

Instructions:

1. Indicate the specific use(s) for which the candidate is applying (check all that apply):

- Uptake, Dilution & Excretion Studies; TN 0400-20-07-.39 [NRC 10cfr35.190]
- Imaging and Localization Studies, Written Directive Not Required; TN 0400-20-07-.43 [NRC 10cfr35.290]
- Use of Unsealed Radioactive Material, Written Directive Required; TN 0400-20-07-.47 [NRC 10cfr35.390]
- Oral Administration of NaI-131, Written Directive Required, ≤ 1.22 GBq (33 mCi); TN 0400-20-07-.48 [NRC 10cfr35.392]
- Oral Administration of NaI-131, Written Directive Required, > 1.22 GBq (33 mCi); TN 0400-20-07-.49 [NRC 10cfr35.394]
- Parenteral Administration of Unsealed Radioactive Material, Written Directive Required; TN 0400-20-07-.50 [NRC 10cfr35.396]
- Use of Manual Brachytherapy Sources; TN 0400-20-07-.59 [NRC 10cfr35.490]
- Ophthalmic Use of Sr-90; TN 0400-20-07-.60 [NRC 10cfr35.492]
- Use of Sealed Sources for Diagnosis; TN 0400-20-07-.62 [NRC 10cfr35.590]
- Remote Afterloader Units, Teletherapy Units, and Gamma Stereotactic Radiosurgery Units; TN 0400-20-07-.80 [NRC 10cfr35.690]
- Accelerators; TN 0400-20-09-.06, TN 0400-20-09-.22
- Use of Y-90 Microspheres; [NRC Y-90 Microsphere Licensing Guidance November 2019 – ALTERNATE ROUTE ONLY, complete sections A, B & C]; indicate microsphere type (check all that apply): SIR-spheres TheraSphere Other: _____

2. Attach as many of the following documents as you have to this application (check all that apply):

- Copy of the radioactive materials or accelerator license under which the applicant previously practiced (on which he/she was named as an AU), or if a broad license (on which AU are not explicitly listed), a letter from the RSO for that license stating that the applicant had AUP status on that license. If the physician cannot provide it, OCRS can request it from the RSO of the previous work location: _____
- Copy of professional board certification(s) [see <http://www.nrc.gov/materials/miau/med-use-toolkit/spec-board-cert.html> for recognized boards]
- Copy of TN Medical License
- Copy of CV

3. Check the route by which the applicant is seeking approval as an Authorized User Physician (AUP) (check one):

- Previously listed on, or authorized under, an NRC or Agreement State license (attach copy of license or other documentation); or
- Applicable Board Certification and Written Attestation (attach copy of certificate and complete section C); or
- [“Alternate Route”] Preceptor’s Written Attestation of applicant’s completion of specified Training and Experience (complete sections A, B & C).

4. Forward the completed application to Preceptor for written attestation (if required; board certification or alternate route) or, if no written attestation is required, to OCRS Radiation Safety by e-mail to: radsafety@vumc.org ; or fax to 315/343-4951; or interoffice mail to MCN A0201.

A. ALTERNATE ROUTE - Training Completed; the applicant certifies that they have completed the following (Check all that apply):

