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August 18, 2023

U.S. Nuclear Regulatory Commission
Region III
Materials Licensing Branch
2443 Warrenville Road, Suite 210
Lisle, IL 60532-4352

Via Fax: 630-515-1078

Dear Reader:

Re NRC License Number 24-00128-03

I hereby request the authorization of Dr. Ali Farooq for the following uses:

- 10 CFR 35.200 (imaging and localization studies),

Dr. Farooq has completed the training and experience specified in 10 CFR 35.290. Attached hereto is Form NRC 313A(AUD), provided by his program director at Charleston Area Medical Center, Charleston, WV. If you have any questions regarding this application, please feel free to call me at 573-519-4710 (office) or 573-270-7492 (mobile).

Sincerely,

A handwritten signature in cursive script that reads "Sam S. Hancock PhD".

Sam S. Hancock, PhD
Radiation Safety Officer

Enclosures:

Forms NRC 313A(AUD)
Physics Training Certificate

cc: Mariellena Sudak, VP, COO
Mark Gates, MD, RSC Chairman

RECEIVED AUG 18 2023

789 S Mount Auburn • Cape Girardeau, MO 63703

Radiation Oncology 573-519-4700 • Infusion Services 573-519-4810 • Medical Oncology & Hematology 573-519-4830

NRC FORM 313A (AUD) U. S. NUCLEAR REGULATORY COMMISSION
(07-31-2023)

APPROVED BY OMB: NO. 3150-0120

EXPIRES: 07/31/2026



AUTHORIZED USER TRAINING, EXPERIENCE AND PRECEPTOR ATTESTATION
(for uses defined under 35.100, 35.200, and 35.500)
[10 CFR 35.57, 35.190, 35.290, and 35.500]

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 FOIA, Library, and Information Collections Branch (T-8 A10M), U.S. Nuclear Regulatory Commission, Washington, DC 20455-0001, or by email to InfoCollect.Resource@nrc.gov, and the OMB Reviewer at: OMB Office of Information and Regulatory Affairs, (3150-0120), Attn: Desk Officer for the Nuclear Regulatory Commission, 725 17th Street NW, Washington, DC 20503; email: steve.hochstetler@omb.eop.gov. The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the document requesting or requiring the collection displays a currently valid OMB control number.

Name of Proposed Authorized User

Ali Farooq

State or Territory Where Licensed

Requested Authorization(s) (check all that apply)

- 35.100 Uptake, dilution, and excretion studies
- 35.200 Imaging and localization studies
- 35.500 Sealed sources for diagnosis (specify device)

PART I - TRAINING AND EXPERIENCE
(Select one of the three methods below)

* Training and Experience, including board certification, must have been obtained within the 7 years preceding the date of application or the individual must have obtained related continuing education and experience since the required training and experience was completed. Provide dates, duration, and description of continuing education and experience related to the uses checked above.

1. Board Certification

- a. Provide a copy of the board certification.
- b. For a board certification issued on or before October 24, 2005 that is listed in 10 CFR 35.57(b)(2)(i), provide the following:
 - (i) Documentation that the individual performed each use checked above on or before October 24, 2005.
 - (ii) Dates, duration, and description of continuing education and experience within the past seven years for each use checked above.
- c. Stop here.

2. Current 35.390 Authorized User Seeking Additional 35.290 Authorization

- a. Authorized user on Materials License meeting 10 CFR 35.390, 10 CFR 35.57 for 35.300 uses, or equivalent Agreement State requirements seeking authorization for 35.290.
- b. Supervised Work Experience.
(If more than one supervising individual is necessary to document supervised work experience, provide multiple copies of this section.)

| Description of Experience | Location of Experience/License or Permit Number of Facility | Clock Hours | Dates of Experience* |
|--|---|-------------|----------------------|
| Eluting generator systems appropriate for the preparation of radioactive drugs for imaging and localization studies, measuring and testing the eluate for radionuclidic purity, and processing the eluate with reagent kits to prepare labeled radioactive drugs | | | |

Total Hours of Experience:

| | |
|------------------------|---|
| Supervising Individual | License/Permit Number listing supervising individual as an authorized user or authorized nuclear pharmacist |
|------------------------|---|

Supervisor meets the requirements below, or equivalent Agreement State requirements (check all that apply).

