

CHAPTER 252: NUCLEAR MEDICINE SERVICE

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1 PURPOSE AND SCOPE

This document outlines space planning criteria for VA Handbook 7610 Chapter 252: Nuclear Medicine Service. It applies to all medical facilities at the Department of Veterans Affairs (VA).

Nuclear Medicine Service includes Positron Emission Tomography (PET) services, Bioassay Unit (Radioimmunoassay) for inpatients and outpatients and is an ancillary department for the entire hospital facility.

2 DEFINITIONS

Accessible: A site, building, facility, or portion thereof that complies with provisions outlined in the Architectural Barriers Act of 1968 (ABA).

Architectural Barriers Act (ABA): A set of standards developed to insure that all buildings financed with federal funds are designed and constructed to be fully accessible to everyone. This law requires all construction, renovation, or leasing of sites, facilities, buildings, and other elements, financed with federal funds, to comply with the Architectural Barriers Act Accessibility Standards (ABAAS). The ABAAS replaces the Uniform Federal Accessibility Standards (UFAS).

Diagnostic Room: Designated room containing diagnostic equipment performing patient procedures such as Nuclear Medicine, Bone Densitometry, PET/CT. It may also be referred to as Scanning Room, Procedure Room, or Gantry.

Functional Area: The grouping of rooms and spaces based on their function within a clinical service. Typical Functional Areas are Reception Areas, Patient Areas, Support Areas, Staff and Administrative Areas, and Residency Program.

“Hot”: A colloquial term used to describe the presence of measurable radioactivity. In addition to the nature of the radioactive material itself, the distance from the radiomaterial and the time of exposure are important. To keep exposure to radiomaterial to doses that are “as low as reasonably achievable” (ALARA), special waiting / holding area and toilets are designated for patients who have received a radioactive substance.

“Hot Lab” / Radiopharmacy: Area for storage, preparation and dispensing of radiopharmaceuticals. It must be secured and provided with adequate shielding. The amount of shielding is determined by a health physicist or radiation safety officer (RSO), depending upon the anticipated usage of specific radiomaterials.

Input Data Statement: A set of questions designed to elicit information about the healthcare project in order to create a Program for Design (PFD) based on the criteria parameters set forth in this document. Input Data Statements could be Mission related, based in the project’s Concept of Operations; and Workload or Staffing related, based on projections and data provided by the VHA or the VISN about the estimated model of operation. This information is processed through mathematical and logical operations in SEPS II.

Nuclear Imaging: Method of producing images using gamma or scintillation cameras that detect radiation from different parts of a patient’s body after administration of a radioactive tracer material. Since physiologic / pathophysiologic processes are being monitored / measured, the patient must remain under the gamma camera for periods of time that vary from 20 to 90 minutes and may return for delayed images later in the same day or several days later. A clearance of 6’-6” (2 M) must be maintained between staff

and patient after patient positioning in the NM Scanning Room. Modalities include planar and Single Photon Emission Computed Tomography (SPECT) imaging, Positron Emission Tomography (PET), fusion imaging and coincidence detection imaging.

Nuclear Medicine: A specialized area of radiology that uses very small amounts of radioactive substances to examine organ function and structure. It utilizes the nuclear properties of radioactive and stable nuclides to perform diagnostic evaluations and to provide therapy. Radioactive isotopes are administered either orally, by inhalation, intravenously or in selected instances by direct injection to obtain diagnostic evaluation(s) of anatomic and/or physiologic or pathophysiologic conditions. These evaluations require a wide range of services, encompassing patient consultation and examination, interpretation of images, correlation with other diagnostic methods, determination of metabolic functions, drug levels and body constituents, imaging / computerization and recommendations of the significance of the findings. Nuclear Medicine is composed of several functional units, such as Nuclear Clinical Imaging and Radiobioassay, known as "bench work" or, formerly, Radioimmunoassay.

Picture Archiving and Communication System (PACS): The digital capture, transfer and storage of diagnostic images. A PACS system consists of workstations for interpretation, image/data producing modalities, a web server for distribution, printers for file records, image servers for information transfer and holding, and an archive of off-line information. A computer network is needed to support each of these devices.

Positron Emission Tomography (PET): A Positron emission tomography, also called PET imaging or a PET scan, is a diagnostic examination that involves the acquisition of physiologic images based on the detection of radiation from the emission of positrons. Positrons are tiny particles emitted from a radioactive substance administered to the patient. The subsequent images of the human body developed with this technique are used to evaluate a variety of diseases.

