



# ACCREDITATION STANDARDS FOR PROCESSING REUSABLE TEXTILES FOR USE IN HEALTHCARE FACILITIES



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# **PREAMBLE**

## 2016 HLAC Accreditation Standards

### Preamble

#### 1. Introduction

Healthcare textiles are fabric products that touch patients and employees directly or indirectly on a daily basis. The Healthcare Laundry Accreditation Council (HLAC) is the authority on laundry standards for the preparation of hygienically clean, reusable healthcare textiles for patient care. HLAC offers a voluntary accreditation to those laundry facilities processing reusable healthcare textiles. The HLAC Accreditation Standards are established as the minimum acceptable practice in this endeavor. However, laundry operators may choose to exceed these standards, thereby providing exceptional benefit to patients through excellence in healthcare textiles processing.

The initial 2006 HLAC Accreditation Standards received a major revision and updating with the release of the 2011 Standards. The modifications included the addition of substantial evidence-based references, best practices, and common sense regarding the laundry processing of reusable healthcare textiles. This 2011 revision represented fundamental principles based on the highest standards for patient infection prevention, safety regarding textiles, and occupational and workplace safety. Part III Surgical Pack Assembly Room Standards were added, addressing the surgical pack assembly room and its activities. This section is based on the American National Standards Institute (ANSI)/Association for Advancement of Medical Instrumentation (AAMI) reference regarding laundry processing of reusable surgical textiles. References support the Standards and are available for supplemental reading.

With the 2016 revision, the HLAC Accreditation Standards continue to heighten awareness and increase understanding of the infection prevention and safety culture in the laundry personnel for healthcare textiles where programs, policies, procedures, and practices are common concepts and language. Conventional washer extractors are included for the first time in these HLAC Accreditation Standards. The central focus of health care is the patient followed by the healthcare personnel. The elements of laundry processing are specific operations involving procedures, facilities, administrative activities, equipment, personnel, quality monitoring, and advanced technologies as appropriate. This revision presents verb changes, clarifications, and updated citations, appendices, and references.

#### 2. Terminology

In this document, “provider” (i.e., employer and service provider) is the designated term to encompass the laundry plant as the processor of healthcare textiles, whether the laundry is an on-premise laundry (OPL) or an off-campus laundry known as a commercial or retail facility with customer-owned goods (COG) or laundry facility-provided textiles. The “customer” is the term for the client healthcare facility (e.g.,

hospital, clinic, nursing home, etc.) and for its “end-user” (i.e., healthcare personnel and patient). “Personnel” is the designated term for employees, workers, staff, etc.

Additionally, the term “contract” refers to any oral or written agreement, contract, memorandum of understanding (MOU), or other documentation, addressing a mutual consensus between the provider and customer. Terms “inspectors” and “inspection” reflect the compliance process applicable to healthcare reusable textiles processing in these HLAC Standards by HLAC Inspectors. “Surgical Pack Assembly Room” is the term throughout this document, referring to Surgical Pack Assembly Room, Surgical Pack Assembly Area, Surgical Pack Room Assembly Area, Surgical Pack Area, Pack Room Area, and Pack Rooms.

As defined by the U.S. Department of Labor, Occupational Safety and Health Administration (OSHA), Universal Precautions is the preferred approach to infection control in the laundry industry where all human blood and certain human body fluids are considered to be infectious with blood borne pathogens. Therefore, Universal Precautions will be the common term used in these Standards. According to OSHA, contaminated laundry means laundry, which has been soiled with blood or other potentially infectious materials or may contain sharps.

The verbs indicate the requirement status for each individual Standard statement. The following definitions of the statement categories will apply:

### 3. Interpretive Guidance

**A “must” statement is one for which compliance is required.** The directive of the statement is supported by any or all of the following resources:

1. Federal mandates, regulations (e.g., OSHA, U.S. Food and Drug Administration [FDA], U.S. Environmental Protection Agency [EPA]) that are law;
2. State and/or local government regulations;
3. Evidence-based, peer-reviewed best practices/recommendations for infection prevention and laundry procedures from federal agencies (e.g., Centers for Disease Control and Prevention [CDC]) and professional entities (e.g., Association for the Advancement of Medical Instrumentation [AAMI], Association of periOperative Registered Nurses [AORN], Association for Professionals in Infection Control and Epidemiology [APIC], Facilities Guidelines Institute [FGI], Textile Rental Services Association of America [TRSA]). Guidance documents published by these agencies and entities are typically adopted by reference by authorities having jurisdiction (AHJ) and are often cited as “gold standard” in a court of law; and
4. Healthcare Laundry Accreditation Council (HLAC) decisions specific for the laundry industry processing healthcare textiles for patients and personnel in healthcare facilities.

The **“must”** statements will be bold-face text in the Standards and compliance will be scored by the inspectors. The expectation is that all **“must”** Standards are met (i.e., 100% compliance).

A **“shall”** statement represents a best practice based on infection prevention and laundry industry consensus and compliance is strongly recommended. Such statements are intended to assist the healthcare laundry industry as it transitions to a higher standard of practice.

“Shall” statements are scored by the inspectors, but will not be presented as bold-face text. The expectation is that at a minimum 90% of these “shall” Standards are met. “Shall” Standards may, at some point in future editions, be elevated to “must” statements as industry and regulatory events warrant.

**“Should” and “may”** statements represent suggested courses of action for which a strong industry consensus is not available for all regions of the country or are part of emerging practices and/or technology.

“Should” and “may” statements are recommended for implementation, but are not scored.

The combination of the **“must”** + “shall” statements + HLAC review determine if the provider is awarded accreditation. Laundries found to be out of compliance and needing to make simple repairs or remediation are given the opportunity to correct these within a predetermined time frame and/or submit to repeat inspection.

#### 4. Disclaimer

An HLAC inspector’s assessment of a provider’s facility and processes for the production of hygienically clean reusable healthcare textiles is based on the integrated requirements, best practices, and guidance from diverse entities adopted by reference in the 2016 HLAC Accreditation Standards. HLAC inspectors are not trained as official OSHA surveyors nor should compliance with HLAC Standards be interpreted as compliance with all OSHA requirements. Neither are HLAC inspectors qualified to certify compliance with local regulations or the Authority Having Jurisdiction (AHJ).

