

**TRADEMARK ASSIGNMENT**

Electronic Version v1.1  
 Stylesheet Version v1.1

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	Security Agreement

**CONVEYING PARTY DATA**

Name	Formerly	Execution Date	Entity Type
ENERGYSOLUTIONS, LLC		08/13/2010	LIMITED LIABILITY COMPANY: UTAH
CHEM-NUCLEAR SYSTEMS, L.L.C.		08/13/2010	LIMITED LIABILITY COMPANY: DELAWARE
DURATEK, INC.		08/13/2010	CORPORATION: DELAWARE
MANUFACTURING SCIENCES CORPORATION		08/13/2010	CORPORATION: COLORADO

**RECEIVING PARTY DATA**

<b>Name:</b>	JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT
<b>Street Address:</b>	1111 FANNIN ST., FLOOR 10
<b>City:</b>	HOUSTON
<b>State/Country:</b>	TEXAS
<b>Postal Code:</b>	77002
<b>Entity Type:</b>	BANK: UNITED STATES

**PROPERTY NUMBERS Total: 2**

Property Type	Number	Word Mark
Registration Number:	3645827	ENERGYSOLUTIONS ARENA
Registration Number:	3645828	ENERGYSOLUTIONS ARENA

**CORRESPONDENCE DATA**

Fax Number: (866)826-5420  
 Phone: 301-638-0511  
 Email: ipresearchplus@comcast.net  
*Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent via US Mail.*  
 Correspondent Name: IP Research Plus, Inc.  
 Address Line 1: 21 Tadcaster Circle  
 Address Line 2: attn: Penelope J.A. Agodoa

**900207529**

**TRADEMARK  
 REEL: 004663 FRAME: 0443**

**OP \$65.00 3645827**

Address Line 4: Waldorf, MARYLAND 20602

ATTORNEY DOCKET NUMBER:

37553

NAME OF SUBMITTER:

Penelope J.A. Agodoa

Signature:

/pja/

Date:

11/18/2011

Total Attachments: 15  
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PATENT AND TRADEMARK SECURITY AGREEMENT dated as of August 13, 2010 (this "Agreement"), among EnergySolutions, Inc. ("Parent"), EnergySolutions, LLC ("EnergySolutions"), the Subsidiaries listed on the signature pages hereto (together with EnergySolutions, collectively, the "Grantors") and JPMORGAN CHASE BANK, N.A. ("JPMCB"), as Administrative Agent.

Reference is made to (a) the Credit Agreement dated as of August 13, 2010 (as amended, restated, supplemented or otherwise modified from time to time, the "Credit Agreement"), among Parent, EnergySolutions, the Lenders party thereto and JPMCB, as the Administrative Agent, and (b) the Guarantee and Collateral Agreement dated as of August 13, 2010 (as amended, restated, supplemented or otherwise modified from time to time, the "Collateral Agreement"), among Parent, EnergySolutions, the Subsidiaries party thereto and JPMCB, as the Administrative Agent. The Lenders and Issuing Banks have extended, and have agreed to extend, credit to EnergySolutions on the terms and subject to the conditions set forth in the Credit Agreement. The obligations of the Lenders and the Issuing Banks to extend such credit are conditioned upon, among other things, the execution and delivery of this Agreement. The Grantors are Affiliates of EnergySolutions, will derive substantial benefits from the extension of credit to EnergySolutions under the Credit Agreement and are willing to execute and deliver this Agreement in order to induce the Lenders and Issuing Banks to extend such credit. Accordingly, the parties hereto agree as follows:

SECTION 1. Terms. Each capitalized term used but not defined herein shall have the meaning specified in the Credit Agreement or the Collateral Agreement, as applicable. The rules of construction specified in Section 1.2 of the Credit Agreement also apply to this Agreement, mutatis mutandis.