PET/CT (Combined) Imaging: In one scan, a PET/CT scanner combines two state of the art imaging modalities and merges PET and CT images together. By monitoring the body's metabolism, PET provides information of cell activity whether a growth within the body is cancerous or not. CT simultaneously provides detailed anatomic information about the location, size, and shape of various lesions and tissue.

Procedure / Suite Stop: A procedure / suite stop is one encounter of a patient with a healthcare provider. Per these criteria, the procedure / suite stop is the workload unit of measure for space planning. One individual patient can have multiple procedure / suite stops in a single visit or in one day.

Program for Design (PFD): A space program based on criteria set forth in this document and specific information about Concept of Operations, Workload projections and Staffing levels authorized.

Radiobioassay: Utilizes specimens such as blood, urine, feces, spinal fluid etc, including biopsies that are received and/or collected from patients, evaluated and measured. Radioactive materials are incorporated in vivo or in vitro and determinations of body functions made. Specimen receiving, holding, preparation, examination, interpretation, consultation, record distribution, storage and retrieval occur in areas separate from the clinical imaging function.

Radionuclide / Radiopharmaceutical / Radioisotope: Terms, often but incorrectly used interchangeably, to describe the type of radioactivity administered to a patient, either diagnostic procedures or therapy. Different radioactive materials have an affinity for the varying physiologic processes (chemical or physical) of the body. Those radioactive substances employed for diagnostic testing/imaging have very low doses of radioactivity (gamma), enabling patients to be treated as outpatients and not require them to alter their normal activities. Therapeutic uses of radioactivity employ more highly radioactive materials (alpha and beta) and may, on a case-to-case basis, require inpatient stays and/or modification of normal activities.

Room Efficiency Factor: A factor that provides flexibility in the utilization of a room to account for patient delays, scheduling conflicts, and equipment maintenance. Common factors are in the 80 to 85% range. A room with 80% room efficiency provides a buffer to assume that this room would be available 20% of the time beyond the planned operational practices of the room. This factor may be adjusted based on the actual and/or anticipated operations and processes of the room / department.

Scintillation or Gamma Camera: Nuclear imaging camera consisting of a collection crystal (head) and magnifiers that create images of a target organ / physiologic process from the gamma radiation being emitted from a patient following the administration of a radioactive material.

SEPS (VA-SEPS): Acronym for Space and Equipment Planning System, a digital tool developed by the Department of Defense (DoD) and the Department of Veterans Affairs to generate a Program for Design (PFD) and an Equipment List for a VA healthcare project based on specific information entered in response to Input Data Statements. VA-SEPS incorporates the propositions set forth in this chapter as well as all chapters in VA's Handbook 7610. VA-SEPS has been designed to aid healthcare planners in creating a space plan based on a standardized set of criteria parameters.

Single Photon Emission Computed Tomography (SPECT): Standard diagnostic imaging modality that usually employs a rotating collection crystal (head) and magnifiers to create three dimensional images from transaxial, coronal, sagittal planes, of the distribution of a single photon gamma emitting radionuclide distributed in the body. The images of the varying dimensional relationships are computer generated resulting in improved resolution of target organs/processes.

Tele-Nuclear Imaging: In Nuclear Medicine computerized clinical data is acquired directly in digital format, obviating the need for conversion prior to electronic transmission. Tele-Nuclear medicine space requirements are determined by the functions of image acquisition or interpretation. Space requirements for image acquisition are those specified by the imaging and support areas. If the site is an interpretation site, additional space for computer equipment, such as servers and office space for computer staff (non-physician professionals) is indicated.

Workload: Workload is the anticipated number of procedures or suite stops that is processed through a department/service area. The total workload applied to departmental operational assumptions will determine overall room requirements by modality.

