

SEP 09 2005

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Form PTO-1595 (Rev. 07/05)
OMB No. 0651-0027 (exp. 6/30/2009)

09-15-2005

U.S. DEPARTMENT OF COMMERCE
United States Patent and Trademark Office



103081522

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)

Moonis R. Ally
John J. Tomlinson
Clifford Keith Rice

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

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

Execution Date(s) August 31, 2005

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

2. Name and address of receiving party(ies)

Name: UT-Battelle, LLC

Internal Address: P.O. Box 2008

Bldg. 4500N; MS-6258

Street Address: One Bethel Valley Road

City: Oak Ridge

State: Tennessee

Country: USA

Zip: 37830

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

4. Application or patent number(s):

This document is being filed together with a new application.

A. Patent Application No.(s)

11/162,167
(Docket No. 1298.0)

B. Patent No.(s)

Additional numbers attached? Yes No

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

Name: Kirk A. Wilson

Internal Address: P.O. Box 2008

Bldg. 4500N; MS-6258

Street Address: One Bethel Valley Road

City: Oak Ridge

State: Tennessee

Zip: 37831-6258

Phone Number: 865.574.4179

Fax Number: 865.574.0381

Email Address: wilsonka@ornl.gov

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 by credit card
- Authorized to be charged to deposit account
- Enclosed
- None required (government interest not affecting title)

8. Payment Information

a. Credit Card Last 4 Numbers _____

Expiration Date _____

b. Deposit Account Number 13-1958

Authorized User Name _____

9. Signature:

Kirk A. Wilson
Signature

9/2/05
Date

Kirk A. Wilson
Name of Person Signing

Total number of pages including cover sheet, attachments, and documents: 5

Documents to be recorded (including cover sheet) should be faxed to (571) 273-0140, or mailed to:
Mail Stop Assignment Recordation Services, Director of the USPTO, P.O. Box 1460, Alexandria, V.A. 22313-1460

09/14/2005 ECOOPER 00000258 131958 11162167

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PAGE 2/8 * RCVD AT 9/9/2005 9:52:03 AM [Eastern Daylight Time] * SVR:USPTO-EFXXRF-6/27 * DNIS:2738300 * CSID:865 574 0381 * DURATION (mm-ss):02-16

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SEP 09 2005

Docket No. 1298.0

ASSIGNMENT

WHEREAS, we the below-named inventors whose residences and post office are as stated below, have invented certain new and useful improvements in

SUPER ENERGY SAVER HEAT PUMP WITH DYNAMIC HYBRID PHASE CHANGE MATERIAL

(hereinafter referred to as "Subject Invention") for which an application for United States Letters Patent was executed by us on even date herewith, and

WHEREAS, UT-BATTELLE, LLC, a limited liability company of the State of Tennessee, having an office at One Bethel Valley Road, P. O. Box 2008, Oak Ridge, Tennessee 37831-6258, hereinafter referred to as "ASSIGNEE," is desirous of acquiring the entire right, title and interest of the undersigned in the Subject Invention and to any Letters Patent that may be granted therefor in the United States of America and in any and all foreign countries.

NOW, THEREFORE, in accordance with the terms of our employment agreement with ASSIGNEE and for good and valuable consideration, the receipt of which is hereby acknowledged, we hereby assign to ASSIGNEE our entire right, title and interest in the Subject Invention to all rights of priority thereto pursuant to the International Convention for the Protection of Industrial Property, and in any Letters Patent on the Subject Invention that may be granted in the United States of America and in any and all foreign countries, including any and all Letters Patent that are divisions, reissues, continuations, substitutions or extensions of any Letters Patent or applications therefor on the Subject Invention.

We hereby authorize and request the Commissioner of the United States Patent and Trademark Office and the officials of any and all foreign countries to issue any and all of said Letters Patent, when granted, to the ASSIGNEE.

