

## **CHAPTER 408: ENVIRONMENTAL MANAGEMENT SERVICE (EMS) LAUNDRY AND LINEN OPERATION**

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## 1 PURPOSE AND SCOPE

This document outlines the Space Planning Criteria for Chapter 408: Environmental Management Service Laundry and Linen Operation. It applies to all medical facilities at the Department of Veterans Affairs (VA) that maintain a laundry operation.

## 2 DEFINITIONS

Linen Pounds per Patient Day (PPD): The average number of pounds of soiled linen that is generated per patient per day.

### **Space Planning / SEPS**

Building Gross (BG) Factor: A Factor applied to the sum of all the Departmental Gross Square Footage (DGSF) in a project to determine the Building Gross Square Footage. This factor accounts for square footage used by the building envelope, structural systems, horizontal and vertical circulation including main corridors, elevators, stairs and escalators, shafts, and mechanical spaces. The Department of Veterans Affairs has set this factor at 1.35 and included guidance in case of variance when developing a Program for Design (PFD) in SEPS.

Department Net to Gross (DNTG) Factor: A parameter, determined by the VA for each clinical and non-clinical department PG-18-9 space planning criteria chapter, used to convert the programmed Net Square Feet (NSF) area to the Department Gross Square Feet (DGSF) area.

Full-Time Equivalent (FTE): A staffing parameter equal to the amount of time assigned to one full time employee. It may be composed of several part-time employees whose combined time commitment equals that of one full-time employee (i.e., 40 hours per week).

Functional Area (FA): The grouping of rooms and spaces based on their function within a clinical service or department.

Functional Area Criteria Statement (FACS): A verbalized mathematical / logical formulation assigned to a FA incorporating answers to Input Data Statements (IDSs) to determine the condition for providing the rooms / spaces listed in the FA in the baseline space program or Program for Design (PFD) for a project. Certain rooms / spaces may or may not have additional conditions.

Input Data Statement(s): A question or set of questions designed to elicit information about the healthcare project to generate a Program for Design (PFD) based on the parameters set forth in this set of documents. This information is processed through mathematical and logical operations in the VA Space and Equipment Planning system (SEPS).

JSN (Joint Schedule Number): A unique five alpha-numeric code assigned to each content item in the PG-18-5 Standard. JSNs are defined in DoD's Military Standard 1691 and included in SEPS Content Table.

Net Square Feet / Net Square Meters (NSF/NSM): The area of a room or space derived from that within the interior surface of the bounding walls or boundaries.



Program for Design (PFD): A project specific itemized listing of the spaces, rooms, and square foot area required for the proper operation of a specific service / department, and the corresponding area for each. PFDs are generated by SEPS based on the PG-18-9 Standard.

PG-18-5: A Department of Veterans Affairs' Equipment Guidelist Standard for planning, design, and construction of VA healthcare facilities; a Program Guide (PG) that lists assigned room contents (medical equipment, furniture, and fixtures) to each room in PG-18-9. PG-18-5 follows PG-18-9's chapter organization and nomenclature.

PG-18-9: A Department of Veterans Affairs' Program Guide for the Space Planning Criteria Standard use to develop space planning guidance for the planning, design, and construction of VA healthcare facilities; a Program Guide (PG) that provides space planning guidance for VA Medical Centers (VAMCs) and Community Bases Outpatient Clinics (CBOCs). PG-18-9 is organized by chapters, as of September 2021 there are 56 clinical and non-clinical PG-18-9 chapters; they are implemented and deployed in SEPS so that space planners working on VA healthcare projects can develop baseline space programs.

PG-18-12: A Department of Veterans Affairs' Design Guide Standard for planning, design and construction of VA healthcare facilities, a Program Guide (PG) that provides design guidance for VA Medical Centers (VAMCs) and Community Bases Outpatient Clinics (CBOCs). The narrative section details functional requirements and the Room Template section details the planning and design of key rooms in PG-18-9. Not all PG-18-9 chapters have a corresponding PG-18-12 Design Guide; one Design Guide can cover more than one PG-18-9 chapter.