3 OPERATING RATIONALE AND BASIS OF CRITERIA

- A. Workload projections or planned services / modalities for a specific VA medical center, hospital or satellite outpatient clinic project are provided by the VA Central Office (VACO) / VISN CARES Capacity Projection Model. Workload projections are generated by methodology based upon the expected veteran population in the respective market / service area. Health care planners working on projects for VA medical centers, hospitals or satellite outpatient clinics, shall utilize workload criteria set forth herein for identified services and modalities to determine room requirements and generate a space program for each project.
- B. Space planning criteria have been developed on the basis of an understanding of the activities involved in the functional areas of the Nuclear Medicine Service and their relationship with other services of a medical facility. These criteria are predicated on established and/or anticipated best practice standards as adapted to provide environments supporting the highest quality healthcare for Veterans.
- C. These criteria are based on established and anticipated standards, which are subject to modification relative to development in the equipment, medical practice, vendor requirements, and healthcare planning and design developments. The final selection of medical equipment for the Nuclear Medicine Service is approved by VACO Radiology Service based upon Veterans Health Administration (VHA) anticipated medical needs.
- D. Nuclear Medicine imaging space requirements are based on research by the Program Office, Nuclear Medicine & Radiation Safety Service, Diagnostic Service Strategic Healthcare Group, Patient Care Services and Health System Research & Development, and The Center for Performance Management in the Department of Veterans Affairs (VA) Central Office. These groups demonstrated that clinical imaging productivity was most closely related to the number of imaging devices.
- E. Nuclear Medicine Services and PET/CT services, as used in these criteria, include the diagnostic imaging modality of Nuclear Medicine Services and PET/CT services.
- F. Room capacity per year should be based on:

$$\frac{\text{Operating days per year} \times \text{Hours of operation per day}}{\text{Minutes per procedure} / 60 \text{ minutes}} = \text{Number of annual procedures}$$

- 1. The general planning model for VA facilities assumes 250 Operating Days per Year and 8 Hours of Operation per Day. Room capacity will fluctuate as hours of operation are modified, i.e., additional capacity may be generated by extending the daily hours of operation within the same physical setting.
- 2. Basic room use efficiency factor is 80%
 - a. Modalities with routine, scheduled procedures and backup equipment (more than one piece of the same type of equipment in the department) should plan for an efficiency factor of 85%.

Example: Assume a modality room that averages 30 minute per procedure/suite stop:

$$\frac{250 \text{ operating days per year} \times 8 \text{ hours of operation per day}}{30 \text{ minutes per procedure} / 60 \text{ minutes}} = 4,000 \text{ annual procedures}$$

A maximum capacity of 4,000 procedure/suite stops per year, assuming 100% utilization. However, 100% utilization is not realistic to achieve, thus, it is not an accurate design standard. Apply Room Efficiency Factor:

$$4,000 \times 80\% = 3,200 \text{ annual procedures.}$$

TABLE 1: WORKLOAD PARAMETER CALCULATION

PROCEDURE	AVERAGE LENGTH OF PROCEDURE (minutes)	ANNUAL PROCEDURES PER ROOM (rounded)	MINIMUM WORKLOAD TO GENERATE ONE ROOM
Nuclear Medicine Scanning Room	75	1,280	400
Bone Densitometry Room	20	4,800	1,440
PET/CT Scanning Room	45	2,130	640

The number of annual procedures per room will be used as a criteria parameter to calculate the number of procedure rooms in the Space Criteria section of this document. The minimum workload to generate one room is 30% of the calculated annual procedures per room.

4 INPUT DATA STATEMENTS

A. Mission Input Data Statements

1. Is a Bioassay Unit authorized? (M)
2. Is a Cyclotron authorized? (M)
3. Is PACS authorized? (M)
 - a. Is a PACS / Digital Quality Control Area authorized? (M)
 - b. Is PACS Digital Archival Storage authorized? (M)
4. Is a Biosafety / Health Physics Lab authorized? (M)
5. Is a Cardiac Stress Testing Room authorized? (M)
6. Is an Nuclear Medicine Residency Program authorized? (M)
 - a. How many Nuclear Medicine Resident Intern / Student positions are authorized?

B. Workload Input Data Statements

1. How many annual Nuclear Medicine stops / procedures are projected? (W)
2. How many annual Bone Densitometry stops / procedures are projected? (W)
3. How many annual PET / CT stops/procedures are projected? (W)

C. Staffing Input Data Statements

1. How many Administrative Assistant FTE positions are authorized? (S)
2. How many Secretary to Service Chief FTE positions are authorized? (S)
3. How many Non-Physician Professional FTE positions are authorized? (S)
4. How many Scheduler FTE positions are authorized? (S)
5. How many Quality Assurance FTE positions are authorized? (S)

6. How many Transcriptionist FTE positions are authorized? (S)
7. How many Physicist FTE positions are authorized? (S)
8. How many PACS Administrator FTE positions are authorized? (S)
9. How many Data Processing Administrative FTE positions are authorized? (S)
10. How many Staff Physician FTE positions are authorized? (S)
11. How many Assay Preparation FTE Technologist / Technician FTE positions are authorized? (S)

