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SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL RADIOACTIVE MATERIAL LICENSE

Pursuant to the Atomic Energy and Radiation Control Act, Section 13-7-40 et.seq. of S.C. Code of Laws of 1976, as amended, and Supplements thereto, and the South Carolina Department of Health and Environmental Control Regulation 61-63, Radioactive Material (Title A), and in reliance on statements and representations heretofore made by the applicant, a license is hereby issued authorizing the licensee to receive, acquire, possess and transfer radioactive material listed below; and to use such radioactive material for the purpose(s) and at the place(s) designated below. This license is subject to all applicable rules and regulations of the South Carolina Department of Health and Environmental Control now or hereafter in effect and to any conditions specified below.

| LICEN | SEB | | 3. License l | Number: |
|-----------------------------|---|--|-----------------------|---|
| 1. Name: | GS ₂ Engineering & Environments Consultants, Inc. | al . | 638 | |
| 2. Address: | 7 Clusters Court Columbia, SC 29210 | | 4. Expiratio March | n Date: |
| 5. Radioactiv (Element d | Material Mass No.) | 6. Chemical and/or Physical Form | | Maximum Radioactivity and/or quantity of material which licensee may possess at any one time. |
| A. Cesium 13 Americium | | A. Sealed source (CPN Model CPN-131) | | No single source to exceed 10 millicuries of Cs-137 and 50 millicuries of Am-241:Be |
| | Use: in a CPN International, Inc. Mode materials. | el MC-1 moisture/density gau | ge to measure p | properties of various |
| | | Conditions | | |

- 9. Radioactive material may only be used at the address stated in Item 2 above and temporary jobsites of the licensee anywhere in South Carolina, subject to the jurisdiction of the S.C. Department of Health and Environmental Control. This condition does not prohibit use in Agreement States or in U.S. Nuclear Regulatory Commission jurisdiction states under reciprocity procedures which may be established by those states or the U.S. Nuclear Regulatory Commission.
- 10. The licensee shall comply with the provisions of Title A, State of South Carolina Rules and Regulations for Radiation Control; Part I General Provisions; Part II Licensing of Radioactive Materials; Part III Standards for Protection Against Radiation; and Part VI Notices, Instructions, and Reports to Workers; Inspections.

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- 11. Radioactive material shall be used by, or under the supervision of, and in the physical presence of: David Fancher(RSO), George Sembos, Sam Templeton, or Ryan Macdonald.
- 12. Sealed sources containing radioactive material shall not be opened or removed from their respective source holders by the licensee.
- 13. A. Each sealed source containing radioactive material, other than Hydrogen-3, with a half-life greater than thirty (30) days and in any form other than gas shall be tested for leakage and/or contamination at intervals not to exceed one (1) year. In the absence of a certificate from a transferor indicating that a test has been made within six (6) months prior to the transfer, the sealed source shall not be put into use until tested.
 - B. The test shall be capable of detecting the presence of 0.005 microcuries of radioactive material on the test sample. The test sample shall be taken from the sealed source or from the surfaces of the device in which the sealed source is permanently mounted or stored on which one might expect contamination to accumulate. Records of leak test results shall be kept in units of microcuries and maintained for inspection by the Department.
 - C. If the test reveals the presence of 0.005 microcuries or more of removable contamination, the licensee shall immediately withdraw the sealed source from use and shall cause it to be decontaminated and repaired or to be disposed of in accordance with Department regulations. A report shall be filed within five (5) days of the test with the Chief, Bureau of Radiological Health, South Carolina Department of Health & Environmental Control, 2600 Bull Street, Columbia, South Carolina 29201, describing the equipment involved, the test results, and the corrective action taken.
- 14. Tests for leakage and/or contamination shall be performed by the licensee or by other persons specifically authorized by the U.S. Nuclear Regulatory Commission or an Agreement State to perform such service.
- 15. Radioactive material shall be transported in accordance with requirements of RHA 2.22 Transportation of Radioactive Materials, Department Regulation 61-63, Title A.
- 16. The licensee shall maintain a utilization log indicating the date, name of person, and place where licensed radioactive material is used.
- 17. The ficensee shall conduct a physical inventory every six (6) months to account for all scaled sources received and possessed under the license. The records of the inventories shall be maintained for inspection by the Department and shall include the quantities and kinds of licensed material, location of scaled sources, and the date of the inventory.

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- 18. Except as specifically provided otherwise, the licensee shall possess and use radioactive material described in Items 5, 6, and 7 of this license in accordance with statements, representations, and procedures contained in the following documents.
 - A. Application dated February 4, 2000, signed by George A. Sembos.P.E.

For the South Carolina Department of Health and Environmental Control

By:

T. Pearce O'Kelley, Chief

Bureau of Radiological Health

Date of Issuance March 1, 2000

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SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

Radioactive Material License Supplementary Sheet

> License No. 638 Amendment No. 03

GS₂ Engineering & Environmental Consultants, Inc. 7 Clusters Court Columbia, SC 29210

In accordance with letter dated August 21, 2002, signed by Ryan D. McDonald S.C. Radioactive Material License No. 638 is hereby AMENDED:

| TO ADD: | | | | | | |
|---------|---|----|--|----|---|--|
| 5. | Radioactive Material (Element & Mass No.) | 6. | Chemical and/or Physical Form | 7. | Maximum Radioactivity and/or quantity of material which licensee may possess | |
| В. | Cesium 137 | В. | Sealed source (Amersham Corp. Model No. CDCW556, Capsule Type XN.30 or Capsule Type X1218) | В. | No single source to exceed 9 millicuries. | |
| C. | Cesium 137 | C. | Sealed source (Isotope Products Labs Model No. HEG-0058, Capsule Type 3024) | C. | No single source to exceed 9 millicuries. | |
| D. | . Americium 241:Be | D. | Sealed source (Amersham Corp. Model No. AMNV.997, Capsule Type X.1) | D. | No single source to exceed 44 millicuries. | |
| E. | Americium 241:Be | B. | Sealed source (Isotope Products Labs. Model Nos. 3021 or 3027) | E. | No single source to exceed 44 millicuries. | |

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Amendment No. 03

8. Authorized Use:

To be used in Troxler Model 3400 series gauges (Models 3430, 3430-M, 3440, and 3440-M) to A. through D. measure the moisture and density of various construction materials.

Date of Issuance: September 3, 2002

For the South Carolina Department of Health and Environmental Control

T. Pearce O'Kelley, Chief

Bureau of Radiological Health

DHEC 812 (11/81)