          | Exclusive use for GE SOFC<br>Business                                                                          |
|                                                               |                              | circuit coupled to a power source                                        | circuit coupled to a power source              | circuit coupled to a power source              | circuit coupled to a power source Relates to auxiliary power | Relates to auxiliary power   |                                                             |                                       | cell                                           | management system, including a sensor on a fuel         | management system, including a sensor on a fuel cell Relates to distributed fault | management system, including a sensor on a fuel cell Relates to distributed fault | management system,<br>including a sensor on a fuel<br>cell<br>Relates to distributed fault | Relates to distributed fault             |                                          |                                                                                |                                                                                                                |
| 202                                                           | 201                          | 200                                                                      | 199                                            | 198                                            | 197                                                          | 196                          | 195                                                         | 194                                   | 193                                            |                                                         | 192                                                                               | 161                                                                               | 190                                                                                        | 581                                      | 188                                      | 187                                                                            | 135                                                                                                            |

| 320089-JP-4               | 320089-EP-3                                                  | 320089-CN-2                                                  | 320089-US-1                                                  | 319749-CN-2                                            |                                                               | 319749-US-1                                                       |                                                               | 319536-EP-4                                   | 319536-KR-3                                      | 319536-CN-2                                      | 319536-US-1                                         | 319414-KR-4                                 |                                  | 319414-EP-3                                              |                                  | 319414-CN-2                                              |                                                        | 319414-US-1                                                               | 319373-KR-5                                                                                 | 319373-JP-4                                                   | 319373-EP-3                                                      | 319373-CN-2                                                   |
|---------------------------|--------------------------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------|---------------------------------------------------------------|-------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------|--------------------------------------------------|--------------------------------------------------|-----------------------------------------------------|---------------------------------------------|----------------------------------|----------------------------------------------------------|----------------------------------|----------------------------------------------------------|--------------------------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------|---------------------------------------------------------------|
| JP20190000431             | EP201820015352                                               | CN2019115659                                                 | US15/863995                                                  | CN201811464545                                         |                                                               | US15/830338                                                       |                                                               | EP20190150670                                 | KR20190002890                                    | CN2019126945                                     | US15/869025                                         | KR20190031693                               |                                  | EP20190162004                                            |                                  | CN201910211611                                           |                                                        | US15/925791                                                               | KR20190001158                                                                               | JP20180242017                                                 | EP20190150692                                                    | CN2019123069                                                  |
| Unpublished Appl.         | Unpublished Appl.                                            | Unpublished Appl.                                            | Unpublished Appl.                                            | Unpublished Appl.                                      |                                                               | Unpublished Appl.                                                 |                                                               | Unpublished Appl.                             | Unpublished Appl.                                | Unpublished Appl.                                |                                                     | Acknowledged                                | Appl.                            | Unpublished Appl.                                        |                                  | Unpublished Appl.                                        |                                                        | Unpublished Appl.                                                         | Unpublished Appl.                                                                           | Unpublished Appl.                                             | Unpublished Appl.                                                | Unpublished Appl.                                             |
| ASSOCIATED METHOD THEREOF | ASSOCIATED METHOD THEREOF ARTICLE HAVING A BARRIER LAYER AND | ASSOCIATED METHOD THEREOF ARTICLE HAVING A BARRIER LAYER AND | ASSOCIATED METHOD THEREOF ARTICLE HAVING A BARRIER LAYER AND | SYSTEM AND METHOD ARTICLE HAVING A BARRIER LAYER AND   | SYSTEM AND METHOD AND DIGITAL TWIN BASED FUEL CELL MANAGEMENT | Unpublished Appl. SYSTEM AND METHOD DIGITAL TWIN BASED MANAGEMENT | SYSTEM AND METHOD AND DIGITAL TWIN BASED FUEL CELL MANAGEMENT | Cell Systems<br>DIGITAL TWIN BASED MANAGEMENT | Cell Systems Auxiliary Power Management for Fuel | Cell Systems Auxiliary Power Management for Fuel | Cell Systems<br>Auxiliary Power Management for Fuel | CELL<br>Auxiliary Power Management for Fuel | GENERATION SYSTEM HAVING A FUEL- | CELL METHOD AND CONTROL SUB-SYSTEM FOR OPERATING A POWER | GENERATION SYSTEM HAVING A FUEL- | CELL METHOD AND CONTROL SUB-SYSTEM FOR OPERATING A POWER | FOR OPERATING A POWER GENERATION SYSTEM HAVING A FUEL- | GENERATION SYSTEM HAVING A FUEL-<br>CELL<br>METHOD AND CONTROL SUB-SYSTEM | A POWER GENERATION SYSTEM AND A METHOD FOR OPERATING THE SAME METHOD AND CONTROL SUB-SYSTEM | A POWER GENERATION SYSTEM AND A METHOD FOR OPERATING THE SAME | A POWER GENERATION SYSTEM AND A<br>METHOD FOR OPERATING THE SAME | A POWER GENERATION SYSTEM AND A METHOD FOR OPERATING THE SAME |