D. Miscellaneous Input Data Statements

1. How many FTEs will work on peak shift? (Misc)
2. How many FTEs for whom office / work space is not authorized? (Misc)

5 SPACE CRITERIA

A. FA 1: Reception Area:

1. **Waiting (WTG03)..... 80 NSF (7.5 NSM)**
Provide one if the projected number of NM Scanning Rooms, Bone Densitometry Rooms, and PET/CT Scanning Rooms is one or two; provide WTG06 if the projected number of NM Scanning Rooms, Bone Densitometry Rooms, and PET/CT Scanning Rooms is three or four; provide WTG09 if the projected number of NM Scanning Rooms, Bone Densitometry Rooms, and PET/CT Scanning Rooms is five or six.

WTG03: Allocated space accommodates one standard chair @ 9 NSF, one bariatric chair @ 14 NSF, one accessible space @ 10 NSF, and circulation; total three people.

WTG06: Allocated space accommodates four standard chairs @ 9 NSF each, one bariatric chair @ 14 NSF, one accessible space @ 10 NSF, and circulation; total six people.

WTG09: Allocated space accommodates seven standard chairs @ 9 NSF each, one bariatric chair @ 14 NSF, one accessible space @ 10 NSF, and circulation; total nine people.

This area provides circulation and seating area for patients and visitors. The Waiting Room should be connected to the patient entrance corridor and be under visual control of the Nuclear Medicine Service receptionist.

2. **Reception (RCP02) 260 NSF (24.2 NSM)**
Provide one for NM Service.
Allocated NSF accommodates two Receptionist FTEs, patient privacy area, and circulation.
3. **Patient Education Kiosk / Alcove (CLSC1)..... 30 NSF (2.8 NSM)**
Provide one for NM Service.
4. **Toilet, Public (TNPG1)..... 60 NSF (5.6 NSM)**
Provide two for NM Service.

Allocated NSF accommodates one accessible toilet @ 25 NSF, one wall-hung lavatory @ 12 NSF, ABA clearances, and circulation. One for male and one for female.

B. FA 2: Patient Area:

1. Sub-Waiting (WTG03).....80 NSF (7.5 NSM)

Provide one if the projected number of NM Scanning Rooms, Bone Densitometry Rooms, and PET/CT Scanning Rooms is one, two or three; provide WTG04 if the projected number of NM Scanning Rooms, Bone Densitometry Rooms, and PET/CT Scanning Rooms is four; provide WTG05 if the projected number of NM Scanning Rooms, Bone Densitometry Rooms, and PET/CT Scanning Rooms is five; provide WTG06 if the projected number of NM Scanning Rooms, Bone Densitometry Rooms, and PET/CT Scanning Rooms is six.

WTG03: Allocated space accommodates one standard chair @ 9 NSF, one bariatric chair @ 14 NSF, one accessible space @ 10 NSF, and circulation; total three people.

WTG04: Allocated space accommodates two standard chairs @ 9 NSF each, one bariatric chair @ 14 NSF, one accessible space @ 10 NSF, and circulation; total four people.

WTG05: Allocated space accommodates three standard chairs @ 9 NSF each, one bariatric chair @ 14 NSF, one accessible space @ 10 NSF, and circulation; total five people.

WTG06: Allocated space accommodates four standard chairs @ 9 NSF each, one bariatric chair @ 14 NSF, one accessible space @ 10 NSF, and circulation; total six people.

2. Patient Interview Room (PAIA1).....120 NSF (11.2 NSM)

Provide one for NM Service.

3. Scanning Room, NM (NMGS1)400 NSF (37.2 NSM)

Provide one for every increment of 1,280 projected annual NM procedures; minimum portion 400 (see Table 1)

4. Computer Imaging Processing Area (NMCR1)120 NSF (11.2 NSM)

Minimum NSF; provide an additional 60 NSF per each NM Scanning Room, Bone Densitometry Room, and PET/CT Scanning Room greater than two; maximum 240 NSF.

5. Data Processing Equipment (CMP01)120 NSF (11.2 NSM)

Provide one for NM Service.

This space to house computer hardware.

6. Reading and Consultation Room (XVC01)120 NSF (11.2 NSM)

Minimum one; provide an additional one for every increment of two NM Scanning Room, Bone Densitometry Room, and PET/CT Scanning Room greater than one.

7. Patient Examination Room (EXRG1)120 NSF (11.2 NSM)

Provide one for NM Service.