**PART I**  
**BASIC ELEMENTS**



## 2016 HLAC Accreditation Standards

### Part I. Basic Elements

#### 1. Textile Control Procedures

##### 1.1. Textile Specifications

**1.1.1.** The provider shall have written textile specifications that meet customer needs and ensure consistent performance.

**1.1.1.1.** For customer-owned goods (COG), the provider should obtain textile specifications from the customer and resolve any questions or concerns prior to agreeing to a contract.

**1.1.1.2.** These specifications shall be reviewed, at a minimum, annually by the service provider and the customer.

**1.1.2.** Provider/customer contracts shall state the extent of service for the contract period, signed by both entities, dated, and be on file.

**1.1.3.** The provider shall have a documented biohazard communication system, identifying soiled healthcare textiles using color-coding and/or labeling and adhere to Universal Precautions. (OSHA 29 CFR 1910.1030.(d)(4)(iv)(A)(2))

**1.1.3.1.** This documentation shall be accessible where personnel may refer to it.

##### 1.2. Textile Maintenance

**1.2.1.** The provider must have a documented grading system, outlining the grading standards for the healthcare textiles being processed.

**1.2.1.1.** The grading documentation must be accessible where personnel may refer to it.

**1.2.2.** Providers processing COG textiles shall reference the textile manufacturer's instructions when appropriate for novel textiles.

**1.2.3.** These standards must outline which defects may be repaired, which defects require replacement, and the point at which previously repaired textiles should be discarded.

**1.2.4.** If a provider has a textile repair program, the provider must ensure that all personnel having responsibility for making repair and replacement decisions understand and comply with the grading standards.

### 1.3. Provider Inventory Management

**1.3.1.** The provider and customer shall jointly determine the par level for the facility, whereupon the provider shall use an inventory management system that ensures an adequate supply of clean textiles to meet the customer's needs.

**1.3.2.** Methods to insure that an adequate supply of textiles is available to the provider and customer shall include documentation of historical fill rates for rental operations and/or documentation of clean pounds shipped as a percentage of soil pounds received for COG operations.

**1.3.3.** The provider and customer shall document in writing the provision of inventory for situations where increased need (e.g., surge capacity in response to a disaster) is anticipated and what adjustments are acceptable.

## 2. Laundry Facilities

### 2.1. Physical Design, Ventilation, Fixtures, and Signage

**2.1.1.** Based on the workflow pattern principle where processing of soiled textiles flows to clean textiles, the laundry facility's physical layout and maintenance procedures must ensure efficiency, minimize environmental contamination, and protect the material and hygienic integrity of the processed textiles. (JCHLGL Guidelines for Healthcare Linen Service, 1994, 8.)

#### 2.1.2. Soiled Textiles Area

**2.1.2.1.** The essential laundry facility design must have a functional separation of areas that receive, store, or process soiled textiles from areas that process, handle, or store clean textiles by one the following methods:

**2.1.2.1.1.** Physical barrier (e.g., walls or structural partitioning with a means of entry to and from the soiled textiles area), which includes negative air pressure in the soiled textiles area with venting directly to the outside (positive air flow from the clean textiles area through the soiled textiles area); or

**2.1.2.1.2.** Functional barrier by negative air pressure in the soiled textiles area and positive air flow from the clean textiles area through the soiled textiles area with venting directly to the outside. (JCHLGL Guidelines for Healthcare Linen Service, 1994; 6.B.3, 8.A.1-3; CDC HICPAC GL EIC, 2003:II.G.II.A; ANSI/AAMI ST65:2013; Std.3.2.3.1, 3.3.4; ANSI/AAMI ST79:2010; Std. 3.2.3, 3.3.7.1; FGI GL 2014: 2.1-5.2.1 Linen Services 2.1-5.2.2.1-2, 2.1-5.2.3.5, 3.1-5.2, ANSI/ASHRAE/ASHE Std. 170-2013 Table 7.1, p. 11)

**2.1.2.2.** The physical environment and layout of the soiled sorting area shall be designed to permit orderly soiled textile sorting and other manipulations and processes.

**2.1.2.3. Warning signs about the presence of contaminated textiles and the need to follow Universal Precautions must be posted in work areas where potentially contaminated textiles are stored or sorted prior to processing.** (JCHLGL Guidelines for Healthcare Linen Service, 1994; 8.E)

**2.1.2.4. Handwashing facilities must be located in all areas where soiled or contaminated textiles are handled in the laundry.** (OSHA 29 CFR 1910.1030 (d)(2)(iii, iv); CDC HICPAC GL Hand Hygiene: 8 D; JCHLGL Guidelines for Healthcare Linen Service, 1994; 8.C.; CDC HICPAC GL EIC, 2003:II.G.II.B; ANSI/AAMI ST65:2013; Std. 3.3.7; ANSI/AAMI ST79:2010 Std. 3.3.6.8; FGI GL 2014: 2.1-5.2 Linen Services 2.1-5.2.2.1, 2.1-7.2.2.8.)

**2.1.2.5. Emergency eyewash equipment must be available with unobstructed access (i.e., requiring no more than 10 seconds to reach) in all areas where soiled textiles are processed.** (ANSI/ISEA Z358.1-2009:5.4.2; ANSI/AAMI ST65:2013; Std. 3.3.8; ANSI/AAMI ST79:2010 Std. 3.3.7.1, 3.3.8; OSHA 29 CFR 1910.1030. (d)(2)(i))

### **2.1.3. Clean Textile Staging and Storage Areas**

**2.1.3.1. In the provider's facility, the textile staging and storage areas for cleaned, processed textiles must be in compliance with the following specifications: free of vermin; devoid of lint; without obvious moisture contamination.** (ANSI/AAMI ST65:2013; Std. 9.6.1-2; ANSI/AAMI ST79:2010; Std. 8.9.2)

**2.1.3.2.** The ventilation of the storage area shall:

**2.1.3.2.1.** Be designed to prevent accumulation of dust and lint; and

**2.1.3.2.2.** Be under positive air pressure relative to adjacent spaces, thereby preventing intrusion of contamination from soiled textile areas.

