Form PTO-1595 (Rev. 08/08) OMB No. 0651-0027 (exp. 9/30/2008) U.S. DERARTMENT OF COMMERCE United States Patent and Trademark Office

| PATENTS ONLY 5-115 169 | |
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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) UT-BATTELLE MEMORIAL, LLC | Name and address of receiving party(ies) Name: U.S. Department of Energy Internal Address: GC-62 6F-067 |
| Additional name(s) of conveying party(les) attached? Yes No. Nature of conveyance/Execution Date(s): Execution Date(s) 6/11/2009 | Street Address: 1000 Independence Avenue, S.W. |
| □ Assignment | City: Washington State: D.C. Country: Zip: 20585-0162 Additional name(s) & address(es) attached? □ Yes ☒ No |
| 4. Application or patent number(s): A. Patent Application No.(s) 12/472,580 Additional numbers att | document is being filed together with a new application. B. Patent No.(s) ached? ☐ Yes ⊠ No |
| 5. Name and address to whom correspondence concerning document should be mailed: | 6. Total number of applications and patents involved: |
| Name: Brenda K. Banks | 7. Total fee (37 CFR 1.21(h) & 3.41) \$ |
| Internal Address: GC-62 6F-067 U.S. Department of Energy Street Address: 1000 Independence Avenue, S.W. | ☐ Authorized to be charged to deposit account ☐ Enclosed ☒ None required (government interest not affecting title) |
| City: Washington State: D.C. Zip: 20585-0162 Phone Number: 202-586-2802 | 8. Payment Information Deposit Account Number |
| Fax Number: 202-586-2805 Email Address: brenda.banks@hq.doe.gov | Authorized User Name |
| 9. Signature: Signature Brenda K. Banks Name of Person Signing | G/G/DG Date Total number of pages including cover sheet, attachments, and documents: |

Documents to be recorded (including cover sheet) should be faxed to (571) 273-0140, or mailed to:
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PATENT REEL: 023214 FRAME: 0814

12/472 580

DOE Docket ID2142.0 S-115,169

CONFIRMATORY LICENSE

Title:

Metal-Organic Scintillator Crystals for X-Ray, Gamma Ray, and Neutron Detection

Inventor(s):

Lynn A. Boatner, James A. Kolopus, John S. Neal, Joanne O. Ramey and Dariusz J.

Wisniewski

Serial No.:

12/472,580

Filing Date (U.S.)

May 27, 2009

Contractor:

UT-Battelle, LLC

DOE Contract No.:

DE-AC05-00OR22725

The invention identified above is a "Subject Invention" under the above-numbered contract. A copy of the provision of the above-numbered contract (certified on 04-13-00) governing patent rights in the Subject Invention at the time the invention was made, has been submitted to the U.S. Department of Energy.

The Contractor hereby confirms that under the provisions of the above-numbered contract governing patent rights, it has granted to the Government a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States the subject invention throughout the world. This license applies to the invention in the above-identified patent application and any and all divisions or continuations thereof and any resulting patent or reissue patent which may be granted thereon.

It is understood and agreed that this document does not preclude the Government from asserting rights under the provisions of said contract or any other agent between the Government and the Contractor, or any other rights of the Government with respect to the above-identified invention.

The Contractor hereby grants the Government an irrevocable power to inspect and make copies of the aboveidentified application.

Signed this _// day of _____

RECORDED: 09/09/2009

UT-Battelle, LLC

Director of Technology Commercialization

PATENT **REEL: 023214 FRAME: 0815**