8. Patient Dose Administration Room (NMIR1)150 NSF (14.0 NSM)

Provide one for NM Service.

Contains two reclining chairs and injection storage. This room must be in proximity to Patient Examination, Radiopharmacy, and Procedure Room(s). Most

radiopharmaceuticals are administered to patients intravenously and both ambulatory and non-ambulatory patients will receive injections in this area.

9. **Thyroid Uptake Room (NMUR1)** **100 NSF (9.3 NSM)**
Provide one for NM Service.
10. **NM "Hot Lab" / Radiopharmacy (NMRP1)** **150 NSF (14.0 NSM)**
Minimum NSF; provide an additional 60 NSF per each NM Scanning Room greater than two; maximum 240 NSF.

This area is for the storage, preparation and dispensing of radiopharmaceuticals.
11. **Cardiac Stress Testing Room (OPPE2)** **235 NSF (21.9 NSM)**
Provide one if a Cardiac Stress Testing Room is authorized.

This is a non-imaging procedure room. Tests may occur here or in the NM Scanning Room. Radioactive materials are added to specimens such as blood, urine, feces, spinal fluid, etc., that are collected from patients and evaluated and measured. Such procedures as total blood volume, red blood cell count, thyroid uptake and other non-imaging nuclear medicine procedures are performed in this space.
12. **Toilet, NM Patient (TPG01)**..... **60 NSF (5.6 NSM)**
Minimum one; provide an additional one for every increment of two NM Scanning Rooms.

Allocated NSF accommodates one accessible toilet @ 25 NSF, one accessible wall-hung lavatory @ 13 NSF, ABA clearances, and circulation.
13. **Dressing Room / Cubicle (DR001)** **35 NSF (3.3 NSM)**
Minimum one; provide an additional one for every increment of two NM Scanning Rooms and Bone Densitometry Rooms greater than two.
14. **Holding Bay, Patient Stretcher (ORPP1)** **80 NSF (7.5 NSM)**
Minimum one; provide an additional one for every increment of two NM Scanning Rooms and PET/CT Scanning Rooms greater than two.

This bay provides space for staging/observation of patients pre/post procedure.
15. **Bone Densitometry Room (XDBD1)**..... **160 NSF (14.9 NSM)**
Provide one for every increment of 4,800 projected annual Bone Densitometry procedures; minimum portion 1,440 (see Table 1).
16. **PET: Scanning Room, PET / CT (NMSS1)**..... **450 NSF (41.8 NSM)**
Provide one for every increment of 2,130 projected annual PET / CT Procedures; minimum portion 640 (see Table 1).
17. **PET: Control Room (NMCR1)** **120 NSF (11.2 NSM)**
Provide one per each PET / CT Scanning Room.
18. **PET: System Component Room (XMRC2)** **120 NSF (11.2 NSM)**
Provide one per each PET / CT Scanning Room.
19. **PET: Radio Chemistry Room (NMRP1)**..... **750 NSF (69.7 NSM)**
Provide one per each PET / CT Scanning Room.

20. **PET: Cyclotron (XTLA1)**.....**750 NSF (69.7 NSM)**
Provide one per each PET / CT Scanning Room.
21. **PET: Reading / Staff Consultation Room (XVC01)**.....**120 NSF (11.2 NSM)**
Provide one per each PET / CT Scanning Room.
22. **PET: Dressing Room / Cubicle (DR001)**.....**35 NSF (3.3 NSM)**
Minimum one; provide an additional one for every increment of two PET / CT Scanning Rooms greater than two.
23. **PET: Toilet, Patient (TPG01)**.....**60 NSF (5.6 NSM)**
Provide one per each PET / CT Scanning Room.

Allocated NSF accommodates one accessible toilet @ 25 NSF, one accessible wall-hung lavatory @ 13 NSF, ABA clearances, and circulation.
24. **PET: Holding Bay, Patient Stretcher (ORPP1)**.....**80 NSF (7.5 NSM)**
Minimum one; provide an additional one for every increment of two PET / CT Scanning Rooms greater than two.

This bay provides space for staging/observation of patients pre/post procedure.
25. **BAU: Data Reduction and Reporting Receiving / Preparation (LBRI1)**.....**180 NSF (16.8 NSM)**
Provide one if a Bioassay Unit is authorized.