SECTION 2. Grant of Security Interest. (a) As security for the payment or performance, as the case may be, in full of the Secured Obligations (other than the Deposit L/C Secured Obligations), each Grantor, pursuant to the Collateral Agreement, did and hereby does grant to the Administrative Agent, its successors and assigns, for the benefit of the Secured Parties (other than any Deposit L/C Secured Party), a security interest in, all right, title and interest in, to and under any and all of the following assets and properties now owned or at any time hereafter acquired by such Grantor or in which such Grantor now has or at any time hereafter may acquire any right, title or interest (collectively, the "Patent and Trademark Collateral"):

A. all letters patent of the United States or the equivalent thereof in any other country, all registrations and recordings thereof, and all applications for letters patent of the United States or the equivalent thereof in any other country, including registrations, recordings and pending applications in the United States Patent and Trademark Office or any similar offices in any other country, including those listed on Schedule I;

B. all reissues, continuations, divisions, continuations-in-part, renewals or extensions thereof, and the inventions disclosed or claimed therein, including the right to make, use and/or sell the inventions disclosed or claimed therein;

C. all trademarks, service marks, trade names, corporate names, company names, business names, fictitious business names, trade styles, trade dress, logos, other source or business identifiers, designs and general intangibles of like nature, now existing or hereafter adopted or acquired, all registrations and recordings thereof, and all registration and recording applications filed in connection therewith, including registrations and registration applications in the United States Patent and Trademark Office or any similar offices in any State of the United States or any other country or any political subdivision thereof, and all extensions or renewals thereof, including those listed on Schedule II;

D. all goodwill associated therewith or symbolized thereby; and

E. all other assets, rights and interests that uniquely reflect or embody such goodwill.

(b) Separate from the security interest granted pursuant to Section 2(a), as security for the payment or performance, as the case may be, in full of the Deposit L/C Secured Obligations, each Grantor, pursuant to the Collateral Agreement, did and hereby does grant to the Administrative Agent, its successors and assigns, for the benefit of the Deposit L/C Secured Parties, a security interest in, all right, title and interest in, to and under any and all of the Patent and Trademark Collateral.

SECTION 3. Collateral Agreement. The security interests granted to the Administrative Agent herein are granted in furtherance, and not in limitation of, the security interests granted to the Administrative Agent pursuant to the Collateral Agreement. Each Grantor hereby acknowledges and affirms that the rights and remedies of the Administrative Agent with respect to the Patent and Trademark Collateral are more fully set forth in the Collateral Agreement, the terms and provisions of which are hereby incorporated herein by reference as if fully set forth herein. In the event of any conflict between the terms of this Agreement and the Collateral Agreement, the terms of the Collateral Agreement shall govern.

SECTION 4. Counterparts. This Agreement may be executed in counterparts (and by different parties hereto on different counterparts), each of which shall constitute an original, but all of which when taken together shall constitute a single contract. Delivery of an executed counterpart of a signature page of this Agreement by facsimile or other electronic imaging shall be effective as delivery of a manually executed counterpart of this Agreement.

[Remainder of this page intentionally left blank]

IN WITNESS WHEREOF, the parties hereto have duly executed this Agreement as of the day and year first above written.

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**TRADEMARK**  
**REEL: 004663 FRAME: 0447**

MANUFACTURING SCIENCES  
CORPORATION  
DURATEK, INC.  
CHEM-NUCLEAR SYSTEMS,  
L.L.C.  
ENERGYSOLUTIONS  
DIVERSIFIED SERVICES, INC.  
DURATEK SERVICES, INC.  
ENERGYSOLUTIONS, LLC  
ENERGYSOLUTIONS, INC.

By:   
Name: Richard Tooze  
Title: Treasurer

[Signature Page to Patent and Trademark Security Agreement]

**TRADEMARK**  
**REEL: 004663 FRAME: 0448**

JPMORGAN CHASE BANK, N.A., as  
Administrative Agent,

by



Name: Peter Christensen

Title: Vice President

[Signature Page to Patent and Trademark Security Agreement]