Room Area: The square footage required for a clinical or non-clinical function to take place in a room / space. It takes into account the floor area required by equipment (medical and non-medical), furniture, circulation, and appropriate function / code-mandated clearances. Room area is measured in Net Square Feet (NSF).

Room Code (RC): A unique five alpha-numeric code assigned to each room in the PG-18-9 Standard. Room Codes in PG-18-9 are unique to VA and are the basis for SEPS's Space Table for VA projects.

Room Criteria Statement (RCS): A mathematical / logical formulation assigned to each room / space included in PG-18-9 incorporating answers to Input Data Statements (IDSs) to determine the provision of the room / space in the baseline space program or Program for Design (PFD) for a project.

SEPS: Acronym for Space and Equipment Planning System which produces equipment lists and Program for Design for a healthcare project based on specific information entered in response to Input Data Questions.

SEPS Importer: A style-based format developed to allow upload of RCSs and IDSs to SEPS to implement and operationalize space planning criteria in PG-18-9 in the SEPS digital tool. This format establishes the syntax used in the RCSs and allows the use of Shortcuts. Shortcuts allow developers of space planning criteria statements to simplify RCSs making



full use of their logical and mathematical functionality. A shortcut can refer to an RCS, a room in any FA or a formula. Shortcuts are [bracketed] when used in FAs and RCSs and are listed along with their equivalences at the end of the Space Planning Criteria section.

Space Planning Concept Matrix (SPCM): A working document developed during the chapter update process. It lists all the rooms organized by Functional Area and establishes ratios between the directly and the indirectly workload driven rooms for the planning range defined in this document. The matrix is organized in ascending workload values in ranges reflecting existing facilities and potential future increase. Section 5 of this document Space Planning Criteria reflects the values in the SPCM.

VA Room Family (VA RF): An organizational system of rooms / spaces grouped by function, a 'Room Family'. There are two "Orders" in the VA RF: Patient Care and Patient Care Support; Patient Care features four sub-orders: Clinical, Inpatient, Outpatient and Residential Clinical. There are also four sub-orders in the Patient Care Support order: Building Support, Clinical Support, Staff Support and Veteran Support. Each room in a Family has a unique Room Code and NSF assigned based on its Room Contents and function which correspond to the specific use of the room. The same RC can be assigned to different Room Names with the same function in this document and can be assigned an NSF that varies based on the PG-18-5 Room Contents assigned to the room.

VA Technical Information Library (TIL): A resource website maintained by the Facilities Standards Service (FSS) Office of Construction and Facilities Management (CFM) containing a broad range of technical publications related to the planning, design, leasing, and construction of VA facilities. VA-TIL can be accessed at: <https://www.cfm.va.gov/TIL/>

Workload: Workload is the anticipated number of procedures, clinic stops, clinic encounters etc. 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. Space Planning parameters and metrics in this document are based on the EMS Laundry & Linen Operation Space Planning Criteria Matrix (SPCM) developed as a basis for this chapter. The SPCM lists all the spaces a VA EMS Laundry & Linen Operation site would require; the quantity and NSF for each room is calculated based on the number of patient and resident bedrooms in the facility five ranges each corresponding to 100 patient and resident bedrooms incrementally.
- B. The room quantity (Q) and area (NSF) values included for each range in the SPCM are reflected in the Room Criteria Statements, placed immediately below each room name, room code and NSF/NSM, for each room in Section 5 of this document. The number of facility patient and resident bedrooms is included in the Input Data Statements (IDSs) in Section 4. Both Sections are implemented in the Space Planning and Equipment System (SEPS) software accessible through the MAX.gov website. Planners programming a VA



EMS Laundry & Linen Operation project shall develop a baseline Program for Design (PFD) in SEPS.

