

AMERICAN DREDGING COMPANY

INCORPORATED 1967

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P.O. BOX 190
CAMDEN, NJ 08101

Telephone: (609) 963-0963

March 16, 1987

U. S. Nuclear Regulatory Commission, Region 1
Nuclear Materials, Safety and Safeguards Branch
631 Park Avenue
King of Prussia, PA 19406

Attention: John E. Glenn, PhD

Subject: Application for Material License

Reference: A. Radiological Monitors Certificate
B. Materials License LA-5599-L02
C. Materials License 22-18965-02 (Information Copy Only)
D. Installation Drawing

Gentlemen:

Pursuant to items five (5) through eleven (11) of subject application, the following is submitted:

5. Radioactive Material (3)

a. Element and Mass Number:	Cesium - 137
b. Chemical and Physical Form:	Amersham Buchler GmbH and Co. Model IND 92/Cs (VZ0092)
c. Maximum Amount Which Will Be Possessed At Any One Time:	1 Ci

6. The licensed material is a sealed source mounted inside a metering device. The system measures the density of the water/slurry which flows through a metal pipe aboard a dredge. Radiation from a gamma source is transmitted through the pipe to a detector. The radiation is weakened by a factor which is an exponential function of the measuring path length and the density of the material. With the high energy radiation of the gamma source the degree of weakening is virtually constant irrespective of the composition of the dredged material. The fluctuation or weakening of the radiation is therefore a direct function of the density and is converted into a milli-amp signal by means of the amplifier unit.

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29-28008-01 PDR

A radiation shield mounted behind the radiation detector to ensure radiation levels below 5 MREM/Hour to ensure radiation levels in case no slurry or even water is in the pipe and the radiation source is not closed.

The density measuring instruments are common to the hopper dredging industry. Two (2) identical units were installed aboard the Hopper Dredge "Quachita" constructed at Twin City Shipyards, Inc., St. Paul, MN 55164, Materials License Number 22-18965-02 Amendment No. 1 Ref. C owned and operated by Gulf Coast Trailing Co., Kenner, LA. The units to be installed aboard the Hopper Dredge "Atlantic American" are presently licensed by McDermott Marine Construction, Morgan City, LA, License Number LA-5599-L02, Ref. B. The scheduled start-up and testing of these units is April 20, 1987.

Item 7 INDIVIDUALS RESPONSIBLE FOR RADIATION SAFETY PROGRAM - THEIR TRAINING AND EXPERIENCE

All services such as installation, initial radiation survey, maintenance, and leak-testing will be performed by the gauge distributor or other persons specifically licensed to perform these services. Training in use and operation will be given at the time the gauges are installed to Martin R. Flower, Chief Engineer, Randall Eldred, Master, and Steve L. Lane, Project Engineer. Gauges will not be operated until the training has been received, records of such training will be maintained for five (5) years after training is completed. Please Note: Mr. Flower has successfully completed a course for radiological monitors, Reference (A).

Item 8 TRAINING PROVIDED TO OTHER USERS

A trained "Responsible Individual" will always be physically present aboard the dredge when device is in use. Any employee other than those listed in Item 7, who will operate our device will attend the training and instruction given at the time of installation or will receive equivalent training and instruction. An outline of the training provided showing its equivalency to the training offered by the device installer will be used by one of the "Responsible Individuals" listed in Item 7.

Item 9 FACILITIES AND EQUIPMENT

See Reference D for installation drawing.

The environmental conditions to which the gauges will be exposed, e.g., elevated temperature, corrosive atmosphere, vibration have all been considered by the device manufacturer. The gauges will be operating within the realms of their design with special protection. Cooling etc., are not required.

Area monitoring of the radiation sources aboard the dredge will be performed annually by the device manufacturer or by other persons specifically authorized by the Commission or an agreement state to perform such services. At this time, the operation of the shutter, the general condition of the transmitter unit, and the proper posting of signs will be checked.

Leak tests will be performed every three (3) years by Professional Radiation Management Inc., Chicago, IL, Twin City Testing Co., St. Paul, MN, Berthold Systems, Inc. the device manufacturer or by other persons specifically authorized by the Commission.