Authorization Category Requested	Training Required
(1) Uptake, Dilution & Excretion Studies	8 hours class & lab training in radioactive material handling techniques applicable to medical use of unsealed radioactive material for uptake, dilution & excretion studies, to include the Topics in table 1 below
(2) Diagnostic Imaging and Localization Studies, written directive not required	80 hours class & lab training in radioactive material handling techniques applicable to medical use of unsealed radioactive material for imaging and localization studies, to include the Topics in table 1 below
(3) [All] Use of Unsealed Radioactive Material for which a written directive is required	200 hours class & lab training in radioactive material handling techniques applicable to medical use of unsealed radioactive material for which a written directive is required, to include the topics in Table 1 below
(4) Oral Administration of NaI-131 for which a written directive is required, ≤ 1.22 GBq (33 mCi)	80 hours class & lab training in radioactive material handling techniques applicable to medical use of I-131 for which a written directive is required, to include the topics in Table 1 below
(5) Oral Administration of NaI-131 for which a written directive is required, > 1.22 GBq (33 mCi)	80 hours class & lab training in radioactive material handling techniques applicable to medical use of I-131 for which a written directive is required, to include the topics in Table 1 below
(6) Parenteral Administration of Unsealed Radioactive Material for which a written directive is required	80 hours class & lab training in radioactive material handling techniques applicable to parenteral administration of any beta emitter, or any photon-emitting radionuclide with a photon energy < 150 keV, and/or any other radionuclide for which a written directive is required, to include the topics in Table 1 below
(7) Use of Manual Brachytherapy sources	200 hours class & lab training in radioactive material handling techniques applicable to the use of manual brachytherapy sources, to include the topics (i), (ii), (iii), and (v) in Table 1 below
(8) Ophthalmic Use of Sr-90	24 hours class & lab training in radioactive material handling techniques applicable to the use of Sr-90 for ophthalmic radiotherapy, to include the topics (i), (ii), (iii), and (v) in Table 1 below
(9) Diagnostic Use of Sealed Sources; <i>indicate specific device:</i> _____	8 hours class & lab training in radioactive material handling techniques applicable to the use of Sr-90 for ophthalmic radiotherapy, to include the topics (i), (ii), (iii), and (v) in Table 1 below, <i>plus</i> training in the use of the device for the uses requested
(10) Use of Remote Afterloader Units, Teletherapy Units, and Gamma Stereotactic Radiosurgery Units	200 hours class & lab training in radioactive material handling techniques applicable to the use of a sealed source in a therapeutic medical unit, to include the topics (i), (ii), (iii), and (v) in Table 1 below, plus training in training in device operation, safety procedures, and clinical use for the type(s) of use for which authorization is sought
(11) Accelerators	200 hours class & lab training in basic medical accelerator techniques applicable to the use of a medical accelerator in therapy, to include the topics (i), (ii), (iii), and (v) in Table 1 below; Operation and control of accelerators; Requirements of state regulations; Registrant's written operating and emergency procedures.
(12) Use of Y-90 Microspheres	80 hours class & lab training in radioactive material handling techniques applicable to medical use of Y-90 microspheres for which a written directive is required, to include topics in Table 1 below

Table 1: Training Topics

(i) Radiation physics and instrumentation
(ii) Radiation Protection
(iii) Math pertaining to the use and measurement of radioactivity
(iv) Chemistry of radioactive material for medical use
(v) Radiation Biology