Further, we hereby agree to communicate to said ASSIGNEE or its representatives any facts known to us respecting said Subject Invention, to testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, substitution, renewal and reissue applications, to execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said ASSIGNEE, and to make all rightful oaths and generally do everything possible to aid said ASSIGNEE and its representatives to obtain and enforce proper protection for said Subject Invention in the United States of America and in any and all foreign countries.

We further agree that the terms, covenants and conditions of this assignment shall inure to the benefit of ASSIGNEE, its successors, assigns, and legal representatives, and shall be binding on us, our heirs, legal representatives, and assigns.

Docket No. 1298.0

Full name of inventor: Moonis Raza Ally

Signature: Moonis Raza Ally Date: 8/31/2005

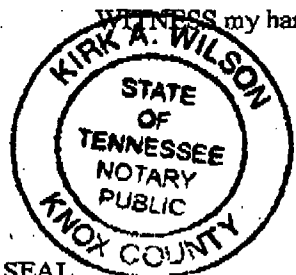
Residence: 1132 West Outer Drive, Oak Ridge, Tennessee 37830

Post Office Address: 1132 West Outer Drive, Oak Ridge, Tennessee 37830

State of Tennessee)
County of ROANE)

On this 31 day of August, 2005, before me, a Notary Public in and for the County and State aforesaid, appeared Moonis Raza Ally, to me personally known to be the same person whose name is subscribed to the foregoing instrument, and acknowledged that he executed said instrument as his free and voluntary act and for the uses and purposes therein expressed.

WITNESS my hand and seal the day and year last above given.



Kirk A. Wilson
Notary Public

SEAL

My Commission Expires:

**MY COMMISSION EXPIRES
MARCH 14, 2009**

Docket No. 1298.0

Full name of inventor: John Jager Tomlinson

Signature: John J. Tomlinson Date: 8/30/2005

Residence: 11725 Couch Mill Road, Knoxville, Tennessee 37932

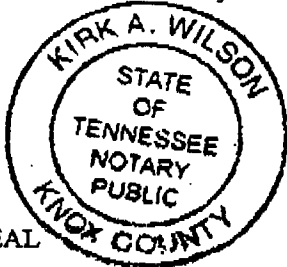
Post Office Address: 11725 Couch Mill Road, Knoxville, Tennessee 37932

State of Tennessee)

County of REANE)

On this 30th day of August, 2005, before me, a Notary Public in and for the County and State aforesaid, appeared John Jager Tomlinson, to me personally known to be the same person whose name is subscribed to the foregoing instrument, and acknowledged that he executed said instrument as his free and voluntary act and for the uses and purposes therein expressed.

WITNESS my hand and seal the day and year last above given.



SEAL

Kirk A. Wilson
Notary Public

My Commission Expires:

**MY COMMISSION EXPIRES
MARCH 14, 2009**

Docket No. 1298.0

Full name of inventor: Clifford Keith Rice

Signature: C. Keith Rice Date: 8/31/2005

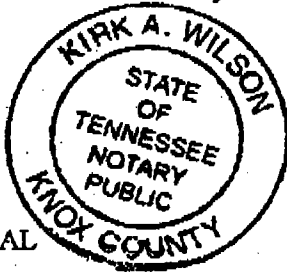
Residence: 120 Ivy Lane, Clinton, Tennessee 37716

Post Office Address: 120 Ivy Lane, Clinton, Tennessee 37716

State of Tennessee)
County of ROANS)

On this 31 day of August, 2005, before me, a Notary Public in and for the County and State aforesaid, appeared Clifford Keith Rice, to me personally known to be the same person whose name is subscribed to the foregoing instrument, and acknowledged that he executed said instrument as his free and voluntary act and for the uses and purposes therein expressed.

WITNESS my hand and seal the day and year last above given.



SEAL

Kirk A. Wilson
Notary Public

My Commission Expires:

MY COMMISSION EXPIRES
MARCH 14, 2009