- C. SEPS incorporates a Net-to-Department Gross (NTDG) factor of **1.15** for EMS Laundry & Linen Operation and a Building Gross (BG) factor of 1.35 in the space calculation. These factors generate the Department Gross Square Feet (DGSF) and the Building Gross Square Feet (BGSF) for the project based on the aggregate resulting Net Square Feet (NSF) for all Departments included. Planners can adjust the BGSF factor in SEPS; the NTDG factor is fixed.
- D. The space planning and design Program Guides: PG-18-9, PG-18-5, and PG-18-12 are available at the [Department of Veterans Affairs Office of Construction and Facilities Management \(CFM\) Technical Information Library \(TIL\)](#) website.
- E. The Department of Veterans Affairs (VA) laundry is responsible for providing an adequate, constant, and clean supply of linen to all users. The basic tasks include sorting, weighing, washing, ironing, tumbling (drying), folding, mending, marking, and delivery. The laundry is usually responsible for the preparation of surgical linen packs that involves the inspection of linen, mending, fabrication of specialized linen items, and the make-up of the linen packs. As a part of the Patient Assistance Program, patient clothing is washed processed through the laundry.
- F. Environmental Management Service calculates linen processing quantities based on the average pounds of soiled linen generated per patient day. Site-specific historical data is utilized to calculate the number of pounds per bed by category per day (365). These figures are then multiplied by the number of projected beds in order to obtain the estimated annual pounds of linen.
- G. Similar calculations must be performed to obtain the annual poundage for the miscellaneous categories of linen, for example: administration, clinics.

Assume the following soiled linen quantities per bed per day (PB/PD):

General Hospitals: 18 pounds  
Teaching Hospitals: 20 pounds  
Psychiatric Hospitals: 12 pounds  
Nursing Homes: 8 pounds

Annual pounds are the number of pounds/kilograms of soiled linen generated by the facility (medical center) for 365 days or the number of pounds/kilograms processed by the laundry based on 260 days of operation per year.

Laundries operate 5 days per week for 8 hours per day. Average equipment operating time is 5 days per week for 7 hours per day or 1,820 hours per year.

#### 4 INPUT DATA STATEMENTS (IDS)

- A. How many patient beds in total are projected for this facility?(W) (Values: 1 to 500)



## 5 SPACE PLANNING CRITERIA

### A. FA 1: STAFF AND ADMINISTRATIVE AREA

1. **EM Svcs Plant Manager Office, Stff Sprt (SS204)..... 100 NSF (9.3 NSM)**
  - a. *Provide one if [patient beds projected] is between 1 and 500*
2. **EM Svcs Assistant Plant Manager Office, Stff Sprt (SS204)..... 100 NSF (9.3 NSM)**
  - a. *Provide one if [patient beds projected] is between 1 and 500*
3. **EM Svcs**
  - Administration Support Workstation, Stff Sprt (SS218) ..... 56 NSF (5.3 NSM)**
    - a. *Provide one if [patient beds projected] is between 1 and 300*
    - b. *Provide two if [patient beds projected] is between 301 and 500*
4. **EM Svcs Vending Alcove, VC Svc (SV692)..... 60 NSF (5.6 NSM)**
  - a. *Provide one if [patient beds projected] is between 1 and 300*
  - b. *Provide one at 80 NSF if [patient beds projected] is between 301 and 500*
5. **EM Svcs Staff Conference Room, Educ Svc (SS101) .....240 NSF (22.3 NSM)**
  - a. *Provide one if [patient beds projected] is between 1 and 100*
  - b. *Provide one at 300 NSF if [patient beds projected] is between 101 and 300*
  - c. *Provide one at 500 NSF if [patient beds projected] is between 301 and 500*