**2.1.3.3.** Policies and protocols shall reflect a facility-specific strategy for ensuring the hygienically clean quality of the stored, processed textiles and shall establish a schedule of visual inspection of the stored textiles and recording the observations.

**2.1.3.4. Specifications for Clean Textiles Storage Shelves**

**2.1.3.4.1.** Shelves shall be placed approximately 2 inches from the wall to safeguard package integrity. (ANSI/AAMI ST65:2013; Std. 9.6.1; ANSI/AAMI ST79:2010; Std. 8.9.2)

**2.1.3.4.2. The bottom shelf must be of solid nonporous construction, free from visible soil and dirt, and at a minimum of 8 inches from the floor for accessible cleaning to prevent contamination.** (ANSI/AAMI ST65:2013; Std. 9.6.1; ANSI/AAMI ST79:2010; Std. 8.9.2)

**2.1.3.4.3. The top of any item on the top shelf must be a minimum of 18 inches below the ceiling to prevent impairment of ventilation, sprinklers, and lighting.** (ANSI/AAMI ST65:2013; Std. 9.6.1; ANSI/AAMI ST79:2010; Std. 8.9.2)

**2.1.3.4.4. Any porous material (e.g., cardboard, paper, etc.) must not be used as a shelf liner in the clean textiles storage area and to store clean textiles.**

#### **2.1.4. Other Fixtures and Signage**

**2.1.4.1. Hand hygiene resources (i.e., handwashing facilities or antiseptic hand cleaner and cleaner dispensers) must be available in or around all work areas and in personnel support areas.** (OSHA 29 CFR 1910.1030 (d)(2)(iii, iv); CDC HICPAC GL Hand Hygiene: 8 D; JCHLGL Guidelines for Healthcare Linen Service, 1994; 8.C.; CDC HICPAC GL EIC, 2003:II.G.II.B; ANSI/AAMI ST65:2013; Std. 3.3.7; ANSI/AAMI ST79:2010 Std. 3.3.6.8; FGI GL 2014: 2.1-5.2 Linen Services 2.1-5.2.2.1-2, 2.1-7.2.2.8.)

**2.1.4.2. Emergency eyewash and shower equipment must be available with unobstructed access (i.e., requiring no more than 10 seconds to reach) for immediate emergency use in all areas where chemicals are used and/or stored.** [ANSI Z358.1-2009:4.5.2; ANSI/AAMI ST65:2013; Std. 3.3.8; ANSI/AAMI ST79:2010 Std. 3.3.7.1, 3.3.8; OSHA 29 CFR 1910.151 (c)]

**2.1.4.3. Safety features (e.g., emergency lighting, signage, fire alarms, door accessibility and egress, safety perimeter for robotics, equipment guards, etc.) must be evident and operational to safeguard personnel and persons.** (OSHA Instruction PUB. 8-1.3 Guidelines for Robotics Safety)

## **2.2. Physical Plant and Equipment Maintenance**

**2.2.1. Maintenance of equipment and spaces in a laundry facility processing healthcare textiles shall follow documented provider's policies and procedures.**

#### **2.2.2. Cleaning, Decontamination, and Disinfection**

**2.2.2.1. The physical environment (e.g., floors, walls, ceilings, vents, working surfaces, and installed equipment) must receive scheduled cleaning appropriate for the surface, the frequency dependent upon the level of contamination, and the operation performed in the area according to facility policy.** (ANSI/AAMI ST65:2013; Std. 3.3.3; ANSI/AAMI ST79:2010 Std. 3.3.6, 3.4; AHE Practice GL 2<sup>nd</sup> ed. Sec 1.2)

**2.2.2.1.1. The cleaning schedule must be maintained on a current basis and available for inspection.**

**2.2.2.2. Environmental surfaces (e.g., walls, ceilings, vents, and equipment) must be subjected to periodic and as needed blow down processes from ceiling downward to minimize the build-up of dust and lint.**

**2.2.2.2.1. Blow down must be performed when no other processing of textiles is occurring in that area and must not be performed in pack rooms. (ANSI/AAMI ST65:2013; Std. 3.3.3)**

**2.2.2.3. Clean textile working surfaces (e.g., counters, benches, tables, etc.) must be kept clean of visible soil, dust, and lint. [OSHA: 29.CFR 1910.1030 (d)(4)(ii); CDC HICPAC GL EIC, 2003: II.E.I.E.2; ANSI/AAMI ST79:2010 Std. 3.4; CDC HICPAC GL EIC, 2003:II.E.I.A; ANSI/AAMI ST79:2010 Std. 6.2] ]**

**2.2.2.4. Working surfaces that become contaminated with blood or other potentially infectious material (OPIM) must be decontaminated, cleaned, and disinfected with EPA-registered hospital grade disinfectants labeled tuberculocidal or registered disinfectants on the EPA Lists D and/or E (i.e., products with specific label claims for human immunodeficiency virus [HIV] or hepatitis B virus [HBV]) according to label instructions after completion of soiled textile handling activities; immediately or as soon as feasible when surfaces are visibly contaminated; and at the end of the work shift. [OSHA: 29 CFR 1910.1030 (d)(4)(ii, iiA) memorandum 2/2/97; CDC HICPAC GL EIC, 2003: E.I.A, II.A-D; EPA Lists of Registered Pesticides; CDC HICPAC GL EIC, 2003:II.E.I.A; II. E.1.; II.H.; II. A-D; ANSI/AAMI ST79:2010 Std. 6.2]**

**2.2.2.5. Work practices when using conventional washer extractors**

**2.2.2.5.1. Cleaning and disinfection of surfaces**

**2.2.2.5.1.1. Surfaces (i.e., surfaces exterior to conventional washer extractors) that are used to both unload and load conventional washer extractors must be non-porous and easily cleaned.**