**TRADEMARK**  
**REEL: 004663 FRAME: 0449**

SCHEDULE I

*U.S. Patent Registrations*

OWNER	FILING/APPL DATE & REG. DATE	REGISTRATION NUMBER	DESCRIPTION & EXPIRATION DATE
Chem-Nuclear Systems, L.L.C.	9/18/1991 & 7/6/1993	5225114	Multipurpose container for low level radioactive waste; 9/18/2011
Chem-Nuclear Systems, L.L.C.	12/31/1992 & 7/19/1994	53316741 <sup>1</sup>	Nuclear reactor coolant system inventory control system and method; 12/1/2012
Chem-Nuclear Systems, L.L.C.	10/07/1994 & 12/17/1996	5585531	Method for processing liquid radioactive waste (Thermex); 10/1/2014
Chem-Nuclear Systems, L.L.C.	3/07/1996 & 2/24/1998	5720878	Panel filter system; 3/1/2016
Chem-Nuclear Systems, L.L.C.	3/28/2000 & 5/14/2002	63872742 <sup>2</sup>	A system and method for the removal of radioactive particulate from liquid waste (ALPS); 3/1/2020
Duratek Services, Inc.	5/25/1990 & 7/07/1992	5128068	Method and apparatus for cleaning contaminated particulate; 5/25/2010
Duratek Services, Inc.	7/25/1991 & 10/25/1992	5156722	Decontamination of radioactive metals; 7/25/2011
Duratek Services, Inc.	10/02/1991 & 2/02/1993	5183541	Decontamination of radioactive metals; 10/2/2011
Duratek Services, Inc.	12/20/1991 & 6/08/1993	5217585	Transition metal decontamination process; 12/20/2011
Duratek Services, Inc.	12/17/1990 & 9/07/1993	5242503	Method of restoring contaminated solids using ion exchange powder contact; 12/17/2010
Duratek Services, Inc.	8/30/1991 & 9/14/1993	5244575	Method for recovering organic solvents and contaminants from soap liquors; 8/30/2011

<sup>1</sup> Company is pursuing a nunc pro tunc assignment with respect to this patent.

<sup>2</sup> A judgment under appeal has held this patent to be unenforceable.



Duratek Services, Inc.	12/16/1992 & 11/16/1993	5262019	Decontamination of radioactive metals; 12/16/2012
Duratek Services, Inc.	1/31/1991 & 12/07/1993	5268128	Method and apparatus for cleaning contaminated particulate material; 1/1/2011
Duratek Services, Inc.	5/01/1992 & 2/22/1994	5288435	Treatment of radioactive wastes; 5/1/2012
Duratek Services, Inc.	11/18/1992 & 3/08/1994	5292695	Process for reactivating particulate adsorbents; 11/1/2012
Duratek Services, Inc.	7/16/1992 & 3/15/1994	5294310	Surfactant recovery process; 7/1/2012
Duratek Services, Inc.	6/27/1991 & 4/05/1994	5300258	Method for decontaminating soil containing resins; 6/1/2011
Duratek Services, Inc.	4/20/1992 & 5/31/1994	5316223	Method and apparatus for cleaning contaminated particulate material; 4/1/2012
Duratek Services, Inc.	8/16/1993 & 6/21/1994	5322116	Very high temperature heat exchanger; 8/1/2013
Duratek Services, Inc.	3/17/1993 & 7/19/1994	5330658	Solution decontamination method using precipitation and flocculation techniques; 3/1/2013
Duratek Services, Inc.	5/26/1993 & 11/08/1994	5361910	Modified mineral jig; 5/1/2013
Duratek Services, Inc.	4/02/1993 & 12/06/1994	5370827	Solution decontamination method using precipitation techniques; 4/1/2013
Duratek Services, Inc.	4/27/1993 & 12/13/1994	5372650	Method for treatment of waste sand; 4/1/2013
Duratek Services, Inc.	1/06/1994 & 3/28/1995	5402455	Waste containment composite; 1/1/2014
Duratek Services, Inc.	3/12/1993 & 5/16/1995	5416251	Method and apparatus for the solidification of radioactive wastes and products produced thereby; 3/1/2013
Duratek Services, Inc.	2/18/1994 & 5/16/1995	5416257	Open frozen barrier flow control and remediation of hazardous soil; 2/1/2014
Duratek Services, Inc.	4/08/1994 & 6/27/1995	5427738	Method and system for detoxifying solid waste; 4/1/2014

