



Nanomaterial Composites for Next Generation Water Filters

Cooperative Research and Development Final Report

CRADA Number: CRD-06-197

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In accordance with Requirements set forth in Article XI.A(3) of the CRADA document, this document is the final CRADA report, including a list of Subject Inventions, to be forwarded to the Office of Science and Technical Information as part of the commitment to the public to demonstrate results of federally funded research.

CRADA number: CRD-06-197

CRADA Title: Nanomaterial Composites for Next Generation Water Filters

Parties to the Agreement: Global Water

Joint Work Statement Funding Table showing DOE commitment:

| Estimated Costs | NREL Shared Resources |
|-----------------|-----------------------|
| Year 1 | \$ 200,000.00 |
| Year 2 | \$ 300,000.00 |
| Year 3 | \$ 500,000.00 |
| TOTALS | \$ 1,000,000.00 |

Abstract of CRADA work:

DOE laboratories, including the National Renewable Energy Laboratory, have been placing subcontracts for research and development services with scientific institutes in the NIS under various DOE programs for many years. Currently, there are approximately 190 subcontracts under a relatively new DOE program known as the New Independent States - Industrial Partnering Program (NIS-IPP). The remaining subcontracts with NIS scientific institutes are under various other DOE programs.

The NIS-IPP supports the national security interest of preventing the proliferation of weapons of mass destruction through cooperative projects between the United States and military-related institutes in the NIS. The goal of NIS-IPP projects is to redirect technologies, materials, resources and personnel in the NIS to non-military scientific and commercial research and development. NIS-IPP projects are being implemented through subcontracts funded by the U.S. Government between NIS military-related institutes and the following 10 DOE national laboratories: Argonne National Laboratory, Brookhaven National Laboratory, Idaho National Engineering Laboratory, Lawrence Berkeley National Laboratory, Lawrence Livermore National Laboratory, Oak Ridge National Laboratory, Pacific Northwest Laboratory, Sandia National Laboratory, Los Alamos National Laboratory, National Energy Technology Laboratory, and National Renewable Energy Laboratory.

Under this CRADA, the Parties will produce and test a composite filter element that will remove particles, bacteria and viruses to produce safe drinking water.

Summary of Research Results:

We demonstrated that alumina could be integrated into porous carbon-based water filters enhancing removal of viruses and heavy metals.

Subject Inventions listing:

U.S. Application No. 13/130,109, filed May 19, 2011, entitled “Porous Block Nanofiber Composite Filters”

International Application No. PCT/US08/84434, filed November 21, 2008, entitled “Porous Block Nanofiber Composite Filters”

Report Date: 3/14/13 **Responsible Technical Contact at Alliance/NREL:** David Ginley

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