**2.2.2.5.1.2. Routine cleaning and disinfection of surfaces, using a cleaning/disinfection strategy appropriate for the type of contamination when loading and unloading conventional washer extractors after each load, must be consistent with the principles of functional separation.[OSHA: 29 CFR 1910.1030 (d)(4)(ii, iiA), memorandum 2/2/97; CDC HICPAC GL EIC 2003: E.I.A., II.A-D; EPA Lists of Registered Pesticides; CDC HICPAC GL EIC, 2003: II. E.I.A.; ANSI/AAMI ST79:2010 Std. 6.2]**

**2.2.2.5.2. Work flow and functional separation**

**2.2.2.5.2.1. Functional and physical separation of soiled and clean textiles must be followed when conventional washer extractor equipment is used in accordance with Part I, Subpart 2, Section 2.1, Element 2.1.2.1 of this HLAC Standard.**

**2.2.2.5.2.2. For conventional washer extractor equipment that utilizes sling delivery systems for loading soiled textiles, clean textiles must not be stored under the soiled slings.**

**2.2.2.5.3. Personnel handwashing practices and personal protective equipment (PPE) usage while using conventional washer extractor equipment must be in accordance with Part I, Subpart 5, Sections 5.3 and 5.4, Elements 5.3.3. and 5.4.1. of this HLAC Standard. [CDC HICPAC GL Hand Hygiene 1.G, 1.J, 1.K, 6.C; ANSI/AAMI ST65:2013; Std. 4.4; ANSI/AAMI ST79:2010 Std. 4.4, 4.5.1, 4.5.2; OSHA 29 CFR 1910.1030 (d)(2)(v), and (d)(3)(vii)]**

### 2.2.3. Pest Control Program

**2.2.3.1. The provider must have documentation of a current integrated pest management (IPM) program consistent with healthcare-recommended practices and with evidence of scheduled treatments.** ([www.epa.gov/integrated](http://www.epa.gov/integrated) pest management program; CDC HICPAC GL EIC, 2003: II. E.V.A-C; AHE Recommended Practice Series: Integrated Pest Management)

## 2.3. Management of Foreign Items and Regulated Wastes

### 2.3.1. Miscellaneous Foreign Items

**2.3.1.1.** The provider shall have a policy to return items found among healthcare textiles to the customer.

### 2.3.2. Regulated Medical Waste Management

**2.3.2.1. The provider must have a written Regulated Medical Waste management agreement/plan, which is communicated with the customer, detailing the delegation of procedures to follow when biohazardous medical waste is found among soiled healthcare textiles,** [OSHA: 29 CFR 1910.1030 (d)(4)(iii)(C); CDC HICPAC GL EIC, 2003: II.I.II.A]

**2.3.2.1.1. According to local regulations or the Authority Having Jurisdiction (AHJ).** [OSHA: 29 CFR 1910.1030 (d)(4)(iii)(C); CDC HICPAC GL EIC, 2003: II.I.I.B]

**2.3.2.1.2. Documenting what waste items were sent, the date, the disposition of the items, and notification of the customer.**

**2.3.2.1.3. Using required containers for collection and proper disposal of sharps and other non-textile waste objects.** [JCHLGL Guidelines for Healthcare Linen Service, 1994; 8.D.; OSHA: 29 CFR 1910.1030 (d)(4)(iii)(A); CDC HICPAC GL EIC, 2003: II.I.III.C]

### 2.3.3. Hazardous Materials and Pharmaceutical Waste Management

**2.3.3.1. The provider must become familiar with issues and regulations concerning the management and disposal of hazardous substances/wastes to facilitate any provider-customer negotiations on this topic.**

**2.3.3.2. If the provider accepts bagged textiles contaminated with hazardous substances/wastes, the provider must demonstrate in policies and/or contracts how to manage such textiles in accordance with federal regulations intended to minimized laundry personnel's exposure to hazardous substances.** (OSHA 29 CFR 1910.1200; OSHA Technical Manual: Hazardous Drugs, Sec. 6, Chapter 2)

**2.3.3.3.** If the customer fails to adhere to proper hazardous substances/waste management practices, the provider shall reject any laundry items contaminated with these substances/wastes and return these to the customer.

**2.3.3.4. Hazardous substance-related wastes must be handled separately from other customer trash/solid wastes and disposed of per facility policy developed in accordance with applicable local regulations or the AHJ for hazardous waste.** (OSHA: 29 CFR 1910.1200; The OSHA Technical Manual: Haz Drugs, Sec 6, Chap 2)

**2.3.3.5.** The provider - customer Policy and Procedures shall include some indication that the issue of management of pharmaceutical contaminated textiles has been addressed (pharmaceutical definitions provided by the local regulations or the AHJ).

**2.3.3.5.1.** The provider and the customer should establish a mutually agreeable determination and course of action as to when a pharmaceutical-contaminated textile is to be managed as pharmaceutical waste (i.e., the item is to be discarded) or when the pharmaceutical-contaminated textile is to be returned to the customer.

## **2.4. Piped Air, Water, Wastewater, and Chemicals Management**

**2.4.1. Provider's facility documents must contain evidence of compliance with local regulations or the AHJ as they pertain to air, water, and chemicals management, if applicable.**

**2.4.2. There must be evidence of waste water and/or air quality permit compliance, if applicable.**

**2.4.3. Compliance with hazardous chemical (e.g., hydrogen peroxide) regulations (i.e., Department of Homeland Security Chemical Security Assessment Tool [CSAT], local hazardous materials license or permit) must be documented and available for review, if applicable.** (OSHA: 29 CFR 1910.1200; DHS 6 CFR 27).

## **3. Contingency Planning**

### **3.1 Contingency Planning**

**3.1.1.** Contingency planning shall provide for uninterrupted operations and services in the event of any occurrence potentially leading to serious disruption of the provider's operations. Such disruption includes, but is not limited to, loss of utilities, medical emergencies, natural and/or man-made disasters, fire, inclement weather, work stoppage, or major accidents.

**3.1.2.** The Contingency Plan shall include the following components:

**3.1.2.1.** Plant and transportation contingency protocol,

- 3.1.2.2. Call chain,
- 3.1.2.3. A list of backup laundry facilities, and
- 3.1.2.4. A backup source of textiles, if needed.

