NRC FORM 313 (3-2009) 10 CFR 30, 32, 33, 34, 35, 36, 39, and 40

U.S. NUCLEAR REGULATORY COMMISSION

APPLICATION FOR MATERIALS LICENSE

APPROVED BY OMB: NO. 3150-0120 EXPIRES: 3/31/2012

Estimated burden per response to comply with this mandatory collection request: 4.3 hours. Submittal of the application is necessary to determine that the applicant is qualified and that adequate procedures exist to protect the public health and safety. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to Infocollects.resource@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0120), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW.

APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:

OFFICE OF FEDERAL & STATE MATERIALS AND
ENVIRONMENTAL MANAGEMENT PROGRAMS
DIVISION OF MATERIALS SAFETY AND STATE AGREEMENTS
U.S. NUCLEAR REGULATORY COMMISSION
WASHINGTON, DC 20555-0001

ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS:

IF YOU ARE LOCATED IN:

ALABAMA, CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, FLORIDA, GEORGIA, KENTUCKY, MAINE, MARYLAND, MASSACHUSETTS, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, NORTH CAROLINA, PENNSYLVANIA, PUERTO RICO, RHODE ISLAND, SOUTH CAROLINA, TENNESSEE, VERMONT, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:

LICENSING ASSISTANCE TEAM
DIVISION OF NUCLEAR MATERIALS SAFETY
U.S. NUCLEAR REGULATORY COMMISSION, REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406-1415

IF YOU ARE LOCATED IN:

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO:

MATERIALS LICENSING BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, IL 60532-4352

ALASKA, ARIZONA, ARKANSAS, CALIFORNIA, COLORADO, HAWAII, IDAHO, KANSAS, LOUISIANA, MISSISSIPPI, MONTANA, NEBRASKA, NEVADA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, OREGON, PACIFIC TRUST TERRITORIES, SOUTH DAKOTA, TEXAS, UTAH, WASHINGTON, OR WYOMING, SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION IV
612 E. LAMAR BOULEVARD, SUITE 400
ARLINGTON, TX 76011-4125

PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S.NUCLEAR REGULATORY COMMISSION JURISDICTIONS.

1. THIS IS AN APPLICATION FOR *(Check appropriate item)*

- ☐ A. NEW LICENSE
- ☐ B. AMENDMENT TO LICENSE NUMBER
- ☑ C. RENEWAL OF LICENSE NUMBER **21-18784-01**

2. NAME AND MAILING ADDRESS OF APPLICANT *(Include ZIP code)*

Consumers Energy
Laboratory Services
135 W. Trail St.
Jackson MI 49201

3. ADDRESS WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED

Consumers Energy
Laboratory Services
135 W. Trail St.
Jackson MI 49201

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

John Merrill RSO

TELEPHONE NUMBER

(517) 788-7104

SUBMIT ITEMS 5 THROUGH 11 ON 8-1/2 X 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

5. RADIOACTIVE MATERIAL
a. Element and mass number; b. chemical and/or physical form; and c. maximum amount which will be possessed at any one time.

6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED.

7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE.

8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS.

9. FACILITIES AND EQUIPMENT.

10. RADIATION SAFETY PROGRAM.

11. WASTE MANAGEMENT.

12. LICENSE FEES *(See 10 CFR 170 and Section 170.31)*
FEE CATEGORY | AMOUNT ENCLOSED $

13. CERTIFICATION. *(Must be completed by applicant)* THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT.

THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, 36, 39, AND 40, AND THAT ALL INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF.

WARNING: 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948 62 STAT. 749 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

CERTIFYING OFFICER – TYPED/PRINTED NAME AND TITLE	SIGNATURE	DATE
John Merrill RSO		**09/20/2010**

FOR NRC USE ONLY

TYPE OF FEE	FEE LOG	FEE CATEGORY	AMOUNT RECEIVED $	CHECK NUMBER	COMMENTS
APPROVED BY				DATE	

Continued from NRC Form 313, Items 5-11

5. RADIOACTIVE MATERIAL

   A. Element and mass number

      1. Nickel-63

   B. Chemical and/or physical form

      1. Nickel-63: Plated source (contained in Agilent and Hewlett Packard Model G2397A, 19233 or equivalent Detector Cell)

   C. Maximum amount which will be possessed at any one time.

      1. Nickel-63 7 sources not to exceed 15 millicuries each

6. PURPOSES FOR WHICH LICENSED MATERIAL WILL BE USED

   A. Nickel-63: To be used in Hewlett Packard, Agilent or similar gas chromatograph(s) for sample analysis.

7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING AND EXPERIENCE

   A. See attached personnel resumes (Attachment 1)

      1. John S Merrill – Radiation Safety Officer
      2. Mike B Kirk – Assistant Radiation Safety Officer
      3. Gordon L Cattell – Authorized User
      4. Amber C Muscott – Authorized User
      5. Quanfang Ye – Authorized User