Allocated NSF accommodates six conference chairs @ 7.5 NSF each, two 5'-0" x 2'-0" tables at 10 NSF each, one credenza @ 8 NSF, and circulation; total six people.
6. **EM Svcs Administration Storage Room, Lgstcs Svc (SB773) ..... 100 NSF (9.3 NSM)**
  - a. *Provide one if [patient beds projected] is between 1 and 100*
  - b. *Provide one at 140 NSF if [patient beds projected] is between 101 and 200*
  - c. *Provide one at 180 NSF if [patient beds projected] is between 201 and 300*
  - d. *Provide one at 200 NSF if [patient beds projected] is between 301 and 400*
  - e. *Provide one at 220 NSF if [patient beds projected] is between 401 and 500*
7. **EM Svcs Staff Breakroom, Stff Sprt (SS262) .....120 NSF (11.2 NSM)**
  - a. *Provide one if [patient beds projected] is between 1 and 100*
  - b. *Provide one at 140 NSF if [patient beds projected] is between 101 and 200*
  - c. *Provide one at 180 NSF if [patient beds projected] is between 201 and 300*
  - d. *Provide one at 200 NSF if [patient beds projected] is between 301 and 400*
  - e. *Provide one at 220 NSF if [patient beds projected] is between 401 and 500*
8. **EM Svcs Female Staff Locker Room, Stff Sprt (SS232) ..... 100 NSF (9.3 NSM)**
  - a. *Provide one if [patient beds projected] is between 1 and 100*
  - b. *Provide one at 140 NSF if [patient beds projected] is between 101 and 200*
  - c. *Provide one at 180 NSF if [patient beds projected] is between 201 and 300*
  - d. *Provide one at 220 NSF if [patient beds projected] is between 301 and 400*
  - e. *Provide one at 260 NSF if [patient beds projected] is between 401 and 500*



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

- 9. EM Svcs Female Staff Toilet, Bldg Sprt (SB202) ..... 60 NSF (5.6 NSM)**
  - a. Provide one if [patient beds projected] is between 1 and 300*
  - b. Provide two if [patient beds projected] is between 301 and 500*

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

- 10. EM Svcs Female Staff Shower, Bldg Sprt (SB173) ..... 85 NSF (7.9 NSM)**
  - a. Provide one if [patient beds projected] is between 1 and 300*
  - b. Provide two if [patient beds projected] is between 301 and 500*

- 11. EM Svcs Male Staff Locker Room, Stff Sprt (SS241) ..... 100 NSF (9.3 NSM)**
  - a. Provide one if [patient beds projected] is between 1 and 100*
  - b. Provide one at 140 NSF if [patient beds projected] is between 101 and 200*
  - c. Provide one at 180 NSF if [patient beds projected] is between 201 and 300*
  - d. Provide one at 220 NSF if [patient beds projected] is between 301 and 400*
  - e. Provide one at 260 NSF if [patient beds projected] is between 401 and 500*

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

- 12. EM Svcs Male Staff Toilet, Bldg Sprt (SB203) ..... 60 NSF (5.6 NSM)**
  - a. Provide one if [patient beds projected] is between 1 and 300*
  - b. Provide two if [patient beds projected] is between 301 and 500*

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

- 13. EM Svcs Male Staff Shower, Bldg Sprt (SB184) ..... 85 NSF (7.9 NSM)**
  - a. Provide one if [patient beds projected] is between 1 and 300*
  - b. Provide two if [patient beds projected] is between 301 and 500*

- 14. EM Svcs Housekeeping Aides Closet (HAC), Bldg Sprt (SB244) ..... 60 NSF (5.6 NSM)**
  - a. Provide one if [patient beds projected] is between 1 and 300*
  - b. Provide one at 80 NSF if [patient beds projected] is between 301 and 500*

**B. FA 2: PRODUCTION AREA**

- 1. Receiving Room, EMS (SC401) .....300 NSF (27.9 NSM)**
  - a. Provide one if [patient beds projected] is between 1 and 100*
  - b. Provide one at 600 NSF if [patient beds projected] is between 101 and 200*
  - c. Provide one at 900 NSF if [patient beds projected] is between 201 and 300*
  - d. Provide one at 1,200 NSF if [patient beds projected] is between 301 and 400*
  - e. Provide one at 1,500 NSF if [patient beds projected] is between 401 and 500*



This space is for the receiving of soiled linen transported by trucks, space for identifying the source (medical centers, other facilities) of the soiled linen, and space for storing linen carts. This area should be contiguous to the Sorting and Washing Area.