### 3.2 Plant Contingency Protocol

3.2.1. The provider shall provide a mechanism to inform a step-by-step procedure in the event of an emergency and shall be available to supervisors, each of whom may be responsible for execution of the protocol.

3.2.2. **Personnel** shall be familiar with the major elements of the plant contingency protocol in advance of emergencies.

### 3.3. Contingency Call Chain

3.3.1. The call chain shall be written, complete, current, and available to all supervisory personnel, so that timely and accurate contact can be made in case of an emergency.

3.3.2. The call chain shall be maintained by a designated person, who is responsible for updating it at least annually or when personnel changes occur, and distributing the list to personnel.

### 3.4. Backup Facility Contracts

3.4.1. The provider shall have written contracts in place with one or more alternate laundry providers that can cover their volume, detailing when and how these providers will process textiles in an emergency. (JCHLGL Guidelines for Healthcare Linen Service, 1994; 12)

3.4.1.1. These contracts shall be updated annually, signed, and dated.

3.4.2. The provider shall have adequate transportation capabilities with contingency planning.

3.4.3. The provider shall have written contracts in place with one or more alternate textile suppliers, detailing the services and delivery times provided (does not apply to COG). (JCHLGL Guidelines for Healthcare Linen Service, 1994; 12)



## 4. Laundry Equipment

### 4.1. Documentation

**4.1.1.** A list of all equipment shall be prepared, kept on file, and made available prior to inspection. (ANSI/AAMI ST65:2013; Std. 10.2.1)

**4.1.2.** Equipment safety documentation shall consist of safety instructions, describing the potential hazards associated with the equipment use; appropriate safeguards; and complies with ANSI Z8.1., regarding safe operation and maintenance of equipment. (ANSI/AAMI ST65:2013; Std. 10.2.2)

#### **4.1.3.** Documentation concerning equipment maintenance

**4.1.3.1.** The maintenance personnel should have access to equipment manuals to inform them on installation, operation, preventive maintenance, repairs, replacements, and illustrations of the equipment components. (ANSI/AAMI ST65:2013; Std. 10.2.3)

**4.1.3.2.** The provider should retain evidence of an ongoing maintenance program, including work orders and a current inspection tag if one has been issued from inspection. (ANSI/AAMI ST65:2013; Std. 10.2.2)

**4.1.3.3.** Equipment preventive maintenance should be documented and kept on file. (ANSI/AAMI ST65:2013; Std. 10.5.5)

### 4.2. Installation and Utilities Connections

**4.2.1.** Equipment installation should involve trained or qualified installers, appropriate utilities and support services, compliance with the equipment manufacturer's instructions, and properly functioning safety equipment specified by the manufacturer. (ANSI/AAMI ST65:2013; Std. 10.3.1)

**4.2.2.** Before any piece of equipment is commissioned into service, either initially or after maintenance or repair, it should be verified that its performance meets the manufacturer's specifications. (ANSI/AAMI ST65:2013; Std. 10.4.1; CDC HICPAC GL EIC, 2003:II.G.II.C)

#### **4.2.3.** Machinery connected to utilities shall appear to be properly installed and operating correctly.

**4.2.3.1.** **The provider must ensure safe and correct connection of any piece of equipment to utilities (i.e., water, electrical power, gas, and/or steam) as appropriate, and that the connection includes the proper controls for the incoming utilities.** (ANSI/AAMI ST65:2013; Std. 10.3.2.1)

**4.2.3.2.** **The electrical power supplied to processing equipment must be installed in conformance with local electrical and fire codes to prevent fires.** (ANSI/NFPA No. 70; ANSI/AAMI ST65:2013; Std. 10.3.2.3)

**4.2.3.3. The gas supply must conform to the equipment manufacturer's recommendations.**

**4.2.3.4. The connection of equipment to the gas line must be done by a licensed person authorized by state regulations to perform this function. (ANSI/AAMI ST65:2013; Std. 10.3.2.4)**

**4.2.3.5. The steam supply and its quality must conform to the equipment manufacturer's recommendations and any state regulations. (ANSI/AAMI ST65:2013; Std. 10.3.2.5; ANSI/AAMI ST79:2010 Std. 3.3.4.1, 3.3.4.2)**

#### **4.2.4. Water quality**

**4.2.4.1. The provider must determine whether pretreatment of the water to be used for processing is needed, the appropriate type of pretreatment, compatibility between pretreatment and chemicals to be used in processing, and local wastewater disposal guidelines. (ANSI/AAMI ST65:2013 Std. 10.3.2.2)**

**4.2.4.2. The provider should consider softening their water when the hardness is 2 grains/gallon (34.2 parts per million [ppm]) or higher. (ANSI/AAMI ST65:2013; Std. 10.4.3.3)**

### **4.3. Equipment Operation**

**4.3.1. Proper functioning of equipment must involve correct utilities, mechanical systems (e.g., valves, level sensors, temperature sensors, safety door locks, and drum rotation), automated controls, and support systems according to manufacturer's operational specifications. (ANSI/AAMI ST65:2013; Std. 10.4.2.1)**

**4.3.2. Mechanical systems must function according to manufacturer's specifications, including, but not limited to, valve openings and closures, water level in inches for each level setting, tilting for loading and unloading, temperature sensor design, correct operational safety features, and speed and direction of drum rotation. (ANSI/AAMI ST65:2013; Std. 10.4.2.2)**

**4.3.3. Automated controls must be verified, calibrated, and checked at least annually. (ANSI/AAMI ST65:2013; Std. 10.4.2.3)**

**4.3.4. The performance of the chemical delivery system must be checked at least monthly by verifying chemical delivery rates (e.g., correct chemical delivered in correct amount during the correct cycle) and/or by conducting chemical titrations (e.g., activity, concentration, and loading). (ANSI/AAMI ST65:2013; Std. 10.4.3.2)**

**4.3.5. The design and size of water heater equipment must be appropriate for the provider's needs at peak operating times and to maintain the specified heated water temperature per desired cycle. (ANSI/AAMI ST65:2013; Std. 10.4.3.4)**

