



## STATE OF MAINE APPLICATION FOR A RADIOACTIVE MATERIAL LICENSE FOR INDUSTRIAL RADIOGRAPHY USE

**INSTRUCTIONS:** *This application complies with the license requirements of Section C of the State of Maine Radiation Protection Rule (SMRPR). Complete items 1 through 12. Supplemental sheets may be needed for items 5 through 11. Mail the completed application to: Radiation Control Program, 11 State House Station, Augusta, Maine, 04333. Telephone: (207) 287-5676. Facsimile: (207) 287-3059. E-Mail: radiation.dhhs@maine.gov*

**1. THIS IS AN APPLICATION FOR (check one)**

|                          |                               |                 |
|--------------------------|-------------------------------|-----------------|
| <input type="checkbox"/> | NEW LICENSE                   | Office Use Only |
| <input type="checkbox"/> | RENEWAL of license number >   |                 |
| <input type="checkbox"/> | AMENDMENT of license number > |                 |

|                          |                                                                                                                                                                                                                   |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | <i>This application includes security-related sensitive information which is marked "Security-related information – withhold under 10 CFR 2.390" (see Section 5.2 of NUREG-1556 Vol. 9, Rev 2., January 2008)</i> |
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**2. NAME AND MAILING ADDRESS OF APPLICANT**

**3. ADDRESS(ES) WHERE MATERIAL WILL BE  
USED AND/OR STORED.**

|        |       |
|--------|-------|
|        |       |
| PHONE: | PHONE |

**4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION**

NAME:

PHONE:

ADDRESS: (If different from #2.)

E-Mail:

*For items 5 through 11, the requested information may be submitted on standard size paper. Answer all items. For any that do not apply, answer by giving the item number with "not applicable" after it. If this is for a renewal or an amendment to a current license then only those items that are to be added, changed or removed need to be addressed. If there is no change to an item currently in effect on the license and it is to remain as it is, then you may note that by marking the item "No Change".*

**5. RADIOACTIVE MATERIAL – SEALED SOURCES AND DEVICES:** provide the following information for each requested source assembly, exposure device, and source changer:

| Radionuclide | Manufacturer & Model<br>No. of Source<br>Assemblies | Maximum<br>Activity per<br>source | Manufacturer & Model<br>No. of Exposure<br>Devices | Manufacturer & Model<br>No. of Source<br>Changers |
|--------------|-----------------------------------------------------|-----------------------------------|----------------------------------------------------|---------------------------------------------------|
|              |                                                     | Ci                                |                                                    |                                                   |
|              |                                                     | Bq                                |                                                    |                                                   |
|              |                                                     | Ci                                |                                                    |                                                   |
|              |                                                     | Bq                                |                                                    |                                                   |
|              |                                                     | Ci                                |                                                    |                                                   |
|              |                                                     | Bq                                |                                                    |                                                   |
|              |                                                     | Ci                                |                                                    |                                                   |
|              |                                                     | Bq                                |                                                    |                                                   |
|              |                                                     | Ci                                |                                                    |                                                   |
|              |                                                     | Bq                                |                                                    |                                                   |
|              |                                                     | Ci                                |                                                    |                                                   |
|              |                                                     | Bq                                |                                                    |                                                   |

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|---------------------------------------------------------------------------|
| Depleted uranium used as shielding material – total amount_____kilograms. |
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| We confirm that each sealed source, device, and source/device combination possessed is registered as an approved sealed source or device by NRC or an Agreement State and will be possessed and used in accordance with the conditions specified in the registration certificate. |
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| We confirm that associated equipment is compatible with the exposure devices, source changers, and sealed sources containing radioactive material |
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| We confirm that only radiographic exposure devices, source assemblies or sealed sources, and associated equipment which meet the requirements specified in Part E will be used in radiographic operations. |
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### **Financial Assurance and Record Keeping for Decommissioning**

