

U.S. NUCLEAR REGULATORY COMMISSION

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>Licensee</p> <p>1. Eagle Natrium, LLC</p> <p>2. P.O. Box 191 New Martinsville, West Virginia 26155-0191</p>	<p>In accordance with the letter dated December 14, 2012,</p> <p>3. License number 47-01542-01 is amended in its entirety to read as follows:</p> <hr/> <p>4. Expiration date November 30, 2013</p> <hr/> <p>5. Docket No. 030-06658 Reference No.</p>
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<p>6. Byproduct, source, and/or special nuclear material</p> <p>A. Cesium 137</p> <p>B. Mercury 203</p> <p>C. Mercury 197</p>	<p>7. Chemical and/or physical form</p> <p>A. Sealed Sources (TN Model 696894; VEGA Americas Corp Models A-2100, A-2102, A-2104, A-57878, A-58804, & A-58755)</p> <p>B. Elemental Mercury as liquid metal</p> <p>C. Elemental Mercury as liquid metal</p>	<p>8. Maximum amount that licensee may possess at any one time under this license</p> <p>A. 2.0 curies total and no single source to exceed the maximum activity specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission or an Agreement State</p> <p>B. 2 curies</p> <p>C. 3 curies</p>
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9. Authorized use:
- A. In TN Technologies Model 5200 series, and Vega Americas Corporation Models SH-Fx series and SHLD-1 fixed gauging devices for controlling industrial processes.
 - B. and C. For possession and use in conducting mercury inventory studies of electrolytic cells in a chlor-alkali plant based on isotopic dilution.

CONDITIONS

- 10. Licensed material may be used or stored only at the licensees facilities located at State Route 2, Marshall County, Natrium, West Virginia.

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11. Licensed material specified in item 6.A. shall be used by, or under the supervision of, R.J. Feldmeier, Theresa A. Davies-Newman, or Erika A. Baldauff. Licensed material specified in items 6.B. and 6.C. shall be used by, or under the supervision of, James E. Martin, Ph.D., CHP; Chul Lee, M.S.; Thomas E. Pruss; or Erika A. Baldauff.
12. The Radiation Safety Officer for this license is Erika A. Baldauff.
13. 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. 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.
- C. 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.
- D. 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.
- E. Tests for leakage and/or contamination, limited to leak test sample collection, 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. The licensee is not authorized to perform the analysis; analysis of leak test samples must be performed by persons specifically licensed by U.S. Nuclear Regulatory Commission or an Agreement State to perform such services.
- F. Records of leak test results shall be kept in units of microcuries and shall be maintained for 5 years.
14. 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.

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15. A. Installation, initial radiation surveys, relocation, and removal from service of devices containing sealed sources shall be performed only by, R.J. Feldmeier, Theresa A. Davies-Newman, or Erika A. Baldauff in accordance with the manufacturer's instructions or by persons specifically licensed by the U.S. Nuclear Regulatory Commission or an Agreement State to perform such services.
- B. Maintenance or repair of devices and installation, replacement, and disposal of the sealed sources and non-routine maintenance or repair of components related to the radiological safety of the gauge shall be performed only by persons specifically licensed by the U.S. Nuclear Regulatory Commission or an Agreement State to perform such services.
16. Prior to initial use and immediately after installation, relocation, dismantling, alignment, or any other activity involving the source or removal of the shielding, the licensee shall assure that a radiological survey is performed to determine radiation levels in accessible areas around, above, and below the gauge with the shutter open. This survey shall be performed only by Erika A. Baldauff or by persons authorized to perform such services by the U.S. Nuclear Regulatory Commission or an Agreement State. A record of the results of this survey shall be maintained for the duration of the license.
17. Sealed sources containing licensed material shall not be opened or sources removed or detached from source rods or gauges by the licensee.
18. A. Each gauge shall be tested for the proper operation of the on-off mechanism (shutter) and indicator, if any, at intervals not to exceed 6 months or at such longer intervals as specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission pursuant to 10 CFR 32.210 or the equivalent regulations of an Agreement State.
- B. Notwithstanding the periodic on-off mechanism (shutter) and indicator test, the requirement does not apply to gauges that are stored, not being used, and have the shutter lock mechanism in a locked position. The gauges exempted from this periodic test shall be tested before use.
19. The licensee shall operate each device containing licensed material within the manufacturer's specified temperature and environmental limits such that the shielding and shutter mechanism of the source holder are not compromised.
20. The licensee shall assure that the shutter mechanism, for each device containing licensed material, is locked in the closed position during periods when a portion of an individual's body may be subject to the direct radiation beam. The licensee shall review and modify, as appropriate, its "lock-out" procedures whenever a new device is obtained to incorporate the device manufacturer's recommendations.
21. The licensee is authorized to transport licensed material in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."

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22. The licensee is authorized to hold byproduct material with a physical half-life of less than or equal to 120 days for decay-in-storage before disposal without regard to its radioactivity if the licensee:
- A. Monitors byproduct material at the surface before disposal and determines that its radioactivity cannot be distinguished from the background radiation level with an appropriate radiation detection survey meter set on its most sensitive scale and with no interposed shielding; and
 - B. Removes or obliterates all radiation labels, except for radiation labels on materials that are within containers and that will be managed as biomedical waste after they have been released from the licensee; and
 - C. Maintains records of the disposal of licensed materials for 3 years. The record must include the date of disposal, the survey instrument used, the background radiation level, the radiation level measured at the surface of each waste container, and the name of the individual who performed the disposal.
23. 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 May 30, 2003 (ML031611036)
 - B. Letter dated June 11, 2008 (ML081830334)
 - C. Letter dated May 15, 2009 (ML091390340)

For the U.S. Nuclear Regulatory Commission

Original signed by Scott Wilson

Date January 31, 2013

By _____

Scott Wilson
Materials Security and Industrial Branch
Division of Nuclear Materials Safety
Region I
King of Prussia, Pennsylvania 19406