



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

July 18, 2006

Docket No. 03020159  
Control No. 138988

License No. 39-23004-01

William B. House  
V.P., Regulatory Affairs  
EnergySolutions, LLC  
d.b.a. Duratek, Inc.  
140 Stoneridge Drive  
Columbia, SC 29210

SUBJECT: ENERGYSOLUTIONS, LLC, D.B.A. DURATEK, INC., LICENSE AMENDMENT,  
CONTROL NO. 138988

Dear Mr. House:

This refers to your license amendment request. Enclosed with this letter is the amended license.

Please review the enclosed document carefully and be sure that you understand and fully implement all the conditions incorporated into the amended license. If there are any errors or questions, please notify the U.S. Nuclear Regulatory Commission, Region I Office, Licensing Assistance Team, (610) 337-5239, so that we can provide appropriate corrections and answers.

An environmental assessment for this action is not required, since this action is categorically excluded under 10 CFR 51.22(c)(14).

Current NRC regulations and guidance are included on the NRC's website at [www.nrc.gov](http://www.nrc.gov); select **Nuclear Materials; Medical, Academic, and Industrial Uses of Nuclear Material**; then **Toolkit Index Page**. Or you may obtain these documents by contacting the Government Printing Office (GPO) toll-free at 1-888-293-6498. The GPO is open from 7:00 a.m. to 8:00 p.m. EST, Monday through Friday (except Federal holidays).

Thank you for your cooperation.

Sincerely,

***Original signed by Sattar Lodhi, Ph.D.***

Sattar Lodhi, Ph.D.  
Senior Health Physicist  
Materials Security and Industrial Branch  
Division of Nuclear Materials Safety

Enclosure:  
Amendment No. 14

W. House  
EnergySolutions, LLC, d.b.a. Duratek, Inc.

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cc:  
Mark S. Whittaker, C.H.P., Radiation Safety Officer

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**SUNSI Review Complete: MBeardsley**

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NAME	MBeardsley/MRB		SLodh/ASLi					
DATE	7/18/2006		7/31/2006					

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### MATERIALS LICENSE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 39, 40, and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

<p style="text-align: center;">Licensee</p> <p>1. EnergySolutions, LLC d.b.a. Duratek, Inc.</p> <p>2. 140 Stoneridge Drive Columbia, South Carolina 29219</p>	<p>In accordance with the letter dated June 7, 2006,</p> <p>3. License number 39-23004-01 is amended in its entirety to read as follows:</p> <hr/> <p>4. Expiration date June 30, 2010</p> <hr/> <p>5. Docket No. 030-20159 Reference No.</p>
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<p>6. Byproduct, source, and/or special nuclear material</p> <p>A. Any byproduct material with atomic numbers 1 through 92</p> <p>B. Any source material</p> <p>C. Any byproduct material with atomic numbers 93 and above</p> <p>D. Special nuclear material</p>	<p>7. Chemical and/or physical form</p> <p>A. Any</p> <p>B. Any</p> <p>C. Any</p> <p>D. Any</p>	<p>8. Maximum amount that licensee may possess at any one time under this license</p> <p>A. 50,000 curies</p> <p>B. 5,000 kilograms</p> <p>C. 11.7 curies</p> <p>D. Not to exceed: 350 grams of uranium 235; or 200 grams of uranium 233; or 200 grams of plutonium; or, any combination of these provided the sum of the rations of the quantities does not exceed unity</p>
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9. Authorized use:

A. through D. For receipt, and /or possession incident to any activities as follows:

(1) Transport in packages or containers approved for use under the provisions of 10 CFR Part 71 for transfer to persons authorized to receive the licensed material pursuant to the terms and conditions of specific licenses issued by the Nuclear Regulatory Commission or any Agreement State;

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- (2) Decontamination of facilities, equipment and containers;
- (3) Treatment of soil, water, or other wastes, by solidification, chemical treatment, resource recovery, or other similar operations;
- (4) Packaging for transport, and;
- (5) Any activity related to site characterization studies (which is intended to include drilling wells, obtaining and analyzing samples, etc.), and
- (6) Environmental remediation.