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|  | Pursuant to Part C of the SMRRRP, we shall maintain drawings and records important to decommissioning and to transfer these records to a new license before licensed activities are transferred, or to assign the records to the Agency before the license is terminated |
|  | <b>OR</b> financial assurance is required and evidence is submitted.                                                                                                                                                                                                     |

### **6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED:** Equipment will only be used for:

|  |                                   |
|--|-----------------------------------|
|  | Industrial radiography            |
|  | Underwater radiography            |
|  | Lay-barge radiography             |
|  | Off-shore platform radiography    |
|  | Other than radiography (describe) |

### **7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM – RADIATION SAFETY OFFICER:** Submit Form HHE851 or equivalent along with copies of certificates and documentation to show the individual is a certified radiographer

Name:

Telephone:

Address:

Fax:

E-mail:

|  |                                                                                                                                                      |
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|  | We will ensure that the RSO is authorized to stop unsafe operation; and has sufficient time to perform radiation safety duties and responsibilities. |
|  | Provide a copy of an organizational chart by position, demonstrating day-to-day oversight of the radiation safety activities.                        |
|  | Provide the specific training and experience of the RSO, including the specific dates of certification and/or training in radiation safety.          |
|  | Provide documentation to show that the RSO has a minimum of 2 years experience including knowledge of industrial radiographic operations;            |
|  | <b>OR</b> Submit alternate information demonstrating that the proposed RSO is qualified by training and experience.                                  |
|  | Provide documentation to show that the RSO has obtained formal training in the establishment and maintenance of a radiation protection program.      |

**8. TRAINING FOR RADIOGRAPHERS AND RADIOGRAPHER'S ASSISTANTS:** No licensee or registrant shall permit any individual to act as a radiographer until the individual carries a valid radiographers certification ID card nor any individual to act as a radiographer trainee until the individual possesses an Agency issued trainee status card or certification ID card. On a separate sheet, list the names of all individuals who will use or directly supervise use of the radioactive material(s) listed in 5 above. Complete Form HHE851 for each individual and include copies of training certificates

|  |                                                                                                                                                                                             |
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|  | Submit an outline of the training to be given to prospective radiographers and radiographer's assistants and procedures for experienced radiographers who have worked for another licensee. |
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|  | Submit a copy of a typical examination with the correct answers and the passing grade. |
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|  | Provide the qualifications of the instructors in radiation safety principles and a description of their experience with radiography. If training will be conducted by someone outside your organization, identify the course by title and provide the name and address of the company providing the training. |
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|  | Submit a description of the field (practical) examination that will be given. |
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|  | Submit a description of the annual refresher training program, including topics to be covered and how the training will be conducted. |
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|  | Submit the procedures for verifying and documenting the certification status of radiographers and for verifying that their certification remains valid. |
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|  | Submit a description of the program for inspecting the job performance of each radiographer and radiographer's assistant at intervals not to exceed 6 months. |
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**9. FACILITIES AND EQUIPMENT:** Provide a description of the facilities and equipment to be made available at each location where radioactive material is to be used, a annotated diagram of the entire facility and its surroundings, and identification of activities conducted in all contiguous areas surrounding the facility. Diagrams should be drawn to a specified scale, or dimensions should be indicated. Include the following information as described in:

**9.1 Permanent Radiography Installations**

|  |                                                                                                                                                                                                              |
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|  | If radiography is planned in permanent radiography installations (including field stations with permanent exposure cells), provide the information for each installation as described in NUREG-1556, Vol. 2. |
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**9.2 Field Stations**

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|  | If radiography is planned in field stations, provide the information for each installation as described in NUREG-1556, Vol. 2. |
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**10. RADIATION SAFETY PROGRAM:** Describe your Radiation Safety Program.