#### 4.4. Preventive Maintenance

**4.4.1. Equipment must be inspected, cleaned, and receive scheduled preventive maintenance according to the manufacturer's instructions or according to facility policy and procedures, if instructions are not available.** (ANSI/AAMI ST65:2013; Std. 10.5.1-2)

**4.4.2.** Preventive maintenance shall include replacement of worn expendable parts, lubrication, and calibrations. (ANSI/AAMI ST65:2013; Std. 10.5.2-3)

#### 4.5. Equipment Calibrations

**4.5.1.** Equipment shall be calibrated periodically as specified in the manufacturer's instruction manual or as determined by facility policy and procedures, if a manufacturer's schedule is not available. (ANSI/AAMI ST65:2013; Std. 10.5.4)

**4.5.2.** Calibration shall be performed by personnel trained and/or certified in calibration specified by the manufacturer. (ANSI/AAMI ST65:2013; Std. 10.5.4)

#### 4.6. Repairs

**4.6.1.** Worn, malfunctioning, or broken parts shall be replaced promptly by qualified personnel. (ANSI/AAMI ST65:2013; Std. 10.5.3)

**4.6.2. Safety precautions, including lock-out tag-out procedures, must be observed.** (ANSI/AAMI ST65:2013; Std. 10.5.3; OSHA 29 CFR 1910.147 App A)

**4.6.3.** Repair records shall be kept for all equipment. (ANSI/AAMI ST65:2013; Std. 10.5.3)

#### 4.7. Recordkeeping for New, Existing, and/or Used Equipment

**4.7.1.** A maintenance record shall be kept on file for each piece of equipment. (ANSI/AAMI ST65:2013; Std. 10.5.5)

**4.7.2.** The following information shall be recorded:

**4.7.2.1.** Service details (e.g., date for request and completion, reason for service, repair);

**4.7.2.2.** Equipment details (e.g., type, model, serial number, and location of the equipment);

**4.7.2.3.** Parts and repair details (e.g., parts, repair descriptions);

**4.7.2.4.** Personnel involved (e.g., provider authorization, service technician name). (ANSI/AAMI ST65:2013; Std. 10.5.5)

## **5. Laundry Personnel**

### **5.1. Personnel Qualifications**

**5.1.1.** The provider shall establish hiring policies and procedures based on all applicant local regulations or the AHJ employment laws.

**5.1.2.** All personnel shall be qualified for their positions through education, training, or level of prior experience, and these qualifications shall be documented in employee files. (ANSI/AAMI ST65:2013; Std. 4.1; ANSI/AAMI ST79:2010 Std. 4.1)

**5.1.3.** Clearly defined job descriptions for all personnel, including front-line supervisors, shall be in place and include qualifications, responsibilities, and assignments.

**5.1.4.** New personnel shall work under the close supervision of qualified personnel until they have demonstrated competency in the given task or procedure. (ANSI/AAMI ST65:2013; Std. 4.1; ANSI/AAMI ST79:2010 Std. 4.2.1)

### **5.2. Personnel General Responsibilities**

**5.2.1.** Supervisors/managers/personnel shall: (ANSI/AAMI ST65:2013; Std. 4.2.1; ANSI/AAMI ST79:2010 Std. 4.2.1)

**5.2.1.1.** Safely and correctly operate assigned equipment;

**5.2.1.2.** Safely and correctly perform assigned processing activities;

**5.2.1.3.** Correctly interpret and safely implement the Exposure Control Plan;

**5.2.1.4.** Recognize and understand potential hazards from equipment defects and improper performance of the job; and

**5.2.1.5.** Understand the risk of injury that defective or improperly operating equipment may inflict. (ANSI/AAMI ST65:2013; Std. 4.2.2; ANSI/AAMI ST79:2010 Std. 4.2.2)

### 5.3. Health and Hygiene

**5.3.1. The provider must have policies and procedures to prevent healthcare textiles from being handled by or exposure to personnel with potential health issues (i.e., illness, open wounds or sores, and skin injuries.)** (CDC HICPAC GL IC HCW, 1998: II.B-F; ANSI/AAMI ST65:2013; Std. 4.4; ANSI/AAMI ST79:2010 Std. 4.4)

#### 5.3.2. Employee Safety:

**5.3.2.1. Personnel must adhere to good work practices to minimize or eliminate exposures to blood, OPIM, chemical, and mechanical hazards. This includes, but is not limited to:**

**5.3.2.1.1. Use of personal protective equipment (PPE) when handling contaminated and soiled textiles;** (OSHA: 29 CFR 1910.1030 (d)(3)(ii))

**5.3.2.1.2. Safe operation of equipment;**

**5.3.2.1.3. Documentation of OSHA Lock-Out Tag-Out requirements;** (OSHA 29 CFR 1910.147 App A)

**5.3.2.1.4. Hazard communications;** (OSHA: 29 CFR 1910:1200)

**5.3.2.1.5. Safe transportation; and**

**5.3.2.1.6. Proper handling of textiles.**

**5.3.2.2. Eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses must be prohibited in work areas where there is a reasonable likelihood of occupational exposure to bloodborne pathogens (BBP).** [OSHA: 29 CFR 1910.1030 (d)(2)(ix)]

**5.3.2.3. Personnel must handle chemicals safely in accordance with Safety Data Sheets (SDS) in the laundry facility.** (OSHA: 29 CFR 1910.1200 App D; ANSI/AAMI ST65:2013; Std. 3.3.10)

**5.3.2.3.1. SDS information must be readily accessible to personnel in a location for immediate access where chemicals are handled.**

**5.3.2.4. Personnel who are exposed to hazards (e.g., biological, chemical, mechanical, etc.) must report such occurrences to their supervisor according to the provider's policies and procedures.** [OSHA: 29 CFR 1910.1030 (f) (3) (vii) (K); CDC HICPAC GL IC HCP, 1998: II.B.4]

