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To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below.

1. Name of conveying party(ies)

Alberta Research Council Inc.

Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ No

3. Nature of conveyance/Execution Date(s):

Execution Date(s) December 17, 2009

- ☐ Assignment ☐ Merger
☐ Security Agreement ☐ Change of Name
☐ Joint Research Agreement
☐ Government Interest Assignment
☐ Executive Order 9424, Confirmatory License
☐ Other Ministerial Transfer Order

2. Name and address of receiving party(ies)

Name: Alberta Innovates - Technology Futures

Internal Address: _____

Street Address: 250 Karl Clark Road

City: Edmonton

State: Alberta

Country: CANADA Zip: T6N 1E4

Additional name(s) & address(es) attached? ☐ Yes ☒ No

4. Application or patent number(s):

A. Patent Application No.(s)

13/360,085

☐ This document is being filed together with a new application.

B. Patent No.(s)

Additional numbers attached? ☐ Yes ☒ No

5. Name and address to whom correspondence concerning document should be mailed:

Name: Shohini Bagchee

Internal Address: _____

Street Address: 2009, 10235 101 Street

City: Edmonton

State: Alberta Zip: T5J 3G1

Phone Number: 780-643-8798

Docket Number: 28356-54US2

Email Address: sbagchee@fieldlaw.com

6. Total number of applications and patents involved: 1

7. Total fee (37 CFR 1.21(h) & 3.41) \$40.00

- ☐ Authorized to be charged to deposit account
☒ Enclosed
☐ None required (government interest not affecting title)

8. Payment Information

Deposit Account Number _____

Authorized User Name _____

9. Signature:

Shohini Bagchee
Signature

June 19, 2012

Date

Shohini Bagchee

Name of Person Signing

Total number of pages including cover sheet, attachments, and documents: 16

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ALBERTA

ADVANCED EDUCATION AND TECHNOLOGY

Office of the Minister


MINISTERIAL ORDER NO. 90/2009

ALBERTA RESEARCH AND INNOVATION ACT

TRANSFER ORDER

I, Doug Horner, Minister of Advanced Education and Technology, pursuant to section 14 of the *Alberta Research and Innovation Act*, make the order attached in the Appendix hereto (the "Transfer Order") effective January 1, 2010 (the "Effective Date").

Dated at Edmonton, Alberta the 17 day of December, 2009.



Doug Horner
Minister

APPENDIX
TRANSFER ORDER

1.0 INTRODUCTION

- 1.1** Pursuant to Section 14(2) of the *Alberta Research and Innovation Act* (the "Act"), and Order in Council 560/2009, the Lieutenant Governor in Council is dissolving the following entities as of the Effective Date:

Alberta Agricultural Research Institute
Alberta Energy Research Institute
Alberta Forestry Research Institute
Alberta Heritage Foundation for Medical Research
Alberta Heritage Foundation for Science and Engineering Research
Alberta Information and Communications Technology Institute
Alberta Life Sciences Institute
Alberta Research Council Inc.
Alberta Science and Research Authority
iCORE Inc.

(the "Dissolved Entities")

- 1.2** Pursuant to Section 14(4) of the Act, the Minister of Advanced Education and Technology (the "Minister") has the authority, with respect to the Dissolved Entities, to provide for winding up of their affairs, the transfer of their powers, duties, functions, assets, obligations and liabilities and records and to provide for other matters by Ministerial Order.

- 1.3** Pursuant to Section 7 of the Act and the *Alberta Research and Innovation Regulation* (Alta. Reg. 203/09) (the "Regulation"), the following research and innovation corporations will be established as of the Effective Date:

Alberta Innovates – Bio Solutions
Alberta Innovates – Health Solutions
Alberta Innovates – Energy and Environment Solutions
Alberta Innovates – Technology Futures

(the "New Entities")

2.0 ORDER

2.1 The Minister, therefore, makes the following orders:

- (a) All the powers, duties, functions, assets, obligations and liabilities and records of the Dissolved Entities are hereby transferred, by law to the New Entities in accordance with the Schedules attached hereto, and
- (b) In conjunction with this transfer and as required by Section 9 of the Regulation, the Minister hereby approves the acquisition of real property by Alberta Innovates – Technology Futures from Alberta Research Council Inc.