**10.1 Audit Program:**

|  |                                                                                                                                                             |
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|  | Management will conduct an annual audit of the Radiation Safety Program meeting the criteria of NUREG-1556 Vol. 2 and maintain the records for three years. |
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**10.2 Instruments:**

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|  | We will possess and use calibrated and operable radiation survey meters. |
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|  | Calibration will be performed by a NRC or Agreement State licensee specifically authorized to perform instrument calibration |
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|  | <b>OR</b> If calibration is to be performed in house, we will follow the model procedures established in Appendix J to NUREG-1556, Vol. 2. |
|  | <b>OR</b> If calibration is to be performed in-house submit alternate procedures.                                                          |

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|  | Provide the qualifications of the individuals who will perform calibrations. |
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### 10.3 Material Receipt And Accountability:

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|  | Physical inventories will be conducted and documented at quarterly intervals (not to exceed 3 months) to account for all sealed sources and devices including those containing depleted uranium received and possessed under the license. |
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### 10.4 Minimization of Contamination:

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|  | Provide a description of how facility design and procedures for operation will minimize, to the extent practicable, contamination of the facility and the environment, facilitate eventual decommissioning, and minimize, to the extent practicable, the generation of radioactive waste. |
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### 10.5 Leak Tests:

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|  | Leak tests will be performed by an organization authorized by NRC/AS to provide leak testing services to other licensees or using a leak test kit supplied by an organization licensed by NRC/AS to provide leak test kits and/ or services to other licensees and according to the instructions provided in the leak test kit |
|  | <b>OR</b> Provide the information in Appendix K to NUREG-1556, Vol. 2 supporting the request to perform leak testing and sample analysis in house                                                                                                                                                                              |
|  | <b>AND</b> We will follow the model procedures established in Appendix K to NUREG-1556, Vol. 2;                                                                                                                                                                                                                                |
|  | <b>OR</b> Provide a description of alternate procedures.                                                                                                                                                                                                                                                                       |

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|  | Sealed sources will be leak tested at intervals not to exceed 6 months and DU devices tested at intervals not to exceed 12 months |
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### 10.6 Occupational Dosimetry:

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|  | We will ensure that film or TLD dosimetry, processed and evaluated by a NVLAP accredited processor and exchanged at the required frequency, will be worn by radiography personnel. |
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|  | We will ensure that the required personnel monitoring equipment, including 0 to 2 mSv (200 mrem) dosimeters or electronic personal dosimeters, will be worn by radiographic personnel |
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|  |                                                                                                                                                                                                                                                           |
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|  | We will ensure that alarming ratemeters set to alarm @ $\pm 20\%$ of 5 mSV (500 mrem) /hour will be worn by all radiography personnel except those at permanent radiography installations where other appropriate alarming or warning devices are in use. |
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|  | We will ensure that pocket dosimeters and alarming ratemeters will be checked for correct response at intervals not to exceed 12 months. |
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|  | If adjustment of pocket dosimeters or alarming ratemeters is necessary, the devices will be returned to the manufacturer |
|  | <b>OR</b> Submit a description of in-house adjustment procedures.                                                        |

## 10.7 Public Dose:

We will ensure that radiography devices will be used, transported, and stored in such a way that members of the public will not receive more than 1 mSV (100 mrem) in a year, and the dose from licensed operations in any unrestricted area will not exceed 0.02mSV (2 mrem) in any one hour.

We will control and maintain constant surveillance over devices that are not in storage and secure stored devices from unauthorized removal or use.

## 10.8 Quarterly Maintenance:

Submit written operating and emergency procedures and/or shipping package procedures as needed for inspecting and maintaining radiographic exposure devices, source changers, associated equipment, transport and storage containers, and survey instruments. Inspection and maintenance will be conducted at intervals not to exceed every three months, or before the first use thereafter, to ensure the proper functioning of components important to safety.

We will ensure before using a new sealed source/device combination, we will have written inspection and maintenance procedures that address the use of the new equipment as a Type B transport package. In addition, we will provide training to radiographic personnel before using a new sealed sources/device combination.