Provide only if not established in Pathology and Laboratory Medicine Service.
26. **BAU: Assay Preparation (LBRI1)**.....**60 NSF (5.6 NSM)**
Provide one per each Assay Preparation Technologist / Technician FTE position authorized.

Provide only if not established in Pathology and Laboratory Medicine Service.
27. **BAU: Biohazard Preparation (LBRI1)**.....**100 NSF (9.3 NSM)**
Minimum NSF; provide an additional 25 NSF per each NM Scanning Room and PET / CT Scanning Room greater than three; maximum 175 NSF.

Provide only if not established in Pathology and Laboratory Medicine Service.
28. **BAU: Sample Counting / Measurement (LBRI1)**.....**120 NSF (11.2 NSM)**
Minimum NSF; provide an additional 30 NSF per each NM Scanning Room and PET / CT Scanning Room greater than three; maximum 180 NSF.

Provide only if not established in Pathology and Laboratory Medicine Service.

C. FA 3: Support Area:

1. **Work Area, Staff (WRCH1)**.....**80 NSF (7.5 NSM)**
Minimum NSF; provide an additional 30 NSF per each NM Scanning Room and PET/CT Scanning Room greater than two.
2. **Storage, Mobile Equipment (XRM01)**.....**80 NSF (7.5 NSM)**
Provide one for NM Service.
3. **Storage, Refrigerated (SRR02)**.....**40 NSF (3.8 NSM)**
Minimum NSF; provide an additional 20 NSF per each NM Scanning Room, Bone Densitometry Room, and PET / CT Scanning Room greater than three.

This area is required to provide controlled temperature storage for temperature sensitive reagents, kits and biologic samples.

4. **PACS / Digital Quality Control Area (XVC01)**..... 100 NSF (9.3 NSM)
Provide one if a PACS / Digital Quality Control Area is authorized.

5. **PACS / Digital Archival Storage (XFDS1)** 80 NSF (7.5 NSM)
Provide one if PACS Digital Archival Storage is authorized.

This room is utilized for the archiving of digital media. Shelving and a computer terminal without a printer may be located in this room.

6. **Patient Film Records (XFSA1)**..... 480 NSF (44.6 NSM)
Minimum NSF; provide an additional 40 NSF per each NM Scanning Room, Bone Densitometry Room, and PET / CT Scanning Room greater than three; maximum 600 NSF if PACS is not authorized.

7. **Patient Treatment Files (XFDS1)** 285 NSF (26.5 NSM)
Minimum NSF; provide an additional 25 NSF per each NM Scanning Room, Bone Densitometry Room, and PET / CT Scanning Room greater than three if PACS is not authorized.

8. **Biosafety / Health Physics Lab (XTLB1)**..... 150 NSF (13.9 NSM)
Minimum NSF; provide an additional 30 NSF per each NM Scanning Room greater than three if a Biosafety / Health Physics Lab is authorized.

9. **Storage, Radioactive Waste (NMDC1)** 120 NSF (11.2 NSM)
Provide one for NM Service.

10. **Equipment Calibration (NMDC1)** 120 NSF (11.2 NSM)
Provide one for NM Service.

11. **Alcove, Crash Cart (RCA01)** 20 NSF (1.9 NSM)
Provide one for NM Service.

12. **Utility Room, Clean (UCCL1)** 100 NSF (9.3 NSM)
Provide one for NM Service.

13. **Utility Room, Soiled (USCL1)** 80 NSF (7.5 NSM)
Provide one for NM Service.

14. **Housekeeping Aides Closet (HAC) (JANC1)**..... 60 NSF (5.6 NSM)
Provide one for NM Service.

15. **Alcove, Linen (LCCL1)** 20 NSF (1.9 NSM)
Provide one for NM Service.

16. **Storage, Stretcher / Wheelchair (SRLW2)** 40 NSF (3.8 NSM)
Provide one for NM Service.

D. FA 4: Staff and Administrative Area:

Administrative offices / work spaces should be arranged to allow grouping of key administrative and management staff, to permit the Chief of Service, Administrative Assistant, and Secretary to the Chief to be adjacent.

1. **Office, Nuclear Medicine Chief (OFA09)**..... 100 NSF (9.3 NSM)
Provide one for NM Service.

May also function as Bioassay Office.

2. **Workstation, Secretary (OFA07)**56 NSF (5.3 NSM)
Provide one per each Secretary to Chief of Service FTE position authorized.

3. **Reception (RCP01)**85 NSF (7.9 NSM)
Provide one for NM Service.

Allocated NSF accommodates one Receptionist FTE, patient privacy area, and circulation.