| Japan                     | -                                                            | China<br>European                                            | USA                                                          | China                                                  |                                                               | USA                                                               |                                                               | Patent                                        | Korea<br>European                                | China                                            | USA                                                 | Korea                                       |                                  | Patent                                                   | European                         | China                                                    |                                                        | USA                                                                       | Korea                                                                                       | Japan                                                         | European<br>Patent                                               | China                                                         |
| 7-Jan-19                  | 21-Dec-18                                                    | 8-Jan-19                                                     | 8-Jan-18                                                     | 3-Dec-18                                               |                                                               | 4-Dec-17                                                          |                                                               | 8-Jan-19                                      | 9-Jan-19                                         | 11-Jan-19                                        | 11-Jan-18                                           |                                             |                                  | 11-Mar-19                                                |                                  | 20-Mar-19                                                |                                                        | 20-Mar-18                                                                 | 4-Jan-19                                                                                    | 26-Dec-18                                                     | 8-Jan-19                                                         | 10-Jan-19                                                     |
| Application               | Application                                                  | Application                                                  | Application                                                  | Application                                            |                                                               | Application                                                       |                                                               | Application                                   | Requested                                        | Application<br>Examination                       | Application                                         | Application                                 |                                  | Application                                              |                                  | Application                                              |                                                        | Application                                                               | Application                                                                                 | Application                                                   | Application                                                      | Application                                                   |
| other GE Business         | other GE Business<br>Could potentially be used in            | other GE Business<br>Could potentially be used in            | other GE Business<br>Could potentially be used in            | other GE Business<br>Could potentially be used in      | Could potentially be used in                                  | other GE Business                                                 | Could potentially be used in                                  | Business                                      | Business<br>Exclusive use for GE SOFC            | Business<br>Exclusive use for GE SOFC            | Business<br>Exclusive use for GE SOFC               | Business<br>Exclusive use for GE SOFC       | Exclusive use for GE SOFC        | Business                                                 | Exclusive use for GE SOFC        | Business                                                 | Exclusive use for GE SOFC                              | Exclusive use for GE SOFC<br>Business                                     | Exclusive use for GE SOFC<br>Business                                                       | Exclusive use for GE SOFC<br>Business                         | Exclusive use for GE SOFC<br>Business                            | Exclusive use for GE SOFC<br>Business                         |
| between glass and coating | between glass and coating<br>Relates to barrier layer        | between glass and coating<br>Relates to barrier layer        | between glass and coating<br>Relates to barrier layer        | commissioning digital twin<br>Relates to barrier layer | Relates to use of a                                           | commissioning digital twin                                        | Relates to use of a                                           |                                               |                                                  |                                                  |                                                     |                                             |                                  |                                                          |                                  |                                                          |                                                        |                                                                           |                                                                                             |                                                               |                                                                  |                                                               |