## 10.9 Operating/Emergency Procedures:

### 10.9.1 Handling And Use Of Sealed Sources And Radiography Exposure Devices

Submit operating and emergency procedures which provide step-by-step instructions for using each type of radiographic device. Instruction for crankout devices are separate from those for pipeliner devices.

Submit operating and emergency procedures which provide instructions for performing source changes.

### 10.9.2 Methods And Occasions For Conducting Radiation Surveys

Submit operating and emergency procedures which, where applicable, include each of the surveys included in Table 8.1 of NUREG-1556, Vol. 2 .

### 10.9.3 Methods For Controlling Access To Radiographic Areas

Submit procedures to control access to radiographic operations and storage areas.

### 10.9.4 Methods And Occasions For Locking And Securing Radiographic Exposure Devices, Storage Containers, And Sealed Sources.

Submit operating and emergency procedures that include procedures for locking and securing radiographic equipment.

### 10.9.5 Personnel Monitoring and the Use of Personnel Monitoring Equipment

Submit operating procedures that include instructions for proper use of personnel monitoring equipment.

### 10.9.6 Transporting Sealed Sources To Field Locations, Securing Exposure Devices And Storage Containers In Vehicles, Posting Vehicles, And Controlling Sealed Sources During Transportation

Submit operating and emergency procedures for transporting sealed sources containing radioactive material, exposure devices, and source changers.

### 10.9.7 Daily Inspection And Maintenance Of Radiographic Equipment

Submit operating and emergency procedures for daily inspection and maintenance of radiographic equipment.

#### 10.9.8 Ratemeter Alarms Or Off-Scale Dosimeter Readings

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|--------------------------|------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | Submit operating and emergency procedures to address ratemeter alarms or off-scale dosimeters. |
|--------------------------|------------------------------------------------------------------------------------------------|

#### 10.9.9 Procedure For Identifying And Reporting Defects And Non-Compliance

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|--------------------------|--------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | Submit operating and emergency procedures for notifying management of equipment malfunction or defect. |
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#### 10.9.10 Notification Of Proper Persons In The Event Of An Accident

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| <input type="checkbox"/> | Submit operating and emergency procedures that include appropriate instructions for notifying the RSO and/or other personnel in the event of an emergency. |
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#### 10.9.11 Minimizing Exposure Of Persons In The Event Of An Accident – Emergency Procedures

|                          |                                                                                                                                     |
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| <input type="checkbox"/> | Submit operating and emergency procedures that include instructions for minimizing exposure of persons in the event of an accident. |
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#### 10.9.12 Source Retrieval

|                          |                                                                                                                                                           |
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| <input type="checkbox"/> | We will not perform source retrievals and will use the services of a person specifically licensed by the NRC/AS to perform the retrievals of our sources; |
| <input type="checkbox"/> | <b>OR</b> Submit operating and emergency procedures that include instructions for source retrieval procedures and specific training.                      |

#### 10.9.13 Maintenance of Records

|                          |                                                                                       |
|--------------------------|---------------------------------------------------------------------------------------|
| <input type="checkbox"/> | Submit operating and emergency procedures which ensure proper maintenance of records. |
|--------------------------|---------------------------------------------------------------------------------------|

### 11. WASTE MANAGEMENT:

|                          |                                                                                                                       |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | We will dispose of radioactive material by transfer to manufacturer or other licensee authorized to possess material. |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------|

**12. CERTIFICATION:** The applicant and any official executing this certificate on behalf of the applicant named in item 2, certify that this application is prepared in conformity with the State of Maine Rules Relating to Radiation Protection and that all information contained herein, including any supplements attached hereto, is true and correct to the best of our knowledge and belief.

DATE: \_\_\_\_\_

SIGNATURE OF APPLICANT: \_\_\_\_\_

TITLE: \_\_\_\_\_

TYPED/PRINTED NAME: \_\_\_\_\_