- 35.290 35.390 + generator experience in 32.290(c)(1)(ii)(G) 35.55 35.57 for 35.200 uses

c. If board certified, provide a copy of the certificate and stop here. If not board certified, skip to and complete Part II Preceptor Attestation.

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(for uses defined under 35.100, 35.200, and 35.500)
[10 CFR 35.57, 35.190, 35.290, and 35.590](continued)

3. Training and Experience for Proposed Authorized User

a. Classroom and Laboratory Training.

| Description of Training | Location of Training | Clock Hours | Dates of Training* |
|---|-------------------------------|-------------|-------------------------------|
| Radiation physics and instrumentation | See attached certificate ↓ | | 8/13/26 through 5/17/21 |
| Radiation protection | | | |
| Mathematics pertaining to the use and measurement of radioactivity | | | |
| Chemistry of byproduct material for medical use (not required for 35.590) | | | |
| Radiation biology | | | |
| Total Hours of Training: | | 80 | |

b. Supervised Work Experience (completion of this table is not required for 35.590).
(If more than one supervising individual is necessary to document supervised work experience, provide multiple copies of this section.)

| Supervised Work Experience | | Total Hours of Experience: | |
|--|--|--|----------------------------|
| | | | 4 months |
| Description of Experience Must Include: | Location of Experience/License or Permit Number of Facility | Confirm | Dates of Experience* |
| Ordering, receiving, and unpacking radioactive materials safely and performing the related radiation surveys | CAMC Memorial 3200 MacCorkle Ave SE Charleston WV Lic # 47-15473-01 | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | July 1, 2018 through |
| Performing quality control procedures on instruments used to determine the activity of dosages and performing checks for proper operation of survey meters | ↓ | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | 6/30/2021 ↓ |

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[10 CFR 35.57, 35.190, 35.290, and 35.590](continued)

3. Training and Experience for Proposed Authorized User (continued)

b. Supervised Work Experience. (continued)

| Description of Experience Must Include: | Location of Experience/License or Permit Number of Facility | Confirm | Dates of Experience* |
|--|---|--|----------------------|
| Calculating, measuring, and safely preparing patient or human research subject dosages | CAMC Memorial 3200 MacCorkle Ave SE Charleston WV | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | 7/1/2018 through |
| Using administrative controls to prevent a medical event involving the use of unsealed byproduct material | LIC # 47-15473-01 | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | 6/30/21 |
| Using procedures to contain spilled byproduct material safely and using proper decontamination procedures | ↓ | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | ↓ |
| Administering dosages of radioactive drugs to patients or human research subjects | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| Eluting generator systems appropriate for the preparation of radioactive drugs for imaging and localization studies, measuring and testing the eluate for radionuclidic purity, and processing the eluate with reagent kits to prepare labeled radioactive drugs | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |

Supervising Individual
Sarah R. Reinhart MD

License/Permit Number listing supervising individual as an authorized user or an authorized nuclear pharmacist for generator training
LIC # 47-15473-01

Supervisor meets the requirements below, or equivalent Agreement State requirements (check one).
 35.190 35.290 35.390 35.390 + generator experience in 35.290(c)(1)(ii)(G)
 35.55 35.57 for 35.200 uses
 *Not required for 10 CFR 35.100 use.

c. For 35.590 only, provide documentation of training on use of the device.

| Device | Type of Training | Location and Dates |
|--------|------------------|--------------------|
| | | |
| | | |

d. For 35.500 uses only, stop here. For 35.100 and 35.200 uses, skip to and complete Part II Preceptor Attestation.