**CONDITIONS**

10. A. Licensed material shall be used only at temporary job sites of the licensee anywhere in the United States where the U.S. Nuclear Regulatory Commission maintains jurisdiction for regulating the use of licensed material.
  - B. At least 14 days before initiating activities at a temporary job site, the licensee shall notify, in writing, the Regional Administrator, NRC, Region I, ATTN: Division of Nuclear Materials Safety, 475 Allendale Road, King of Prussia, Pennsylvania 19406. The notification shall include:
    - (1) Estimated type, quantity, and physical/chemical form(s) of licensed material to be used;
    - (2) The specific site location;
    - (3) A description of planned activities including waste management and disposition;
    - (4) The estimated start date and completion for the job, and
    - (5) The name and title of a point of contact for the job, including information on how to contact the individual.
  - C. Radioactive material originating at each temporary job site may be possessed. Environmental samples for analysis may be transferred to authorized recipients. Materials must either be transferred to an authorized recipient or remain at the site after activities authorized by this license are completed.
  - D. Licensee owned calibration sources, reference standards, and radioactively contaminated equipment may be possessed at, and transferred from the temporary job site to authorized recipients.
11. The Radiation Safety Officer for this license is Mark S. Whittaker, CHP.
  12. Licensed material shall be used by, or under the supervision and in the physical presence of, Mark S. Whittaker or any individual trained as specified in application dated January 5, 2000, and designated in writing by the licensee's Safety Review Board.

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13. In accordance with the licensee's letter dated November 4, 2005, the licensee is authorized to possess and transport not more than 18 curies of byproduct material, with atomic numbers 93 and above, received in packaged RH-TRU waste and loaded into the CNS 10-160B Type B packaging.
14. This license does not authorize the import of packages containing byproduct material wastes.
15. This license does not authorize Chem-Nuclear Systems (the licensee) to use licensed materials which are specifically authorized on the customer's NRC or Agreement State license. If a customer holds an NRC or Agreement State license, the notification required by License Condition No. 10. B. shall include a written agreement between the licensee and the customer specifying which licensee activities shall be performed under the customer's license and supervision, and which licensee activities shall be performed under the licensee's supervision pursuant to this license. The agreement shall include a commitment by the licensee and the customer to ensure safety and any commitments by the licensee to help the customer clean up the temporary job site if there is an accident.
16. In an emergency, the licensee may temporarily deviate from the terms and conditions of this license and take reasonable actions, which is immediately needed to protect health and safety. These emergency actions shall be taken only after approval of the Radiation Safety Officer (RSO) identified in Condition No. 11 of this license and only after the RSO has determined that no other action, which is consistent with all license conditions and which can provide adequate or equivalent protection, is immediately apparent. The licensee shall notify the NRC before, if practicable, and in any case, immediately after taking such emergency action using the reporting procedure specified in 10 CFR 30.50(c).
17. A. The licensee shall submit a quarterly report to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region I, ATTN: Division of Nuclear Materials Safety, 475 Allendale Road, King of Prussia, Pennsylvania 19406; identifying temporary job site locations and summarizing the activities which took place at each site within thirty (30) days after each calendar quarter.
- B. At the completion of activities at each job site location, the licensee shall notify the Regional Administrator, U.S. Nuclear Regulatory Commission, Region I, ATTN: Division of Nuclear Material Safety, 475 Allendale Road, King of Prussia, Pennsylvania 19406, of the temporary job site status and the disposition of the licensed material.
18. Pursuant to the provisions of 10 CFR 30.35(g), 40.36(f) and/or 70.25(g), the licensee shall maintain records of information important to safe and effective decommissioning at each temporary job site. At the completion of activities at a temporary job site, the licensee shall transfer these records to the customer for retention until the site is released for unrestricted use.
19. Pursuant to 10 CFR 30.11, 40.14, 70.14 and License Condition No. 10., the licensee is exempted from the requirements of 10 CFR 30.35, 40.36, and 70.25 to establish decommissioning financial assurance.

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20. Notwithstanding the requirements of 10 CFR 30.32(i), 4031(j), and 70.22(i), the licensee is not required to establish an emergency plan for responding to a release of radioactive materials. Before taking possession of licensed material at a temporary job site in quantities requiring an emergency plan the licensee shall either:
- A. Obtain written NRC approval of its evaluation demonstrating that an emergency plan is not required by these regulations, or
  - B. Submit written confirmation to the Regional Administrator, Region I, at the address specified in Condition No. 10. B., that licensee personnel have been trained and will follow the provisions of an existing emergency plan approved by the NRC or an Agreement State for the temporary job site.
21. The licensee shall conduct a physical inventory every six months, or at other intervals approved by the U.S. Nuclear Regulatory Commission, to account for all sources and/or devices received and possessed under the license. Records of inventories shall be maintained for 5 years from the date of each inventory and shall include the radionuclides, quantities, manufacturer's name and model numbers, and the date of the inventory.
22. Sealed sources or detector cells containing licensed material shall not be opened or sources removed from source holders by the licensee.
23. The licensee is authorized to transport licensed material in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."
24. A. Sealed sources shall be tested for leakage and/or contamination at intervals not to exceed six months or at the intervals specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or under equivalent regulations of an Agreement State.
- B. Notwithstanding Paragraph A of this Condition, sealed sources designed to primarily emit alpha particles shall be tested for leakage and/or contamination at intervals not to exceed 3 months.
- C. In the absence of a certificate from a transferor indicating that a leak test has been made within the intervals specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or under equivalent regulations of an Agreement State, prior to the transfer, a sealed source received from another person shall not be put into use until tested and the test results received.