| 220                       | 219                                                          | 218                                                          | 217                                                          | 216                                                    |                                                               | 215                                                               |                                                               | 214                                           | 213                                              | 212                                              | 211                                                 | 210                                         |                                  | 209                                                      |                                  | 208                                                      |                                                        | 207                                                                       | 206                                                                                         | 205                                                           | 204                                                              | 203                                                           |

| 313956-JP-3    | 313956-US-1                           | 150665-US-1                           | 149801-US-8                                                                        | 153489-US-1                           | 326533-US-1                                                                                  | 323240-US-1                                                                      | 323081-US-1                                                  | 323002-US-2                                      | 323002-CN-1                                                                     | 322933-CN-2                                                                                                                   | 322933-US-1                                                                                    | 322914-KR-3                                                                                                     | 322914-CN-2                                                                                                     | 322914-US-1                           | 320089-KR-5                                                                                                              |
|----------------|---------------------------------------|---------------------------------------|------------------------------------------------------------------------------------|---------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|--------------------------------------------------------------|--------------------------------------------------|---------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| JP20170006585F | US29/580094                           | US11/012259                           | US12/791266                                                                        | US11/104367                           | US16/221852                                                                                  | US16/030908                                                                      | US16/054474                                                  | US16/203907                                      | CN201810005597                                                                  | CN201910132045                                                                                                                | US15/903137                                                                                    | Appl. Acknowledged                                                                                              | Appl. Acknowledged                                                                                              | US15/972853                           | KR20190002295                                                                                                            |
| JP1589601      | USD844562                             | US6994884                             | US7989118                                                                          | US7456517                             | Unpublished Appl.                                                                            | Unpublished Appl.                                                                | Unpublished Appl.                                            | Unpublished Appl.                                | Unpublished Appl.                                                               | Unpublished Appl.                                                                                                             | Unpublished Appl.                                                                              | Appl.<br>Acknowledged                                                                                           | Appl.<br>Acknowledged                                                                                           | Unpublished Appl.                     | Unpublished Appl.                                                                                                        |
| FUEL CELL      | FUEL CELL                             | MANUFACTURING SAME                    | MANUFACTURING FUEL CELL STACKS HIGH PERFORMANCE FUEL CELL ELECTRODE AND METHOD FOR | GENERATION SYSTEM AND METHOD FOR      | CELLS METHODS AND APPARATUS FOR CONTROLLED SOLID OXIDE FUEL CELL (SOFC)/TURBINE HYBRID POWER | METHOD THEREOF PNEUMATIC QUALITY CONTROL DESIGN AND METHODS FOR SOLID OXIDE FUEL |                                                              | METHOD FOR FUEL CELL SYSTEM AND FUEL CELL SYSTEM | METHOD FOR FUEL CELL SYSTEM AND FUEL CELL SYSTEM TEMPERATURE CONTROL SYSTEM AND | DEGRADATION DETECTING DEVICE FOR FUEL CELL STACK, FUEL CELL SYSTEM AND MANAGING METHOD THEREOF TEMPERATURE CONTROL SYSTEM AND | DEGRADATION DETECTING DEVICE FOR FUEL CELL STACK, FUEL CELL SYSTEM AND MANAGING METHOD THEREOF | QUALITY MONITORING METHOD FOR FUEL CELL MANUFACTURING LINE AND QUALITY MONITORING SYSTEM FOR MANUFACTURING LINE | FUEL CELL MANUFACTURING LINE AND QUALITY MONITORING SYSTEM FOR MANUFACTURING LINE QUALITY MONITORING SYSTEM AND |                                       | ARTICLE HAVING A BARRIER LAYER AND ASSOCIATED METHOD THEREOF QUALITY MONITORING SYSTEM AND QUALITY MONITORING METHOD FOR |
| Japan          | USA                                   | USA                                   | USA                                                                                | USA                                   | USA                                                                                          |                                                                                  | USA                                                          | USA                                              | China                                                                           | China                                                                                                                         | USA                                                                                            | Korea                                                                                                           | China                                                                                                           | USA                                   | Korea                                                                                                                    |
| 30-Mar-17      | 5-0ct-16                              | 16-Dec-04                             | 1-Jun-10                                                                           | 12-Apr-05                             | 17-Dec-18                                                                                    | 10-Jul-18                                                                        | 3-Aug-18                                                     | 29-Nov-18                                        | 3-Jan-18                                                                        | 22-Feb-19                                                                                                                     | 23-Feb-18                                                                                      |                                                                                                                 |                                                                                                                 | 7-May-18                              | 8-Jan-19                                                                                                                 |