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(for uses defined under 35.100, 35.200, and 35.500)
[10 CFR 35.57, 35.190, 35.290, and 35.590](continued)

PART II – PRECEPTOR ATTESTATION

Note: This part must be completed by the individual's preceptor. The preceptor does not have to be the supervising individual as long as the preceptor provides, directs, or verifies training and experience required. If more than one preceptor is necessary to document experience, obtain a separate preceptor statement from each. (Not required to meet training requirements in 35.590)

By checking the boxes below, the preceptor is not attesting to the individual's "general clinical competency."

First Section

Check one of the following for each use requested:

For 35.190

I attest that _____ has satisfactorily completed the 60 hours of training and
Name of Proposed Authorized User

experience, including a minimum of 8 hours of classroom and laboratory training, required by 10 CFR 35.190(c)(1), and is able to independently fulfill the radiation safety-related duties as an authorized user for the medical uses authorized under 10 CFR 35.100.

For 35.290

I attest that Ali Farooq has satisfactorily completed the 700 hours of training
Name of Proposed Authorized User

and experience, including a minimum of 80 hours of classroom and laboratory training, required by 10 CFR 35.290(c)(1), and is able to independently fulfill the radiation safety-related duties as an authorized user for the medical uses under 10 CFR 35.100 and 35.200.

Second Section

Complete one of the following for attestation and signature:

Authorized User:

I meet the requirements below, or equivalent Agreement State requirements, as an authorized user for:
 35.190 35.290 35.390 35.390 + generator experience 35.57 for 35.200 uses
OR

Residency Program Director:

I affirm that the attestation represents the consensus of the residency program faculty where at least one faculty member is an authorized user who meets the requirements below or equivalent Agreement State requirements for:

35.190 35.290 35.390 35.390 + generator experience 35.57 for 35.200 uses

I affirm that this faculty member concurs with the attestation I am providing as program director.

I affirm that the residency training program is approved by the:

Residency Review Committee of the Accreditation Council for Graduate Medical Education

Royal College of Physicians and Surgeons of Canada

Council on Post-Graduate Training of the American Osteopathic Association

I affirm that the residency training program includes training and experience specified in:

35.190 35.290

Name of Facility: CAME Memorial Hospital

License/Permit Number: 47-15473-01

Name of Preceptor or Residency Program Director (Typed or Printed): Sarah Reinhardt MD

Telephone Number: 3043884444 Date: 8/16/23

Signature: Sarah Reinhardt MD

Medical Physics Training

Certifies that

Ali Farooq

Has satisfactorily completed **80** hours of required training in Nuclear Cardiology Physics. Training occurred August 13, 2020 thru May 17, 2021. This training includes the following subjects: **PHYSICS AND INSTRUMENTATION:** Basic physics (atomic structures), Basic physics as applied to clinical imaging (e.g. nuclides, isotopes and decay) Electromagnetic Properties of Radiation (Background Radiation, wavelength formulas), Basic physics as applied to clinical imaging (decay modes (Alpha, Beta, Gamma), high energy imaging), Gamma cameras, collimation, and equipment quality control procedures, Nuclear Generators, Interactions of radiation with matter, Radiation Units, Attenuation correction, including transmission and CT methods. **RADIOPHARMACEUTICALS:** Radiotracer kinetics and characteristics (e.g., thallium-201 and technetium-99m), PET agents, Red blood cell tagging. **RADIATION SAFETY:** Radiopharmaceutical receiving, handling, monitoring, and containment, Hazmat, Handling radiopharmaceutical spills and waste, Storage and calibration of radiopharmaceuticals, Dosimetry and MIRD, Dose Calibrators, Radiation Safety Concepts and Training, Radiation exposure and ALARA, Governmental regulations, Radiation Exposure monitors and limits. **RADIATION BIOLOGY. MATHEMATICS:** Wave Formula, Inverse Square Law, Radiation Decay, Shielding (Half-Value Layer). **NUCLEAR CARDIOLOGY DIAGNOSTIC TESTS AND PROCEDURES/PROTOCOLS:** Image acquisition, Image processing.

_____ May 17, 2021 _____
Date

Laura T Smith
Signature of Instructor- Laura T. Smith, MS, DABR