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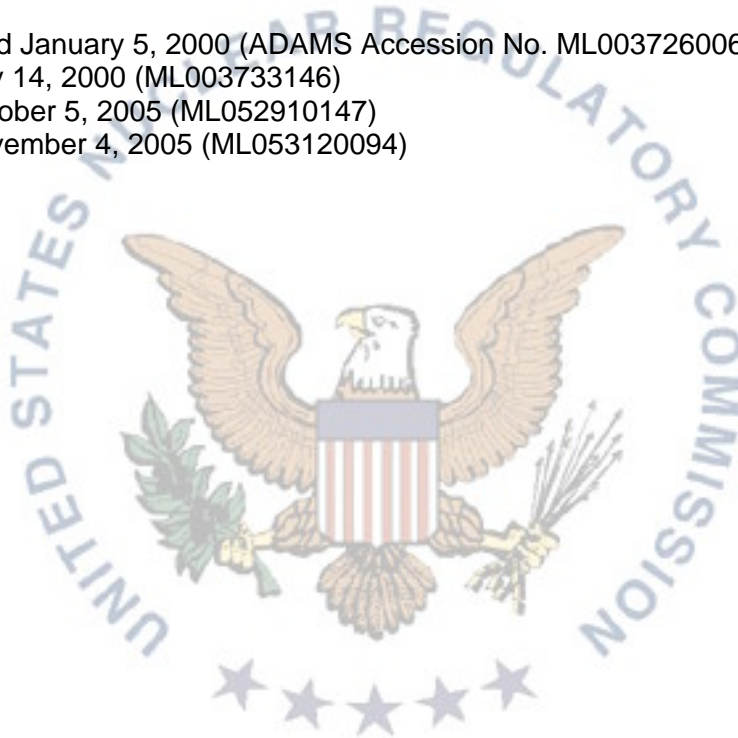
- D. Sealed sources need not be tested if they contain only hydrogen-3; or they contain only a radioactive gas; or the half-life of the isotope is 30 days or less; or they contain not more than 100 microcuries of beta- and/or gamma-emitting material or not more than 10 microcuries of alpha-emitting material.
- E. Sealed sources need not be tested if they are in storage and are not being used; however, when they are removed from storage for use or transferred to another person and have not been tested within the required leak test interval, they shall be tested before use or transfer. No sealed source shall be stored for a period of more than 10 years without being tested for leakage and/or contamination.
- F. The leak test shall be capable of detecting the presence of 0.005 microcurie (185 becquerels) of radioactive material on the test sample. If the test reveals the presence of 0.005 microcurie (185 becquerels) or more of removable contamination, a report shall be filed with the U.S. Nuclear Regulatory Commission in accordance with 10 CFR 30.50(c)(2), and the source shall be removed immediately from service and decontaminated, repaired, or disposed of in accordance with Commission regulations.
- G. Tests for leakage and/or contamination, including leak test sample collection and analysis, shall be performed by the licensee or by other persons specifically licensed by the U.S. Nuclear Regulatory Commission or an Agreement State to perform such services.
- H. Records of leak test results shall be kept in units of microcuries and shall be maintained for 5 years.
25. The licensee's Safety Review Board may make minor changes to the Radiation Safety Program without license amendment provided that: the changes are not potentially important to safety, it is assured that any changes made are in compliance with applicable regulations and the provisions of the license, and the licensee retains a record of each change until the license is amended, renewed or terminated. Examples of permissible changes include: editing of procedures for clarity and conformance with local correspondence requirements; updating of names, addresses, telephone numbers, etc.; adoption of model procedures published in NRC Regulatory Guides; and reassignment of specific tasks among the licensee's work force. Changes in possession limits stated in the license; special authorizations or restrictions stated in the license conditions or requests for deviation from Regulatory or License Requirements require an application and prior issuance of a license amendment.



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26. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents, including any enclosures, listed below. The U.S. Nuclear Regulatory Commission's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulations.
- A. Application dated January 5, 2000 (ADAMS Accession No. ML003726006)
  - B. Letter dated July 14, 2000 (ML003733146)
  - C. Letter dated October 5, 2005 (ML052910147)
  - D. Letter dated November 4, 2005 (ML053120094)



For the U.S. Nuclear Regulatory Commission

Date July 18, 2006By **Original signed by Sattar Lodhi, Ph.D.**Sattar Lodhi, Ph.D.  
Materials Security and Industrial Branch  
Division of Nuclear Materials Safety  
Region I  
King of Prussia, Pennsylvania 19406