| Granted        | Granted                               | Granted                               | Granted                                                                            | Granted                               | Application                                                                                  | Application                                                                      | Application                                                  | Application                                      | Acknowledged                                                                    | Application                                                                                                                   | Application                                                                                    | Acknowledged                                                                                                    | Acknowledged                                                                                                    | Application                           | Application                                                                                                              |
| Business       | Business<br>Exclusive use for GE SOFC | Business<br>Exclusive use for GE SOFC | Business  Exclusive use for GE SOFC                                                | Business<br>Exclusive use for GE SOFC | Business  Exclusive use for GE SOFC                                                          | Business  Exclusive use for GE SOFC                                              | Exclusive use for GE SOFC Business Exclusive use for GE SOFC | Exclusive use for GE SOFC<br>Business            |                                                                                 | Exclusive use for GE SOFC<br>Business                                                                                         | Exclusive use for GE SOFC<br>Business                                                          | Exclusive use for GE SOFC<br>Business                                                                           | Exclusive use for GE SOFC                                                                                       | Exclusive use for GE SOFC<br>Business | Could potentially be used in other GE Business                                                                           |
|                |                                       |                                       |                                                                                    |                                       |                                                                                              |                                                                                  |                                                              |                                                  |                                                                                 |                                                                                                                               |                                                                                                |                                                                                                                 |                                                                                                                 |                                       | Relates to barrier layer<br>between glass and coating                                                                    |
| 236            | 235                                   | 234                                   | 233                                                                                | 232                                   | 77<br>79                                                                                     | 230                                                                              | 229                                                          | 228                                              | 227                                                                             | 226                                                                                                                           | 225                                                                                            | 224                                                                                                             | 223                                                                                                             | 222                                   | 22:1                                                                                                                     |

| 131757-US-1          | 131098-US-1                                    | 128924-US-1                                                                                                   | 126533-US-1                                                                         | 124626-US-1                        | 122595-US-1                                                   | 120505-US-1                           |                                                        | 313956-US-16      | 313956-EM-15                       | 313956-EM-14                            |                                     | 313956-EM-13                                                                | 313956-EM-12                                                                | 313956-EM-11                                                                | 313956-EM-10                                                                | 313956-EM-9                                                                 | 313956-EM-8                                                                 | 313956-EM-7                                                                 | 313956-EM-6      | 313956-CN-5                        |                           |
|----------------------|------------------------------------------------|---------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------|---------------------------------------------------------------|---------------------------------------|--------------------------------------------------------|-------------------|------------------------------------|-----------------------------------------|-------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------|------------------|------------------------------------|---------------------------|
| US10/750463          | US11/241133                                    | US10/708042                                                                                                   | US10/816697                                                                         | US10/064605                        | US09/419343                                                   | US10/063939                           |                                                        | US29/680016       | EM003803048-0010                   | EM003803048-0009                        |                                     | EM003803048-0008                                                            | EM003803048-0007                                                            | EM003803048-0006                                                            | EM003803048-0005                                                            | EM003803048-0004                                                            | EM003803048-0003                                                            | EM003803048-0002                                                            | EM003803048-0001 | CN20173108324                      |                           |