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Duratek Services, Inc.	9/12/1991 & 7/11/1995	5431295	Storage module for nuclear waste with improved liner; 7/1/2012
Duratek Services, Inc.	10/18/1993 & 7/25/1995	5436384	Process for the remediation of contaminated particulate material; 12/1/2014
Duratek Services, Inc.	6/17/1994 & 8/08/1995	5439562	Electrochemical decontamination of radioactive metals by alkaline processing; 6/1/2014
Duratek Services, Inc.	4/01/1994 & 11/28/1995	5470544	System for steam reforming of liquid or slurry feed material; 4/1/2014
Duratek Services, Inc.	12/28/1994 & 12/10/1996	5582800	Method and system for removal of harmful heteroatoms in gaseous waste streams; 12/1/2014
Duratek Services, Inc.	12/29/1992 & 6/17/1997	5640701	Method for remediating soil containing radioactive contaminants; 6/1/2014
Duratek Services, Inc.	7/24/1995 & 6/17/1997	5640704	Process for solidification and immobilization of harmful waste species; 7/1/2015
Scientific Ecology Group, Inc. (now known as Duratek Services, Inc.)	5/05/1995 & 9/30/1997	5672278	Method and system for suppression of foam in waste streams; 5/1/2015
Duratek Services, Inc.	10/15/1996 & 3/03/1998	5724669	Metal decontamination process and systems for accomplishing same; 7/1/2015
Scientific Ecology Group, Inc. (now known as Duratek Services, Inc.)	5/26/1995 & 8/04/1998	5789648	An article made out of radioactive or hazardous waste and a method of making the same; 8/1/2015
Scientific Ecology Group, Inc. (now known as Duratek Services, Inc.)	4/15/1997 & 11/03/1998	5831143	Method for detecting hydrogen in waste compounds; 4/1/2017
Scientific Ecology Group, Inc. (now known as Duratek Services, Inc.)	4/21/1997 & 11/17/1998	5837122	Electrowinning electrode, cell and process; 4/1/2017

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Scientific Ecology Group, Inc. (now known as Duratek Services, Inc.)	12/23/1996 & 3/02/1999	5876590	Electrochemical leaching of soil; 12/1/2016
Scientific Ecology Group, Inc. (now known as Duratek Services, Inc.)	2/03/1997 & 3/09/1999	5879566	Integrated steam reforming operation for processing organic contaminated sludges and system; 2/1/2017
Scientific Ecology Group, Inc. (now known as Duratek Services, Inc.)	3/14/1997 & 9/21/1999	5954936	Robust technetium removal method system; 3/1/2017
Duratek, Inc.	8/18/2005 & 3/20/2007	D538611	Lid lifter; 3/20/2021
Duratek, Inc. (jointly owned with Hylsa, S.A. de C.V.)	11/24/1993 & 6/20/1995	5425792	Method for gasifying organic materials; 11/1/2013
Duratek, Inc. (jointly owned with Hylsa, S.A. de C.V.)	6/07/1995 & 8/12/1997	5656044	Method and apparatus for gasification of organic materials; 6/1/2015
Duratek, Inc. (jointly owned with Hylsa, S.A. de C.V.)	6/07/1995 & 12/22/1998	5851246	Apparatus for gasifying organic materials; 6/1/2015
Duratek, Inc.	5/31/2001 & 6/17/2003	6578514	Modular device of tubular plasma source; 5/31/2021
Duratek, Inc.	9/22/1997 & 2/09/1999	5868814	Apparatus for recirculating molten glass; 9/1/2017
NUKEM Corporation (now known as EnergySolutions Diversified Services, Inc.)	4/26/2002 & 3/23/2004	6,709,599	Waste Water Treatment System with Slip Stream; 6/1/2026
NUKEM Corporation (now known as EnergySolutions Diversified Services, Inc.)	5/24/2002 & 6/27/2006	7,067,057	Fluid conveyed Material Collection System Waste Water Treatment System; 6/1/2026

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NUKEM Corporation (now known as EnergySolutions Diversified Services, Inc.)	12/14/2005 & 7/21/2009	7,563,939	SAFE System Method & Systems for Treating Radioactive Waste Water (Water Purification System Using Electrocoagulation and Electromagnetic Filtration); 12/1/2025
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*U.S. Patent Applications*