Schedule 1

Alberta Innovates - Bio Solutions

1.1 All powers, duties, functions, assets, obligations, liabilities, and records that relate to:

- (a) **Alberta Agricultural Research Institute**
- (b) **Alberta Life Sciences Institute**
- (c) **Alberta Forestry Research Institute**

(the "ASRA Institutes")

- (d) that part of the Alberta Heritage Foundation for Science and Engineering Research identified as or related to the following:

Alberta Prion Research Institute
Center For Livestock Genomics
Center for Performance Oilseeds

(the "AHFSER Programs")

as of the Effective Date are transferred to and become, by law, the powers, duties, functions, assets, obligations, liabilities and records of the New Entity, **Alberta Innovates – Bio Solutions**.

1.2 The above transfer is subject to the following exceptions:

- (a) Employment contracts and all liabilities and obligations related to employment of Provincial employees in the ASRA Institutes remain with Her Majesty the Queen in right of Alberta (the "Province") during any period of reassignment and subject to the terms and conditions of any staffing services agreement between the Province and the New Entity.
- (b) Liability for any legal action in relation to the ASRA Institutes that commenced prior to the Effective Date remains with the Province.
- (c) With respect to any obligations arising out of transferred contracts between the Province (in respect of the ASRA Institutes) and third parties that were entered into prior to the Effective Date, the third party may look jointly to the Province or the New Entity for fulfilment of such obligations.

- (d) Certain information technology hardware, as determined by the Minister in writing from time to time, shall be transferred to the New Entity. Software and licenses in relation to information technology are subject to the Shared Services Agreement to be entered into between the Province and the New Entity.

1.3 In the event of any lack of clarity, error, dispute or disagreement on interpretation of this Order regarding the identification of assets or liabilities being transferred, the Deputy Minister may determine the matter in consultation with the New Entity and the Deputy Minister may amend this Order accordingly and, if necessary, with retroactive effect.

1.4 If the New Entity is required by law to record, register or otherwise document the transfer of any asset or liability and obligation, the Province shall execute documents or take other reasonable steps necessary to assist the New Entity.

Schedule 2

Alberta Innovates – Health Solutions

1.1 All powers, duties, functions, assets, obligations, liabilities and records that relate to:

- (a) **Alberta Heritage Foundation for Medical Research**
(including, for greater certainty, shares in the Alberta Foundation for Health Research)

as of the Effective Date are transferred to and become by law the powers, duties, functions, assets, obligations, liabilities and records of the New Entity, **Alberta Innovates – Health Solutions**.

1.2 The above transfer is subject to the following exceptions:

None

1.3 In the event of any lack of clarity, error, dispute or disagreement on interpretation of this Order regarding the identification of assets or liabilities being transferred, the Deputy Minister may determine the matter in consultation with the New Entity and the Deputy Minister may amend this Order accordingly and, if necessary, with retroactive effect.

1.4 If the New Entity is required by law to record, register or otherwise document the transfer of any asset or liability and obligation, the Province shall execute documents or take other reasonable steps necessary to assist the New Entity.

Schedule 3

Alberta Innovates – Energy and Environment Solutions

1.1 All powers, duties, functions, assets, obligations, liabilities and records that relate to:

- (a) **Alberta Energy Research Institute**
("AERI")
- (b) that part of the Alberta Heritage Foundation for Science and Engineering Research identified as or related to the following:

Alberta Water Research Institute
Centre for In-Situ Energy
Centre for Oil Sands Innovation ("COSI")
Centre for Clean Coal, Carbon Capture and Minerals Processing Technologies ("C4MP")

(the "AHFSER Programs")

as of the Effective Date are transferred to and become by law the powers, duties, functions, assets, obligations, liabilities and records of the New Entity, **Alberta Innovates – Energy and Environment Solutions**.

1.2 The above transfer is subject to the following exceptions:

- (a) Employment contracts and all liabilities and obligations related to employment of Provincial employees in AERI remain with Her Majesty the Queen in right of Alberta (the "Province") during any period of reassignment and subject to the terms and conditions of any staffing services agreement between the Province and the New Entity.
- (b) Liability for any legal action in relation to AERI that commenced prior to the Effective Date remains with the Province.
- (c) With respect to any obligations arising out of transferred contracts between the Province (in respect of AERI) and third parties that were entered into prior to the Effective Date, the third party may look jointly to the Province or the New Entity for fulfilment of such obligations.
- (d) Certain information technology hardware, as determined by the Minister in writing from time to time, shall be transferred to the New Entity. Software and licenses in relation to information technology are subject to the Shared Services Agreement to be entered into between the Province and the New Entity.

1.3 In the event of any lack of clarity, error, dispute or disagreement on interpretation of this Order regarding the identification of assets or liabilities being transferred, the Deputy Minister may determine the matter in consultation with the New Entity and the Deputy Minister may amend this Order accordingly and, if necessary, with retroactive effect.