4. **Workstation, Administrative Assistant (OFA07)**56 NSF (5.3 NSM)
Provide one per each Administrative Assistant FTE position authorized.

5. **Workstation, Staff Physician (OFA07)**56 NSF (5.3 NSM)
Provide one per each NM Staff Physician FTE position authorized.

6. **Workstation, Non-Physician Professional (OFA07)**56 NSF (5.3 NSM)
Provide one per each Non-Physician Professional FTE position authorized.

One work space is for Radiopharmacist.

7. **Workstation, Physicist (OFA07)**56 NSF (5.3 NSM)
Provide one per each Physicist FTE position authorized.

Typically associated with the Safety Office Program.

8. **Workstation, Chief Technologist (OFA07)**56 NSF (5.3 NSM)
Provide one for NM Service.

9. **Workstation, Cyclotron Operator (OFA07)**56 NSF (5.3 NSM)
Provide one if a Cyclotron Operator FTE positions is authorized.

10. **Workstation, PACS Administrator (OFA07)**56 NSF (5.3 NSM)
Provide one per each PACS Administration FTE position authorized.

11. **Workstation, Quality Assurance (OFA07)**56 NSF (5.3 NSM)
Provide one per each Quality Assurance FTE position authorized.

12. **Workroom, Tele-Nuclear Medicine (WRTM2)**120 NSF (11.2 NSM)
Provide one for NM Service.

13. **Workstation, Clerical (OFA07)**56 NSF (5.3 NSM)
Provide one for NM Service.

14. **Workstation, Data Processing (OFA07)**56 NSF (5.3 NSM)
Provide one per each Data Processing FTE position authorized.

15. **Workstation, Scheduler (OFA07)**56 NSF (5.3 NSM)
Provide one per each Scheduler FTE position authorized.

16. **Workstation, Transcriptionist (OFA07)**56 NSF (5.3 NSM)
Provide one per each Transcriptionist FTE position authorized.

17. **Lounge, Staff (SL001)**80 NSF (7.5 NSM)
Minimum NSF; provide an additional 15 NSF per each Nuclear Medicine Service FTE position working on peak shift greater than five; maximum 210 NSF.

18. Locker Room, Staff (LR001)..... 80 NSF (7.5 NSM)

Minimum NSF if total number of Nuclear Medicine Service FTE positions not authorized to have office or work space is between five and thirteen; provide an additional 6 NSF per each Nuclear Medicine Service FTE position not authorized to have office or work space is greater than thirteen.

Provide locker space only for those FTEs without assigned office or work space. For less than five FTE combine Locker Room facilities with adjacent department or sum in chapter 410.

19. Toilet, Staff (TNP1)..... 60 NSF (5.6 NSM)

Minimum one; provide an additional one for every increment of fifteen Nuclear Medicine Service FTE positions working on peak shift greater than fifteen.

Allocated NSF accommodates one accessible toilet @ 25 NSF, one wall-hung lavatory @ 12 NSF, ABA clearances, and circulation.

E. FA 5: Education Area:

The methodology below provides programming of educational facilities at department / service / chapter level. Alternatively, sum all departments / services / chapters data for educational facilities and program space in Chapter 402- Educational Facilities. *Either/or – do not duplicate space in both this Chapter and Chapter 402.*

1. Workstation, Resident Intern / Student (OFA07) 56 NSF (5.6 NSM)

Provide one per each Nuclear Medicine Resident Intern / Student authorized.

6 PLANNING AND DESIGN CONSIDERATIONS

- A. Net-to-department gross factor (NTDG) for Nuclear Medicine is **1.50**. This number, when multiplied by the programmed net square foot (NSF) area, determines the departmental gross square feet (DGSF).
- B. All procedure and computer support areas should be planned with flexibility to accommodate the rapid technological improvements occurring in this field. When possible, all areas should be on one floor and contiguous.
- C. PET/CT in this service, when possible, should be co-located immediately adjacent to other CT areas in order to facilitate the use of both Nuclear Medicine techs and CT technicians.
- D. Data processing room shall be enclosed to ensure temperature and humidity controls. Raised flooring shall be installed as required.
- E. Special considerations (hood and stack ventilation) will be necessary for installation and placement of exhaust systems for venting radioactive gas, and for bio-hazardous material testing.
- F. The structural system must be carefully reviewed for live load requirements, particularly in the Patient Treatment Files and Patient Film Records areas if there is no Picture Archiving Computer System (PACS) system and in those facilities with PET/CT capacity that includes an on-site cyclotron.
- G. Nuclear Imaging rooms need to have an emergency power supply to complete in-process nuclear scans.