OWNER	FILING/APPLICATION DATE	APPLICATION NUMBER	TITLE/DESCRIPTION
EnergySolutions, LLC Inventors: Denton, et al.	2/28/2006	11/364,643	Low-temperature solidification of radioactive and hazardous wastes
EnergySolutions, LLC	3/10/2010	12/677,490	Mitigation of Secondary Phase Formation During Waste Vitrification
EnergySolutions, LLC	7/16/2007	11/879,178 (Publ. No. US-2009-002-181-A1)	Remote Fill Head With Automatic Drip Tray
EnergySolutions, LLC	11/07/2008	12/267,290 (Publ. No. US-2009-0149689)	System for and Method of Filling a Container with Hazardous Waste
NUKEM Corporation (now known as EnergySolutions Diversified Services, Inc.)	4/04/2007	11/696,444	Waste Stabilization and Packaging System for Uranium Laden Wastes
EnergySolutions Diversified Services, Inc.	8/06/2007	11/834,098 (Publ. No. US-2009-0038961-A1)	Process and System for Treating Radioactive Waste Water to Prevent Overloading Demineralizer System (SMART System)
EnergySolutions Diversified Services, Inc.	7/02/2008	12/166,897 (Publ. No. US-2009-0008341-A1)	Fluid Removing Filter Apparatus and Method of Removing Fluid From a Mixture

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EnergySolutions Diversified Services, Inc.	2/13/2009	12/371,201	Method for Treating Radioactive Waste Water (SAFE System)
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SCHEDULE II

Trademarks

*U.S. Trademark Registrations*

OWNER	FILING/APPL. DATE AND REGISTRATION DATE	REGISTRATION NUMBER	TRADEMARK
EnergySolutions, LLC	1/24/2003 & 3/09/2004	2820898	ENVIROCARE
EnergySolutions, LLC	12/28/2004 & 7/18/2006	3116267	SAFE AND SECURE Block letters
EnergySolutions, LLC	1/17/2006 & 6/10/2008	3445190	ENERGYSOLUTIONS Block Letters
EnergySolutions, LLC	1/17/2006 & 6/10/2008	3445189	ENERGYSOLUTIONS and Design
EnergySolutions, LLC	1/17/2006 & 6/10/2008	3314241	WE'RE PART OF THE SOLUTION Block Letters
EnergySolutions, LLC EnergySolutions, LLC	5/15/2008 & 6/30/2009	3,654,828 3,645,827	EnergySolutions Arena EnergySolutions Arena and Design
EnergySolutions, LLC	11/13/2000 & 9/17/2002	2,622,097	DURATEK and Design
EnergySolutions, LLC	11/18/1997 & 9/07/1999	2276852	SPECIALIZED GENERATOR SERVICES
BNFL, Inc. (Assigned to EnergySolutions, Inc.)	Unknown	3154883	BNG America & Design
Chem-Nuclear Systems, L.L.C.	2/20/1991 & 3/20/1993	1755719	CHEM-NUCLEAR
Chem-Nuclear Systems, L.L.C.	5/27/1987 & 1/12/1988	1472640	CHEM-NUCLEAR
Chem-Nuclear Systems, L.L.C.	5/27/1987 & 1/12/1988	1472643	ALPS
Chem-Nuclear Systems, L.L.C.	7/02/1984 & 10/15/1985	1365620	OSSC

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OWNER	FILING/APPL. DATE AND REGISTRATION DATE	REGISTRATION NUMBER	TRADEMARK
Duratek, Inc.	11/13/2000 & 7/02/2002	2589771	DURATEK
Duratek, Inc.	11/13/2000 & 9/17/2002	2622097	DURATEK and Design
Duratek, Inc.	11/13/2000 & 7/30/2002	2602484	DURATEK and Design
Duratek, Inc.	11/13/2000 & 7/30/2002	2602480	DURATEK
Manufacturing Sciences Corporation	Unknown	2294153	M (stylized) and Design

*U.S. Trademark Applications*

None.

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