8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS

   See Attachment 1 resumes for designated License User personnel

9. FACILITIES AND EQUIPMENT

   A. Nickel-63 licensed material may be used at the licensee's facilities located at Laboratory Services, 135 West Trail Street, Jackson, Michigan and at temporary job sites of the licensee anywhere in the State of Michigan under the Supervision of currently designated licensee user personnel. Transport and operation of the gas chromatographs shall be performed per applicable manufacturer's instructions/maintenance procedures and the

Consumers Energy's Byproduct Radiation Safety Program. The area in which the licensed material is contained shall be locked when not under the supervision of currently designated licensee user personnel.

B. Exhaust from detector cells shall be vented through a laboratory fume hood or other suitable means designated to reduce potential exposure to personnel to the lowest practicable level.

C. Except as otherwise specified in this license, the licensee shall have available and follow the instructions contained in the manufacturer's instruction manual for the chromatography device.

10. RADIATION SAFETY PROGRAM

A. Personnel Monitoring Equipment

1. Under routine operating conditions the exposure rate from the detectors is less than 10% of the allowable limits in 10CFR20.1502 and dosimetry is not required.

2. In lieu of using the conventional radiation caution colors (magenta or purple on yellow background) as provided in Section 20.1901 (a) (1) & (2), title 10, Code of Federal Regulations, Part 20, the licensee is hereby authorized to label detector cells and cell baths, containing licensed material and used in gas chromatography devices, with conspicuously etched or stamped radiation caution symbols without a color requirement as stated in Section 20.1901(b). Currently cells have detector tags from Agilent.

B. Radiation Detection Instruments

None required for these gas chromatographs.

C. Leak Testing

1. Each chromatograph detector containing Nickel -63 shall be tested for leakage and/or contamination at intervals not to exceed six months. Any source received from another person which is not accompanied by a certificate indicating that a test was performed within 6 months before the transfer shall not be put into use until tested.

Any source in storage and not being used will not be tested. When the source is removed from storage for use or transfer to another person, it shall be tested before use or transfer.

2. The test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. The test sample shall be taken from the surfaces of the device in which the foil is mounted or stored on which one might expect

contamination to accumulate. Records of leak test results shall be kept and maintained for inspection by the Commission.

3. If the test reveals the presence of 0.005 microcurie or more of removable contamination, the licensee shall immediately withdraw the detector from use and shall cause it to be decontaminated and repaired or to be disposed of in accordance with Commission regulations. A report shall be filed, within five (5) days of the date the leak test result is known, with the U.S. Nuclear Regulatory Commission, Region III, describing the equipment involved, the test results and the corrective action taken.

4. A leak test kit may be used for analysis by persons specifically authorized by the Commission or an Agreement State to perform such services.

D. Maintenance and Repair

1. Detector cells containing licensed material shall not be opened or removed from the detector cell by the licensee.

2. Maintenance, repair, cleaning, replacement and disposal of foils contained in detector cells shall be performed only by the device manufacturer or other persons specifically authorized by the Commission or an Agreement State to perform such services.

3. The licensee shall conduct a physical inventory every six (6) months to account for all plated sources received and possessed under the license. The records of the inventories shall be maintained for two (2) years from the date of the inventory for inspection by the Commission, and shall include the quantities and kinds of byproduct material, manufacturer's name and model numbers, location of foil and plated sources and date of inventory.

11. WASTE MANAGEMENT

Detector disposal will be by transfer to original supplier or to a licensed disposal facility.

RESUME

Training and Experience of Individual User:

John S Merrill – Radiation Safety Officer

Education

Institute	Duration	Major	Degree	Date
1. Grand Valley State University	4 years	Business	Bachelors	1989-1994
2. AEA Technology, Boston	40 hours	Radiation Safety Aspects of Isotope Radiography		2002
3. AEA Technology, Boston	8 hours	Inspection and Maintenance of Radiography Equipment		2002
4. AEA Technology, Dayton	16 hours	Administration of Radiography Program		2005

Work Experience:

2007 – Present	Radiation Safety Officer, Consumers Energy
2002 – 2007	Radiographer, NDT Technician, ARSO, Consumers Energy
1997 – 2002	Chemical Technician, Chemistry Dept. Consumers Energy

Isotopic Experience

Isotope	Maximum Amount	Where Experience Was Gained	Duration	Type of Use
Ir-192	150ci	Consumers Energy Trail St Lab	8 years	Radiography
Se-75	150ci	Consumers Energy Trail St Lab	4 years	Radiography
Cs-137	20ci	Consumers Energy Trail St Lab	4 years	Calibration

RESUME

Training and Experience of Individual User:

Mike B Kirk – Senior Technician, Assistant Radiation Safety Officer

Education

	Institute	Duration	Major	Degree	Date
1.	Coldwater High School Coldwater, MI	4 Years	General Studies		1974
2.	Ferris State University Big Rapids, MI	3 Years	Applied Science	Associates	1975-1978

Work Experience:

1981 – Present	Consumers Energy 135 W Trail Street Jackson, MI 49201 Nondestructive Testing Technician, Senior Technician, Assistant Radiation Safety Officer
1979 – 1981	Doctors Hospital 110 N. Elm Avenue Jackson, MI 49202 Nuclear Medicine Radiation Safety Officer
1977 – 1978	Sinai Hospital of Detroit Detroit, MI Nuclear Medicine Technician

Isotopic Experience

Isotope	Maximum Amount	Where Experience Was Gained	Duration	Type of Use
Ir-192	150ci	Consumers Energy Trail St Lab	29.5 Years	Radiography
SE-75	80ci	Consumers Energy Trail St Lab	4 years	Radiography\
TE-99	Various	Doctors & Sinai Hospitals	2.5 Years	Nuclear Medicine

RESUME

Training and Experience of Individual User:

Gordon L Cattell – Senior Technical Analysist

Education

Institute	Duration	Major	Degree	Date
1. Michigan Technological University	4.5 Years	Chemistry	BS	1985

Work Experience:

3/1983 – Present	Consumers Energy Company Assistant Technician, Technician, Associate Chemist, Technical Analyst, Senior Technical Analyst

Isotopic Experience

Isotope	Maximum Amount	Where Experience Was Gained	Duration	Type of Use
Ni-63	15mCi	Consumers Energy Trail St Lab	23 years	Calibration

RESUME

Training and Experience of Individual User:

Amber C Muscott – Chemistry Technician Level II, Assistant Radiographer

Education

Institute	Duration	Major	Degree	Date
1. Central Michigan University	5.5 years	Earth Science	B.S.	2003

Work Experience:

07/06 – Present	Chemistry Technician; Assistant Radiographer Consumers Energy Company – Trail Street Laboratory
08/04 – 07/06	Laboratory Technician Solution Recovery Services

Isotopic Experience

Isotope	Maximum Amount	Where Experience Was Gained	Duration	Type of Use
Ni-63	15mCi	Consumers Energy Trail St Lab	3.5 years	Calibration
Ir-192	150 Ci	Consumers Energy Trail St Lab	3 years	Assistant Radiographer

RESUME

Training and Experience of Individual User:

Quanfang Ye

Education

Institute	Duration	Major	Degree	Date
1. NanKai University	4 years	Chemistry	BS	1982
2. The Third Medical University	2 years	Environmental Science	MS	1988

Work Experience:

10/2002 – Present	Technical Analyst Consumers Energy – Laboratory Services
11/2001 – 09/2002	Research Chemist Oakland University
07/1996 – 10/2001	Research Associate University of Toronto
06/1993 – 04/1996	Research Associate UCLA School of Public Health
08/1988-06/1993	Instructor The Third Medical University

Isotopic Experience

Isotope	Maximum Amount	Where Experience Was Gained	Duration	Type of Use
Ni-63	15 mCi	University Of Toronto	5	Calibration
Ni-63	15 mCi	UCLA	3	Calibration

Laboratory Services

Division of Consumers Energy
135 West Trail Street
Jackson, MI 49201

Our FAX Number is (517) 788-2533

PROPRIETARY INFORMATION
IF THIS FAX IS NOT ADDRESSED TO YOU PLEASE DO NOT READ

TELECOPIER INFORMATION:

SEND TO: Materials Licensing Branch

COMPANY NAME: NRC Region III

FAX NUMBER: 630-515-1078

FROM: John Merrill, RSO **PHONE:** 517-788-7104

NUMBER OF PAGES (Including this Page): 10

SPECIAL INSTRUCTIONS OR MESSAGE: License Renewal # 21-18784-01

Laboratory Services

For Chemistry Services – Steve Wellman (517) 788-0442
Perform a wide range of chemical analysis, determinations of compliance to requirements of State and Federal regulatory agencies such as the EPA, DNR, OSHA, and the NRC.

For Calibration & Instrument Services – Steve Wellman (517) 788-0442
Perform instrument calibration and repair services and provide consultation on instrument selection and usage.

For Nondestructive & Materials Testing Services – Steve Wellman (517) 788-0442
Perform nondestructive testing, materials testing and metallurgical examinations for power plants, gas-electric distribution/transmission areas. Perform various onsite predictive maintenance services such as vibration analysis, balancing, sound level testing, and ground penetrating radar surveys.

For System Maintenance & Construction Services – Terry Krummrey (517) 788-0530
Perform maintenance, calibration, testing and evaluation of generating, transmission, distribution, protective relaying and control systems. (Electric Transmission and Network Services)