7 FUNCTIONAL RELATIONSHIPS

Relationship of Nuclear Medicine Service to services listed below.

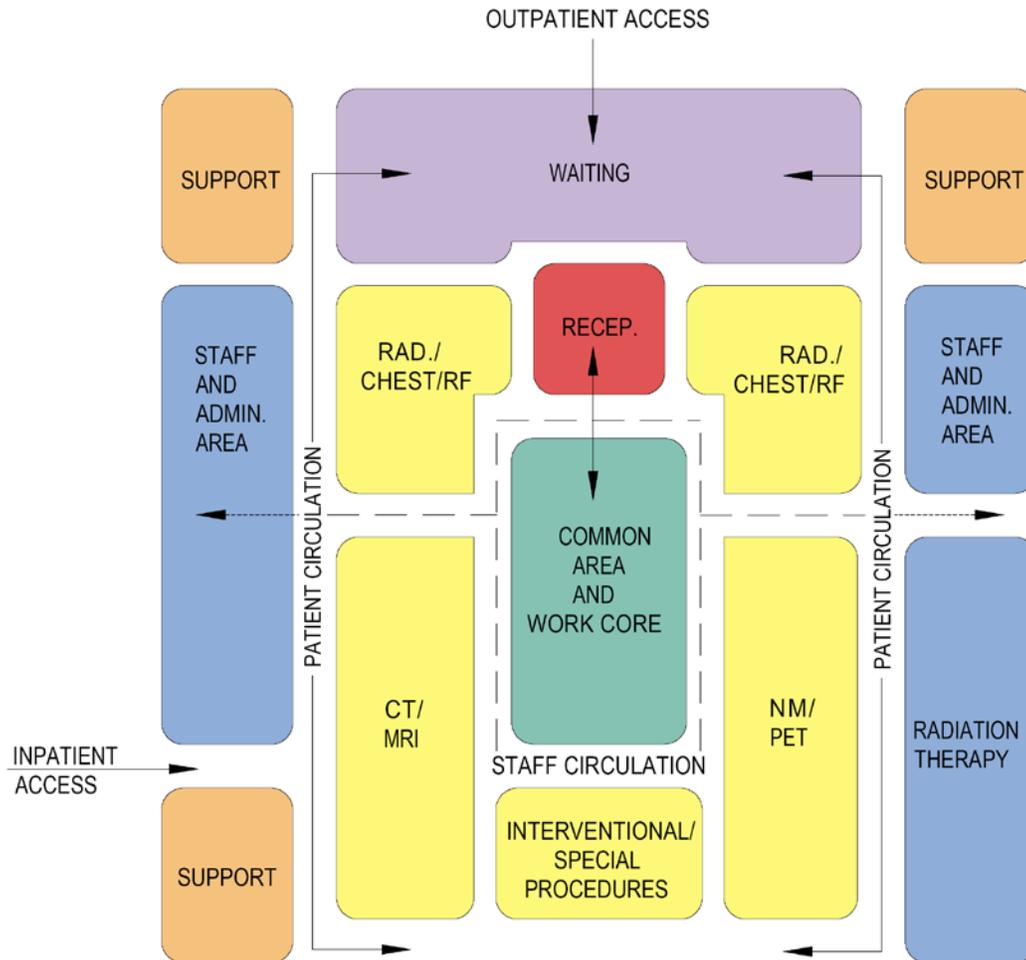
TABLE 2: INTERFUNCTIONAL RELATIONSHIP MATRIX

SERVICE	RELATIONSHIP
Radiology Service – Main Suite	2
Laboratory Service	2
Ambulatory Care	3
Nursing Service – CCU	3
Nursing Units – ICU	3
Nursing Units – MS&N	3
Nursing Units – Respiratory	3
Audiology & Speech Pathology	X
Canteen/Dining Facility	X
Dietetic Service	X
Laboratory Service	X
Rehabilitation Medicine	X

Legend:

1. Adjacent
2. Close/Same Floor
3. Close/Different Floor Acceptable
4. Limited Traffic
- X. Separation Desirable

8 FUNCTIONAL DIAGRAM 1: Radiology Service Area Relationship by Modality



9 FUNCTIONAL DIAGRAM 2: Nuclear Medicine Area Relationship