| US7387850            | US7713642                                      | US7732084                                                                                                     | US7632595                                                                           | US7011904                          | US6649296                                                     | US6787264                             |                                                        | Unpublished Appl. | 0010                               | EM003803048-                            | EM003803048-                        | EM003803048-<br>0008                                                        | EM003803048-<br>0007                                                        | EM003803048-<br>0006                                                        | EM003803048-<br>0005                                                        | EM003803048-<br>0004                                                        | EM003803048-<br>0003                                                        | EM003803048-<br>0002                                                        | 0001             | 4<br>EM003803048-                  | CNZL20173010832           |
| A FUEL CELL ASSEMBLY | REGENERATION OXIDANT AND FUEL DISTRIBUTION FOR | INTERCONNECT FOR USE THEREWITH, AND METHODS SYSTEM AND METHOD FOR FUEL CELL CORRECTION WITH IN STILL BECOMMER | COMPLIANT FUEL CELL SYSTEM SOLID OXIDE FUEL CELL WITH INTERNAL REFORMING, CATALYZED | GENERATION EQUIPMENT               | UNITIZED CELL SOLID OXIDE FUEL CELLS FLUID PASSAGES FOR POWER | THEREWITH                             | METHOD FOR MANUFACTURING FUEL CELLS, AND ARTICLES MADE | FUEL CELL         | FUEL CELL                          | the layers of the solid oxide fuel cell | Ornamental design and appearance of | Ornamental design and appearance of the layers of the solid oxide fuel cell | Ornamental design and appearance of the layers of the solid oxide fuel cell | Ornamental design and appearance of the layers of the solid oxide fuel cell | Ornamental design and appearance of the layers of the solid oxide fuel cell | Ornamental design and appearance of the layers of the solid oxide fuel cell | Ornamental design and appearance of the layers of the solid oxide fuel cell | Ornamental design and appearance of the layers of the solid oxide fuel cell | FUEL CELL        | FUEL CELL                          |                           |
| USA                  | USA                                            | USA                                                                                                           | USA                                                                                 | USA                                |                                                               | USA                                   |                                                        | USA               | IPO                                | European Union                          | European Union                      | European Union<br>IPO                                                       | IPO              | China<br>European Union            |                           |
| 31-Dec-03            | 30-Sep-05                                      | 4-Feb-04                                                                                                      | 5-Apr-04                                                                            | 30-Jul-02                          | 15-Oct-99                                                     | 28-May-02                             |                                                        | 5-Oct-16          | 16-Mar-17                          | 16-Mar-1/                               |                                     | 16-Mar-17                                                                   | 16-Mar-17        | 5-Apr-17                           |                           |
| Granted              | Granted                                        | Granted                                                                                                       | Granted                                                                             | Granted                            | Granted                                                       | Granted                               |                                                        | Application       | Granted                            | Granted                                 |                                     | Granted                                                                     | Granted          | Granted                            |                           |
| Business             | Business Exclusive use for GE SOFC             | Exclusive use for GE SOFC Business                                                                            | Business                                                                            | Business Exclusive use for GE SOFC | Business Exclusive use for GE SOFC                            | Business<br>Exclusive use for GE SOFC | Exclusive use for GE SOFC                              | Business          | Business Exclusive use for GE SOFC | Exclusive use for GE SOFC               | Exclusive use for GE SOFC           | Exclusive use for GE SOFC<br>Business                                       | Business         | Business Exclusive use for GE SOFC | Exclusive use for GE SOFC |
| 256                  | 255                                            | 254                                                                                                           | 253                                                                                 | 252                                | 251                                                           | 250                                   |                                                        | 249               | 248                                | [22]                                    | 3                                   | 246                                                                         | 245                                                                         | 244                                                                         | 243                                                                         | 242                                                                         | 241                                                                         | 240                                                                         | 239              | 238                                |                           |

| 154991-US-1                                                                                                              | 255359-GB-8                                               | 255359-DE-7                                   | 255359-FR-6                                  | 223943-US-1                              | 184875-US-1                                                                       |                                                                           | 181252-US-3                             | 181252-US-1                                                                |                                                         |                                                       | 160944-US-1    | 152863-US-1                                | 148561-US-1                                                                                 |  |