1.4 If the New Entity is required by law to record, register or otherwise document the transfer of any asset or liability and obligation, the Province shall execute documents or take other reasonable steps necessary to assist the New Entity.

Schedule 4
Alberta Innovates – Technology Futures

1.1 All powers, duties, functions, assets, obligations, liabilities and records that relate to:

- (a) **Alberta Research Council Inc.** (including, for greater certainty, shares of C-FER Technologies Inc. and all real property)
- (b) **iCORE Inc.**
- (c) that part of the **Alberta Information and Communications Technology Institute ("ICT Institute")** identified as or related to the following:

Tecterra – Integrated Resource Management
TRLabs

- (d) **Alberta Heritage Foundation for Science and Engineering Research ("AHFSER")** except for those relating to the programs identified as being transferred to **Alberta Innovates – Bio Solutions (Schedule 1)** and to **Alberta Innovates – Energy and Environment Solutions (Schedule 3)** and, for greater certainty, includes the following programs:

Nanotechnology Accelerator
Centre for Machine Learning
Centre for Carbohydrate Science
Centre for Integrative Biotechnologies (IBT)
nanoWorks Program
r&d Associates Program
Commercialization Associates Program
Ingenuity Enterprise
Scholar Program
New Faculty Awards
Ingenuity Grad Student Scholarships
Ingenuity Nanotechnology Grad Student Scholarships
Science Awareness
SA - Strategic Partnerships
SA - Awareness and Public Engagement
SA - student programs and teacher programs
iGEM - International Genetically Engineered
Machines competition
Special Ingenuity Awards
Bill Bridger Award of Excellence
Len Bolger Memorial Scholarship in Energy Research
Excellence
Tecterra – Integrated Resource Management

(the "AHFSER Programs")

as of the Effective Date are transferred to and become by law the powers, duties, functions, assets, obligations, liabilities and records of the New Entity, **Alberta Innovates – Technology Futures**.

1.2 The above transfer is subject to the following exceptions:

- (a) Liability for any legal action in relation to the ICT Institute that commenced prior to the Effective Date remains with the Province.
- (b) With respect to any obligations arising out of transferred contracts between the Province (in respect of the ICT Institute) and third parties that were entered into prior to the Effective Date, the third party may look jointly to the Province or the New Entity for fulfilment of such obligations.

1.3 In the event of any lack of clarity, error, dispute or disagreement on interpretation of this Order regarding the identification of assets or liabilities being transferred, the Deputy Minister may determine the matter in consultation with the New Entity and the Deputy Minister may amend this Order accordingly and, if necessary, with retroactive effect.

1.4 If the New Entity is required by law to record, register or otherwise document the transfer of any asset or liability and obligation, the Province shall execute documents or take other reasonable steps necessary to assist the New Entity.

Schedule 4
Alberta Innovates - Technology Futures

U.S. Patents

1. **U.S. Patent No. – 5,860,795**
Issue Date – January 19, 1999
U.S. Application No. – 08/620,941
Filing Date – March 22, 1996
Priority Date – None
Inventors – Rodney K. Ridley and Mario DeRocco
Assignee – Alberta Research Council Inc.
Title – METHOD FOR UNDERGROUND RESERVOIR FLUIDS
PRODUCTION WITH PUMP DRIVE CONTAINED WITHIN THE
WELLBORE
2. **U.S. Patent No. – 6,155,102**
Issue Date – December 5, 2000
U.S. Application No. – 09/129,810
Filing Date – August 6, 1998
Priority Date – None
Inventors – Peter Toma and Rodney K. Ridley
Assignee – Alberta Research Council Inc.
Title – METHOD AND APPARATUS FOR USE IN DETERMINING A
PROPERTY OF A MULTIPHASE FLUID
3. **U.S. Patent No. – 6,234,770**
Issue Date – May 22, 2001
U.S. Application No. – 09/158,668
Filing Date – September 22, 1998
Priority Date – None
Inventors – Rodney K. Ridley and Mario DeRocco
Assignee – Alberta Research Council Inc.
Title – RESERVOIR FLUIDS PRODUCTION APPARATUS AND METHOD
4. **U.S. Patent No. – 6,272,934**
Issue Date – August 14, 2001
U.S. Application No. – 09/246,300
Filing Date – February 8, 1999
Priority Date – September 18, 1996
Inventors – Varagur Srinivasa V. Rajan and Rodney Keith Ridley
Assignee – Alberta Research Council Inc.
Title – MULTI-PHASE FLUID FLOW MEASUREMENT APPARATUS AND
METHOD