Emergency Procedures

In case of emergency, the following steps are to be taken:

- a. Evacuate gauge area and secure.
- b. Notify:
 - 1) John Gazzola (609) 963-0963 or Steve Lane (609) 963-0963, who will then notify the NRC.
 - 2) U. S. Coast Guard, giving them the information that this is a radiation emergency so that the proper authorities may be notified and transported to the scene of the emergency.

Item 10 RADIATION SAFETY PROGRAM

All services such as installation, initial radiation survey, maintenance, leak-testing, device relocation or removal, etc., will be performed by the device distributor or another person specifically licensed to perform the services.

Lock out procedures will be prepared and provided to personnel, the procedures will be posted so the personnel can see them. The "Responsible Individuals" names in Item 7 will ensure that the lock out procedures are followed. Services listed above will be contracted to such firms as:

Midwest Calibration Center
5213 West Laurence
Chicago, IL 60630
(312) 282-1689, NCC License #12-20227-01
State of Illinois #IL-00527-01

Meconaut
Rivierdijk 654,3371 EE
Hardinxveld-Giessendam, The Netherlands

Berthold Systems, Inc.
79 N. Industrial Park
Sewickley, PA 15143

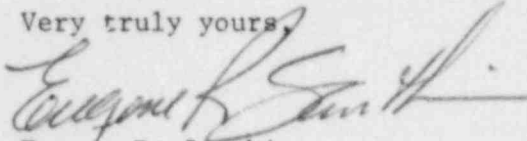
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Item 11 WASTE MANAGEMENT

The disposal of radioactive material will be transferred to an authorized recipient as specified in Paragraph 20.301 (a) of 10 CFR Part 20. The authorized recipient would be the original supplier of gauge, a commercial firm licensed by the NRC or another specific license authorized to possess the license material.

Very truly yours,



Eugene R. Santhin
Vice President

SLL/djf
Enclosures

This is to certify that

MARTIN R. FLOWER

Has successfully completed a course for
RADIOLOGICAL MONITORS
Conducted by

NEW ORLEANS DISTRICT CORPS OF ENGINEERS

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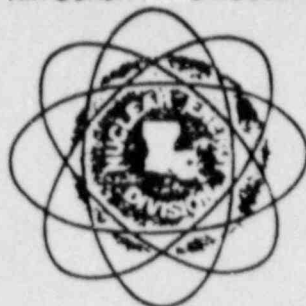
Date

Robert J. Kalkbrenner
INSTRUCTOR
A. B. Starnes

A. B. Starnes
AUTHORIZING OFFICIAL
Deputy Radiation Protection Officer
TITLE



RADIOACTIVE



MATERIAL LICENSE

LOUISIANA NUCLEAR ENERGY DIVISION

P.O. BOX 14690

BATON ROUGE, LOUISIANA 70808

Pursuant to the Louisiana Environmental Quality Act (West's LSA-R.S. 30:1051 et seq.) and the Louisiana Radiation Regulations, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, own, possess and transfer radioactive material for the purpose(s) and at the place(s) designated below. This license shall be deemed to contain the conditions specified in West's LSA-R.S. 30:1105 of the Louisiana Nuclear Energy and Radiation Control Law, and is subject to all applicable rules, regulations and orders of the Louisiana Nuclear Energy Division now or hereinafter in effect, including the Louisiana Radiation Regulations, and to any condition specified in the license.

LICENSEE McDermott Marine Construction Post Office Box 188 Morgan City, Louisiana 70381 Attention: Dennis R. Rockett Radiation Safety Officer	LICENSE NUMBER LA-5599-L02	EXPIRATION DATE February 28, 1991
	AMENDMENT NUMBER <input checked="" type="checkbox"/> INITIAL LICENSE	Previous Amendments Are Void
	THIS LICENSE ISSUED PURSUANT TO AND IN ACCORDANCE WITH <input checked="" type="checkbox"/> Application <input type="checkbox"/> Letter <input type="checkbox"/> Telegram <input type="checkbox"/> _____ SIGNED BY D. R. Rockett DATE February 11, 1987	