- 2. Sorting / Washing Room, EMS (SC407) .....800 NSF (74.4 NSM)**
  - a. Provide one if [patient beds projected] is between 1 and 200*
  - b. Provide one at 1,000 NSF if [patient beds projected] is between 201 and 500*
- 3. Clean Linen Storage Room, EMS (SC413) .....240 NSF (22.3 NSM)**
  - a. Provide one if [patient beds projected] is between 1 and 100*
  - b. Provide one at 280 NSF if [patient beds projected] is between 101 and 200*
  - c. Provide one at 320 NSF if [patient beds projected] is between 201 and 300*
  - d. Provide one at 360 NSF if [patient beds projected] is between 301 and 400*
  - e. Provide one at 400 NSF if [patient beds projected] is between 401 and 500*

- 4. Central Liquid Supply Room, EMS (SC418) .....200 NSF (18.6 NSM)**
  - a. Provide one if [patient beds projected] is between 1 and 500*

This area provides space for measuring and loading washing equipment.

- 5. Cart Washer Room, EMS (SC419) .....140 NSF (13.1 NSM)**
  - a. Provide two if [patient beds projected] is between 1 and 200*
  - b. Provide three if [patient beds projected] is between 201 and 500*
- 6. Clean Linen Processing, EMS (SC420) .....1,000 NSF (92.9 NSM)**
  - a. Provide one if [patient beds projected] is between 1 and 100*
  - b. Provide one at 1,400 NSF if [patient beds projected] is between 101 and 200*
  - c. Provide one at 1,800 NSF if [patient beds projected] is between 201 and 300*
  - d. Provide one at 2,200 NSF if [patient beds projected] is between 301 and 400*
  - e. Provide one at 2,600 NSF if [patient beds projected] is between 401 and 500*

This area provides a space for removing linen from the washing equipment, transport of linen, drying ironing, folding, and finishing linen.

- 7. Clean Linen Holding / Assembly Room, EMS (SC426) .....300 NSF (27.9 NSM)**
  - a. Provide one if [patient beds projected] is between 1 and 100*
  - b. Provide one at 400 NSF if [patient beds projected] is between 101 and 200*
  - c. Provide one at 500 NSF if [patient beds projected] is between 201 and 300*
  - d. Provide one at 600 NSF if [patient beds projected] is between 301 and 400*
  - e. Provide one at 700 NSF if [patient beds projected] is between 401 and 500*

This space provides an area to hold clean linen in classified lanes and for assembling linen loads into carts.

- 8. Distribution Cart Storage Room, EMS (SC432) .....200 NSF (18.6 NSM)**
  - a. Provide one if [patient beds projected] is between 1 and 200*
  - b. Provide one at 300 NSF if [patient beds projected] is between 201 and 400*
  - c. Provide one at 400 NSF if [patient beds projected] is between 401 and 500*





This area provides space for the storage, queuing and dispatch of clean linen carts. It should be located contiguous to the Clean Linen Holding and Assembly Area.

- 9. Clean Linen Pack Preparation Room, EMS (SC438) .....240 NSF (22.3 NSM)**
- a. Provide one if [patient beds projected] is between 1 and 200
  - b. Provide one at 280 NSF if [patient beds projected] is between 201 and 400
  - c. Provide one at 300 NSF if [patient beds projected] is between 401 and 500

This area provides space for storage of sorted linen needed for pack preparation, inspection of linen, and the assembly, storage and dispatch of surgical packs.

- 10. Linen Repair Room, EMS (SC439) .....120 NSF (11.2 NSM)**
- a. Provide one if [patient beds projected] is between 1 and 100
  - b. Provide one at 160 NSF if [patient beds projected] is between 101 and 200
  - c. Provide one at 200 NSF if [patient beds projected] is between 201 and 300
  - d. Provide one at 240 NSF if [patient beds projected] is between 301 and 400
  - e. Provide one at 280 NSF if [patient beds projected] is between 401 and 500

This area provides space for linen repair. Sewing machines and hot-patch equipment are usually utilized in this area.