#### 5.3.3. Hand washing and hand hygiene indications:

**5.3.3.1. Personnel must wash their hands after restroom use, before eating, and when hands become inadvertently contaminated with blood, OPIM, or other body substances.** [CDC HICPAC GL Hand Hygiene 1.G; 1.J; 1.K; 6.C.; ANSI/AAMI ST65:2013; Std. 4.4.; ANSI/AAMI ST79:2010 Std. 4.4; OSHA: 29 CFR 1910.1030 (d)(2)(v)]

**5.3.3.2. Personnel must practice hand hygiene (handwashing or using alcohol-based hand sanitizers) before donning gloves and after removal of gloves.** (CDC HICPAC GL Hand Hygiene 1.G; 1.J; 1.K; 6.C)

**5.3.3.3. Personnel responsible for packing, wrapping, storing, or transporting clean textiles must maintain proper hand hygiene at all times.** (ANSI/AAMI ST65:2013; Std. 4.4]

## **5.4. Personal Protective Equipment (PPE) and Attire**

### **5.4.1. Personal protective equipment:**

**5.4.1.1. The provider must supply the PPE to personnel in the workplace.** [OSHA: 29 CFR 1910.1030 (d)(3)(i)]

**5.4.1.2. Contaminated disposable PPE (e.g., gloves) must be discarded into appropriately labeled waste containers.** [OSHA: 29 CFR 1910.1030 (d)(iii)(8)]

**5.4.1.3. Reusable PPE (e.g., aprons or overalls) penetrated by blood or OPIM must be removed immediately or as soon as feasible and be laundered by the provider.** [OSHA: 29 CFR 1910.1030 (d)(3)(iv)]

**5.4.1.4. PPE must be changed if moving from an area where soiled operations were performed into an area where clean operations are performed.** (ANSI/AAMI ST79:2010 Std. 4.5.2)

**5.4.1.5. All PPE must be removed and placed in an appropriate receptacle prior to leaving the work area.** [OSHA: 29 CFR 1910.1030 (d)(3)(vii); ANSI/AAMI ST79:2010 Std. 4.5.1]

### **5.4.2. Personnel attire and adornments:**

**5.4.2.1. All personnel must wear clean garments without visible soil or dirt in accordance with the provider's policies and procedures.** (ANSI/AAMI ST65:2013;; Std. 4.5; ANSI/AAMI ST79:2010 Std. 4.5)

**5.4.2.2. For safety reasons, loose or dangling jewelry (e.g., necklaces, bracelets, earrings) or rings and loose clothing items (i.e., scarfs, neckties) must not be worn.** (ANSI/AAMI ST65:2013; Std. 4.5; ANSI/AAMI ST79:2010 Std. 4.5)

**5.4.2.3. Hair covering must be used where deemed appropriate and/or within provider's written policies and procedures.** (ANSI/AAMI ST65:2013; Std. 4.5; ANSI/AAMI ST79:2010 Std. 4.5)

**5.4.2.4. Artificial nails must not be worn in the laundry and while processing healthcare textiles.** (ANSI/AAMI ST65:2013; Std. 4.5; ANSI/AAMI ST79:2010 Std. 4.5; Clin Infect Dis 2001; J Eur Acad Dermatol Ven 2008; J Pediatr Oncol Nurs 2002)

**5.4.2.5. Personnel who handle clean healthcare textiles must change work garments whenever their garment becomes soiled or contaminated.** (ANSI/AAMI ST65:2013; Std. 4.5.1; ANSI/AAMI ST79:2010 Std. 4.5.1)

## **5.5. Occupational Safety and Health Elements**

**5.5.1. The provider must implement an occupational safety and health program based on the OSHA Bloodborne Pathogen Standard and Universal Precautions to prevent personnel exposure to or contact with blood or OPIM.** [OSHA: 29 CFR 1910.1030 (c)(1)(i)]

### **5.5.2. Exposure Control Plan (ECP):**

**5.5.2.1. The provider must develop an Exposure Control Plan (ECP) that contains, but is not limited to the following:** [OSHA: 29 CFR 1910.1030 (c)(1)(ii)]

**5.5.2.1.1. Schedule for compliance (i.e., when each part of the Plan is accomplished in the facility).** [OSHA: 29 CFR 1910.1030 (c)(1)(ii)(b)]

**5.5.2.1.2. Procedure for evaluating the circumstances surrounding exposure incidents.** [OSHA: 29 CFR 1910.1030 (c)(1)(ii)(c)]

**5.5.2.1.3. An Exposure Determination Plan (EDP), containing:** [OSHA: 29 CFR 1910.1030 (c)(2)]

**5.5.2.1.3.1. A list of all job classifications in which all personnel in those job classifications have occupational exposure,** [OSHA: 29 CFR 1910.1030 (c)(2)(i)(A)]

**5.5.2.1.3.2. A list of job classifications in which some personnel have occupational exposure, and** [OSHA: 29 CFR 1910.1030 (c)(2)(i)(B)]

**5.5.2.1.3.3. A list of all tasks and procedures that are performed by personnel in a job classification where exposure may exist.** [OSHA: 29 CFR 1910.1030 (c)(2)(i)(C)]

**5.5.2.1.4. The Exposure Control Plan must be accessible to all personnel.** [OSHA: 29 CFR 1910.1030 (c)(1)(iii)]

**5.5.2.1.5. The Exposure Control Plan must be reviewed and updated at least annually.** [OSHA: 29 CFR 1910.1030 (c)(1)(iv)]

### **5.5.3. Develop a hepatitis B vaccination program:** [OSHA: 29 CFR 1910.1030 (f)]

**5.5.3.1. Records must reflect the offering of hepatitis B vaccine by the provider and the acceptance OR documented refusal of the personnel.** [OSHA: 29 CFR 1910.1030 (f)(1)(i)]

**5.5.3.2. Hepatitis B vaccine must be offered to personnel upon hire if they are candidates for vaccination.** [OSHA: 29 CFR 1910.1030 (f)(2)(i)]

**5.5.4. Develop a standing process for post exposure management for blood and/or OPIM.**

**5.5.4.1. Records must reflect a standing process for post-exposure management for blood and/or OPIM.** [OSHA: 29 CFR 1910.1030 (h)(3)(i)]