|--------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|-----------------------------------------------|----------------------------------------------|------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------|-----------------------------------------|----------------------------------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------|----------------|--------------------------------------------|---------------------------------------------------------------------------------------------|--|
| US11/010257                                                                                                              | EP2015016005/                                             | EP20150160057                                 | EP20150160057                                | US11/963308                              | US11/288393                                                                       |                                                                           | US12/472890                             | US11/278212                                                                |                                                         |                                                       | US11/218651    | US11/257156                                | US10/953756                                                                                 |  |
| US7181329                                                                                                                | EP2928000                                                 | EP2928000                                     | EP2928000                                    | US9597708                                | US7184875                                                                         |                                                                           | US8252366                               | US8580453                                                                  |                                                         |                                                       | US7691770      | US7943266                                  | US7803493                                                                                   |  |
| HIGH TEMPERATURE PROTECTION OF HYBRID FUEL CELL SYSTEM COMBUSTOR AND OTHER COMPONENTS VIA WATER OR WATER VAPOR INJECTION | CELL DEVICE INTERCONNECT AND SOLID OXIDE FUEL CELL DEVICE | CELL DEVICE INTERCONNECT AND SOLID OXIDE FUEL | CELL DEVICE INTERCONNECT AND SOLID OXIDE FUE | DEVICES INTERCONNECT AND SOLID OXIDE FUE | VAPOR INJECTION BOND LAYER FOR A SOLID OXIDE FUEL CELL, AND RELATED PROCESSES AND | HYBRID FUEL CELL SYSTEM COMBUSTOR AND OTHER COMPONENTS VIA WATER OR WATER | CELLS<br>HIGH TEMPERATURE PROTECTION OF | ELECTROLYTE  METHOD FOR MAKING TOUGHENED  ELECTRODE-SUPPORTED CERAMIC FUEL | POROUS SUPPORT ELECTRODE, PATTERNED STRUCTURE LAYER AND | CELL CONTAINING LAMINAR COMPOSITE ELECTRODE INCLUDING | OF MAKING SAME | MANAGEMENT ELECTRODE STRUCTURE AND METHODS | FUEL CELL SYSTEM WITH SEPARATING STRUCTURE BONDED TO ELECTROLYTE SOFC SEAL AND CELL THERMAL |  |
| USA                                                                                                                      |                                                           |                                               | France<br>-                                  | USA                                      | USA                                                                               |                                                                           | USA                                     | L                                                                          |                                                         | r                                                     | USA            | S USA                                      | USA                                                                                         |  |
| 14-Dec-04                                                                                                                | United Kingdom 20-Mar-15                                  | 20-Mar-15                                     | 20-Mar-15                                    | 21-Dec-07                                | 29-Nov-05                                                                         |                                                                           | 27-May-09                               | 31-Mar-06                                                                  |                                                         |                                                       | 2-Sep-05       | 25-Oct-05                                  | 29-Sep-04                                                                                   |  |
| Granted                                                                                                                  | Granted                                                   | Granted                                       | Granted                                      | Granted                                  | Granted                                                                           |                                                                           | Granted                                 | Granted                                                                    |                                                         |                                                       | Granted        | Granted                                    | Granted                                                                                     |  |
| Exclusive use for GE SOFC Business                                                                                       | Business Exclusive use for GE SOFC                        | Business<br>Exclusive use for GE SOFC         | Business<br>Exclusive use for GE SOFC        | Business<br>Exclusive use for GE SOFC    | Business  Exclusive use for GE SOFC                                               | Exclusive use for GE SOFC                                                 | Business                                | Business  Exclusive use for GE SOFC                                        | Exclusive use for GE SOFC                               |                                                       | Business       | Business<br>Exclusive use for GE SOFC      | Exclusive use for GE SOFC Business Exclusive use for GE SOFC                                |  |
| Relates to temperature control in any type of fuel cell system                                                           | 266                                                       | 265                                           | 254                                          | 7.63                                     | 262                                                                               |                                                                           | 261                                     | 260                                                                        |                                                         |                                                       | 259            | 258                                        | 257                                                                                         |  |

RECORDED: 07/19/2019