**C. FA 3: MEDICAL CENTER LINEN SUPPORT AREA**

- 1. Chute Room, EMS (SC440)..... 100 NSF (9.3 NSM)**
- a. Provide one if [patient beds projected] is between 1 and 200
  - b. Provide one at 160 NSF if [patient beds projected] is between 201 and 400
  - c. Provide one at 200 NSF if [patient beds projected] is between 401 and 500

This area provides space at the termination of soiled linen chutes for the collection of linen and the loading of carts.

- 2. Soiled Cart Staging Room, EMS (SC441).....120 NSF (11.2 NSM)**
- a. Provide one if [patient beds projected] is between 1 and 100
  - b. Provide one at 180 NSF if [patient beds projected] is between 101 and 200
  - c. Provide one at 240 NSF if [patient beds projected] is between 201 and 300
  - d. Provide one at 300 NSF if [patient beds projected] is between 301 and 400
  - e. Provide one at 360 NSF if [patient beds projected] is between 401 and 500

This area provides space for the staging of soiled linen carts prior to truck pickup for return to the laundry. This space is not required when the laundry is physically a part of the medical center building.

- 3. Clean Linen Cart Storage Room, EMS (SC445).....120 NSF (11.2 NSM)**
- a. Provide one if [patient beds projected] is between 1 and 200
  - b. Provide one at 180 NSF if [patient beds projected] is between 201 and 400
  - c. Provide one at 200 NSF if [patient beds projected] is between 401 and 500

Provide a storage room for clean linen carts before delivery. This room is not required when the laundry is located within the medical center structure.



- 4. Uniform Exchange, EMS (SC446) .....140 NSF (13.1 NSM)**
- a. Provide one if [patient beds projected] is between 1 and 200
  - b. Provide one at 180 NSF if [patient beds projected] is between 201 and 400
  - c. Provide one at 200 NSF if [patient beds projected] is between 401 and 500

This space includes an automated uniform dispenser.

**D. SEPS IMPORTER SHORTCUTS**

The following shortcuts are used in the Room Criteria Statements in the Environmental Management Service (EMS) Laundry and Linen Operation Functional Areas. These shortcuts are used during upload of this document into the Space and Equipment Planning System (SEPS) software during implementation of the space planning parameters contained herewith to allow for mathematical or logical calculations to be performed. Input Data Statements (IDSs), Rooms or a partial calculation formula can have a shortcut.

- 1. *patient beds projected*: [How many patient beds in total are projected for this facility?]

**6 PLANNING AND DESIGN CONSIDERATIONS**

- A. Laundries are classified as either individual or consolidated. The individual laundry provides service only to the medical center where it is located. The laundry can be constructed as part of the medical center structure or can be separate building. The consolidated laundry serves more than one medical center. It is not essential for consolidated laundries to be located at a medical center site.
- B. Linen carts are approximately 2'-6" w x 5'-0" l x 5'-0" h. They hold approximately 60 cubic feet of linen. One cubic foot of clean linen weighs approximately 8 pounds. One cubic foot of soiled linen weighs approximately 10 pounds.
- C. Refer to Department of Veterans Affairs (VA) Office of Construction and Facilities Management Technical Information Library ([www.cfm.va.gov/til/](http://www.cfm.va.gov/til/)) for additional technical criteria.



**7 FUNCTIONAL RELATIONSHIPS**

Relationship of Environmental Management Service (EMS) Laundry and Linen Operation to services listed below:

**TABLE 1: FUNCTIONAL RELATIONSHIP MATRIX**

SERVICES	FUNCTIONAL RELATIONSHIP
INPATIENT SERVICES	1
CLNCL: Surg Svc: Inpatient Surgery	1
CLNCL: Surg Svc: Ambulatory Surgery	1
CLNCL: Emergency	1
CLNCL: Urgent Care	2
RESIDENTIAL SERVICES	3

**Legend:**

- 1. High
- 2. Moderate
- 3. Minimal



### 8 FUNCTIONAL DIAGRAM