5. **U.S. Patent No. – 6,412,559**
Issue Date – July 2, 2002
U.S. Application No. – 09/740,081
Filing Date – December 18, 2000
Priority Date – None
Inventors – William Daniel Gunter et al.
Assignee – **Alberta Research Council Inc.**
Title – **PROCESS FOR RECOVERING METHANE AND/OR SEQUESTERING FLUIDS**
6. **U.S. Patent No. – 6,610,780**
Issue Date – August 26, 2003
U.S. Application No. – 09/579,547
Filing Date – May 26, 2000
Priority Date – May 26, 1999
Inventors – John Donald Payzant and Zhihong Zhou
Assignee – **Alberta Research Council Inc.**
Title – **NETWORKED POLYMER/CLAY ALLOY**
7. **U.S. Patent No. – 6,777,480**
Issue Date – August 17, 2004
U.S. Application No. – 10/397,594
Filing Date – March 26, 2003
Priority Date – May 26, 1999
Inventors – John Donald Payzant and Zhihong Zhou
Assignee – **Alberta Research Council Inc.**
Title – **NETWORKED POLYMER/CLAY ALLOY**
8. **U.S. Patent No. – 6,860,147**
Issue Date – March 1, 2005
U.S. Application No. – 10/261,201
Filing Date – September 30, 2002
Priority Date – None
Inventors – William Daniel Gunter and Matthew John Mavor
Assignee – **Alberta Research Council Inc.**
Title – **PROCESS FOR PREDICTING POROSITY AND PERMEABILITY OF A COAL BED**
9. **U.S. Patent No. – 7,382,453**
Issue Date – June 3, 2008
U.S. Application No. – 11/353,574
Filing Date – February 14, 2006
Priority Date – None
Inventors – Douglas B. Fisher and Marcel Girard
Assignee – **Alberta Research Council Inc.**
Title – **APPARATUS AND METHOD FOR CHARACTERIZING AN INTERFACIAL PROPERTY OF A DISPERSION**

10. **U.S. Patent No. – 7,663,757**
Issue Date – February 16, 2010
U.S. Application No. – 11/527,993
Filing Date – September 27, 2006
Priority Date – None
Inventors – Wei Li et al.
Assignee – Alberta Research Council Inc.
Title – APPARATUS AND METHOD FOR OBTAINING A REFLECTANCE
PROPERTY INDICATION OF A SAMPLE
11. **U.S. Patent No. – 7,740,062**
Issue Date – June 22, 2010
U.S. Application No. – 12/022,310
Filing Date – January 30, 2008
Priority Date – None
Inventors – Git Lim et al.
Assignee – Alberta Research Council Inc.
Title – SYSTEM AND METHOD FOR THE RECOVERY OF
HYDROCARBONS BY IN-SITU COMBUSTION

U.S. Applications

12. **U.S. Application No. – 10/585,397**
U.S. Filing Date - July 6, 2006
Effective Filing Date – January 6, 2005
Priority Date – January 9, 2004
U.S. Publication No. - US 2008/0135243 A1
Publication Date - June 12, 2008
Inventors – Laurie A. Hodgins and Fred Wassmuth
Assignee – Alberta Research Council Inc.
Title – METHOD OF REDUCING WATER INFLUX INTO GAS WELLS
13. **U.S. Application No. – 10/585,774**
U.S. Filing Date - April 13, 2007
Effective Filing Date – January 26, 2005
Priority Date – January 27, 2004
U.S. Publication No. - US 2008/0190853 A1
Publication Date - August 14, 2008
Inventor – Peter Toma
Assignee – Alberta Research Council Inc.
Title – METHOD AND APPARATUS FOR SEPARATING LIQUID
DROPLETS FROM A GAS STREAM

14. **U.S. Application No. - 12/300,257**
U.S. Filing Date - November 10, 2008
Effective Filing Date - May 4, 2007
Priority Date - May 12, 2006
U.S. Publication No. - US 2010/0142759 A1
Publication Date - June 10, 2010
Inventors - Rodney K. Ridley et al.
Assignee - Alberta Research Council Inc.
Title - A SYSTEM AND A METHOD FOR DETECTING A DAMAGED OR MISSING MACHINE PART

15. **U.S. Application No. - 12/356,808**
Filing Date - January 21, 2009
Priority Date - February 7, 2008
U.S. Publication No. - US 2009/0200026 A1
Publication Date - August 13, 2009
Inventors - Alex Turta et al.
Assignee - Alberta Research Council Inc.
Title - METHOD FOR RECOVERY OF NATURAL GAS FROM A GROUP OF SUBTERRANEAN ZONES