B. ALTERNATE ROUTE – Experience: the applicant certifies that they have the following experience (Check all that apply):

Authorization Category Requested	Experience Required
(1) Uptake, Dilution & Excretion Studies	60 hours training (including training in section A) & experience; experience supervised by AU authorized for this use, to include Table 2 items
(2) Diagnostic Imaging and Localization Studies, written directive not required	700 hours training (including training in section A) & experience; experience supervised by AU authorized for this use, to include Table 2 items <i>plus</i> elute generator systems appropriate for radioactive drug preparation for imaging & localization studies, measure & test eluate for radionuclidic purity, and process eluate with reagent kits to prepare labeled radioactive drugs
(3) [All] Use of Unsealed Radioactive Material, written directive required	700 hours training (including training in section A) and experience; experience supervised by AU authorized for this use, to include Table 2 items <i>plus</i> minimum 3 cases each in every category [(3), (4), (5)] for which applicant is seeking authorization
(4) Oral Administration of NaI-131, written directive required, ≤ 1.22 GBq (33 mCi)	experience supervised by an AU authorized for this use, to include Table 2 items <i>plus</i> a minimum of three cases involving oral administration of NaI-131 for which a written directive is required, ≤1.22 GBq (33 mCi)
(5) Oral Administration of NaI-131, written directive required, > 1.22 GBq (33 mCi)	experience supervised by an AU authorized for this use, to include Table 2 items <i>plus</i> a minimum of three cases involving oral administration of NaI-131 for which a written directive is required, >1.22 GBq (33 mCi)
(6) Parenteral Administration of Unsealed Radioactive Material, written directive required	experience supervised by AU authorized for this use, to include Table 2 items <i>plus</i> minimum of 3 parenteral administration cases requiring a written directive, of any beta emitter, or any photon-emitting radionuclide with a photon energy <150 keV and/or at least 3 cases involving parenteral administration of any other radionuclide requiring a written directive
(7) Use of Manual Brachytherapy sources	3 years clinical experience supervised by AU authorized for this use, including 500 hours experience to include Table 2 items (i) & (iv), <i>plus</i> check survey meters for proper operation; prepare, implant, & remove brachytherapy sources; maintain running inventory of material on hand; use emergency procedures to control radioactive material
(8) Ophthalmic Use of Sr-90	experience supervised by an AU authorized for this use, to include: exam of each individual treated; calculation of dose administered; administration of dose; follow up and review of each individual's case history
(9) Diagnostic Use of Sealed Sources; <i>indicate specific device:</i> _____	[none]
(10) Use of Remote Afterloader Units, Teletherapy Units, and Gamma Stereotactic Radiosurgery Units	3 years clinical experience supervised by AU authorized for this use, including 500 hours experience to include Table 2 item (iv), <i>plus</i> review full calibration measurements & periodic spot-checks; prepare treatment plans & calculate treatment doses/times; implement emergency procedures in event of abnormal medical unit or console operation; check/use survey meters; select proper dose & how it is administered
(11) Accelerators	500 hours work experience supervised by AU to include review of full calibration measurements & periodic spot checks, prepare treatment plans & calculate treatment times, use administrative controls to prevent misadministrations, implement emergency procedures to be followed in event of abnormal medical accelerator operation, and check & use survey meters; <i>plus</i> 3 years supervised clinical experience including a year formal training & additional 2 years clinical experience in therapeutic radiology under AU supervision to include examine individuals & review case histories to determine suitability for medical accelerator treatment & limitations or contraindications, select proper dose & how it's to be administered, calculate doses & collaborate with AU in review of patients'/human subjects' progress & consideration of need to modify originally prescribed doses as warranted by reaction to radiation, and post-administration follow up & review of case histories
(12) Use of Y-90 Microspheres	Board certification in interventional radiology/diagnostic radiology by ABR, board certification in diagnostic radiology by the AOBR, or 3 years supervised clinical experience in diagnostic radiology <i>plus</i> 1 year of supervised clinical experience in interventional radiology; AND experience supervised by AU authorized for this use, to include Table 2 items (i), (ii), (iii), (iv), (v) <i>plus</i> evaluation of each patient/human subject for Y-90 microspheres dose/activity administered; <i>and</i> follow up & review of each patient's/human subject's Y-90 microspheres case history; <i>plus</i> training including at least 3 supervised hands-on (provided by manufacturer or by AU authorized for that microsphere type) or simulated (provided by manufacturer) cases involving that microsphere type

Table 2: Experience Topics
(i) Order, receive, and unpack radioactive material safely and perform related surveys
(ii) Perform quality control procedures on instruments used to determine activity of dosages and performing checks for proper operation of survey meters
(iii) Calculate, measure, and safely prepare patient or human research subject dosages
(iv) Use administrative controls to prevent a medical event [or misadministration] involving the use of unsealed radioactive material
(v) Use procedures to safely contain spilled radioactive material and use proper decontamination procedures
(vi) Administer dosages of radioactive drugs to patients or human research subjects

C. Written Attestation

Statement must be completed by the applicant's preceptor. If more than one preceptor is necessary to document experience, obtain a separate statement from each.

I am a Physician and meet the requirements of an authorized user and a preceptor under the license identified below.

I attest that the individual named in this application has completed the training and supervised clinical case experience as required by (check all that apply):

- Uptake, Dilution & Excretion Studies;** TN 0400-20-07-.39 [NRC 10cfr35.190]
- Imaging and Localization Studies, Written Directive Not Required;** TN 0400-20-07-.43 [NRC 10cfr35.290]
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- Use of Manual Brachytherapy Sources;** TN 0400-20-07-.59 [NRC 10cfr35.490]
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- Use of Sealed Sources for Diagnosis;** TN 0400-20-07-.62 [NRC 10cfr35.590]
- Remote Afterloader Units, Teletherapy Units, and Gamma Stereotactic Radiosurgery Units;** TN 0400-20-07-.80 [NRC 10cfr35.690]
- Accelerators;** TN 0400-20-09-.06, TN 0400-20-09-.22
- Use of Y-90 Microspheres;** [NRC Y-90 Microsphere Licensing Guidance November 2019 – ALTERNATE ROUTE ONLY, complete sections A, B & C]; indicate microsphere type (check all that apply): SIR-spheres TheraSphere Other: _____

Preceptor Signature:	
Preceptor's Name (Print or Type):	
Date:	
Name of Institution:	
Mailing Address:	
City, State, Zip:	

Preceptor: forward completed form to OCRS-Radiation Safety by e-mail to: radsafety@vumc.org; or fax to 315/343-4951; or interoffice mail to MCN A0201