RADIOISOTOPE		MAXIMUM NUMBER OF SOURCES	MAXIMUM ACTIVITY OR QUANTITY PER SOURCE	SEALED SOURCE IDENTIFICATION	STORAGE CONTAINER OR EXPOSURE DEVICE	AUTHORIZED USE
ELEMENT	MASS NO.					
Cs	137	Any	I Ci	Amersham Buchler GmbH and Co. Model IND 92/Cs(VZ0092)	Berthold Systems, Inc. Model LB7444	Density Measurement

- Radioactive material shall be used only at McDermott Shipyard, DeGravelle Road, Amelia, Louisiana.
- Radioactive materials shall be used by, or under the supervision of, Dennis R. Rockett.
- Installation, relocation, maintenance, repair, and initial radiation survey of devices containing radioactive material and leak testing, installation, replacement, and disposal of sealed sources containing radioactive material used in devices shall be performed by Dennis R. Rockett, the manufacturer or by other persons specifically authorized by the Division, an Agreement State or the Nuclear Regulatory Commission to perform such services.
- The source holder shall be locked in the "off" or closed position:
 - During any manipulation of a density or level gauge, including the source holder or the detector, which involved physical movement of the device and/or separation from a pipe or vessel, including installation, relocation or storage; and
 - When individuals are working on or adjacent to a density or level gauge during periods of shutdown; and
 - Whenever an individual enters a vessel in which such a gauge is located; and
 - Whenever a vessel with such a gauge is empty and an individual is working around the exterior of the vessel.

Antony van der Beken

DEPARTMENT OF NATURAL RESOURCES
OFFICE OF ENVIRONMENTAL AFFAIRS
LOUISIANA NUCLEAR ENERGY DIVISION
BATON ROUGE, LOUISIANA

LICENSEE McDermott Marine Construction		LICENSE NUMBER LA-5599-L02	AMENDMENT NO. INITIAL LICENSE	EXPIRATION DATE February 28, 1991
RADIOISOTOPE	MAXIMUM NUMBER OF SOURCES	MAXIMUM ACTIVITY* OR QUANTITY PER SOURCE	SEALED SOURCE IDENTIFICATION	STORAGE CONTAINER OR EXPOSURE DEVICE
ELEMENT	MASS NO.		CHEMICAL FORM - PHYSICAL STATE	AUTHORIZED USE

- B. Records of each installation or relocation shall be maintained which provide certification that the source holder has been locked in the "off" or closed position, a description of each location, and the dates of the installation and removal.
- C. Sealed sources containing radioactive material shall not be opened or removed from their respective source holders by the licensee.
5. Within sixty (60) days of the date of issuance shown on this license or at the time of installation, and at annual intervals thereafter, an inventory and inspection of all devices containing radioactive material shall be conducted which determine, where applicable, at least the general physical condition of the device, proper shutter operation and adequate posting of radiation caution signs. Records shall be maintained for inspection by the Division and shall include the date of inventory; the location; the manufacturer and model number of the device and the sealed source contained in the device; the quantity and kinds of radioactive material and the findings of the physical inspections.
6.
 - A. Tests for leakage and/or contamination shall be performed in accordance with Section D.201(b) of the Louisiana Radiation Regulations.
 - B. The licensee is authorized to take leak test samples using approved leak test kits.
 - C. Sealed sources shall be leak tested at the six (6) month interval specified in Section D.201(b)(1), except those sealed sources in devices which have been authorized by the Division, an Agreement State, or the Nuclear Regulatory Commission, and which are specified by the manufacturer's distribution license, may be leak tested at intervals not to exceed three (3) years.
 - D. The periodic leak test required by this condition does not apply to the sealed sources that are stored and not being used. The sources excepted from this test shall be tested for leakage prior to use or transfer to another person, unless they have been leak tested within six (6) months prior to the date of transfer or use.
7. Except as specifically provided otherwise by the license, the licensee shall possess and use radioactive material described in all schedules of this license in accordance with statements, representations and procedures contained in the licensee's application dated February 11, 1987 and in all subsequent correspondence.

JWS:cwr

* μ Ci—Microcurie; mCi—Millicurie; Ci—Curie

PAGE 1 SIGNED BY:

THE LOUISIANA NUCLEAR ENERGY DIVISION
OFFICE OF ENVIRONMENTAL AFFAIRS

Hustene Van Bodungen

DATE
February 19, 1987

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