**5.5.5. Personnel who are potentially exposed to occupational biological hazards may be monitored in a systematic program of serologic testing and HBV testing intended to prevent occupational injury and disease.** [OSHA: 29 CFR 1910.1030 (c)(1-2); CDC HICPAC GL IC HCW, 1998: II.B.4-5; II.E-F]

**5.5.6. Develop a hazardous materials (e.g., non-biological, chemical, radiological, etc.) safety plan and policy:**

**5.5.6.1. Where laundry personnel may be exposed to textiles contaminated with potentially hazardous substances from the customer, a written hazardous substance safety plan must be developed.** (OSHA: 29 CFR 1910.1200; The OSHA Technical Manual: Haz Drugs, Sec 6, Chap 2)

**5.5.6.1.1. The hazardous substance safety plan must be readily available and accessible to all personnel (i.e., full-time personnel, temporary personnel, contractors, and trainees).** (OSHA: 29 CFR 1910.1200; The OSHA Technical Manual: Haz Drugs, Sec 6, Chap 2)

**5.5.6.1.2. The hazardous substance safety plan must be reviewed and updated as appropriate at least annually.** (OSHA: 29 CFR 1910.1200)

**5.5.6.2. Where laundry personnel may be exposed to textiles contaminated with potentially hazardous substances from the customer, the provider must develop a policy for management of hazardous substance-contaminated textiles that includes, but is not limited to:**

**5.5.6.2.1. Wash process;**

**5.5.6.2.2. PPE requirements for affected personnel;**

**5.5.6.2.3. Training records for these personnel; and**

**5.5.6.2.4. Written record of provider/customer discussion regarding proper containment for hazardous substance contaminated textiles.**

**5.5.7. All vehicle drivers must meet all requirements of the federal and state Department of Transportation (DOT).** ([www.dot.gov](http://www.dot.gov))

**5.5.7.1. The provider must maintain documentation of this compliance and make it available for inspection.**



## 5.6. Training and Educational Programs

### 5.6.1. General elements:

**5.6.1.1.** Personnel shall receive standard safety training in all aspects of laundry operations applicable to their respective position(s), including, but not limited to safe operations of equipment per manufacturer's instructions and notification procedures when malfunctions occur.

**5.6.1.2.** Training options shall include, but are not limited to the following:

**5.6.1.2.1.** In-plant (in-service) training sessions facilitated by a person experienced in the topic;

**5.6.1.2.2.** Formal external training programs, including classes, workshops, and seminars.

**5.6.1.3.** Personnel shall receive the provider's standard training for the correct handling of healthcare textiles. Topics shall include:

**5.6.1.3.1.** Specific types of fabrics being processed;

**5.6.1.3.2.** Appropriate surgical textiles pack processes according to each pack's use requirements;

**5.6.1.3.3.** Proper use, placement, and heat-sealing process for patching surgical textiles; (ANSI/AAMI ST65:2013; Std. 4.2.2., 4.3, 7.2.1)

**5.6.1.3.4.** A copy of the grading standards.

### 5.6.2. Bloodborne Pathogens Exposure Control Training:

**5.6.2.1. Key topics for this training must include, but are not limited to:**

**5.6.2.1.1. Personal hygiene and proper handwashing and hand hygiene techniques;** (CDC HICPAC GL Hand Hygiene 2.A-D; CDC HICPAC GL IC HCW, 1998: II.B.3)

**5.6.2.1.2. Use of PPE appropriate to the task, including one or more of the following, but not limited to, gloves, gowns, aprons, and masks;** [ANSI/AAMI ST65:2013; Std 4.5.2; CDC HICPAC GL IC HCW, 1998: II.B.3; OSHA: 1910.1030 (d)(3)(ii)]

**5.6.2.1.3. Engineering controls and work practices to minimize the risk of exposure to blood or OPIM;** [OSHA: 1910.1030 (d)(2)(i)]

**5.6.2.1.4. Orientation on the provider's Exposure Control Program;**

**5.6.2.1.5. Orientation to hazard communications, including labeling and color-coding; and** (OSHA: 29 CFR 1910.1030 (g)(1); (g)(2)(vii)(M))

**5.6.2.1.6. Post-exposure procedures, including immediate action, treatment, follow-up, and record keeping.** [OSHA: 29 CFR 1910.1030 (f)(3); CDC HICPAC GL IC HCW, 1998: II.B.3-5; E-F]

**5.6.3. Hazardous Substance Contaminated Textiles training:**

**5.6.3.1. Key topics for this training must include, but are not limited to:**

**5.6.3.1.1. Exposure risk to textiles contaminated with hazardous substances or excreta from patients who have received hazardous substances (e.g., radioisotopes, chemotherapeutics, etc.) in the past 48 hours;** (CDC HICPAC GL IC HCW, 1998: II.B.4.c; E-F)

**5.6.3.1.2. Communications among supervisors and personnel for hazardous substance management procedures;**

**5.6.3.1.3. Identification and segregation of soiled textiles from patients exposed to hazardous substance contaminated, reusable textiles in bags designated solely for the containment of reusable hazardous substance exposed textiles;**

**5.6.3.1.4. Use of PPE including one or more of the following, but not limited to, gloves, gowns, and eye protection, if splashing is possible;**

**5.6.3.1.5. Hand hygiene; and**

**5.6.3.1.6. Disposal of contaminated one time use PPE in thick, leak-proof colored or labeled plastic bags for hazardous substances-related wastes.**

**5.6.3.1.7. Proper handling of other reusable PPE.** (OSHA: 29 CFR 1910.1200; The OSHA Technical Manual: Haz Drugs, Sec 6, Chap 2; NIOSH Publication No. 4; 2009)

**5.6.4. Department of Transportation (DOT) regulations ([www.DOT.gov](http://www.DOT.gov)) training:**

**5.6.4.1. Key topics in this training must include, but are not limited to:**

**5.6.4.1.1. Random drug testing;**

**5.6.4.1.2. Operator training;**

**5.6.4.1.3. Certified driver license requirements; and**

**5.6.4.1.4. Bloodborne pathogens exposure.**

### 5.6.5. Training Documentation

**5.6.5.1. All training must be documented in writing and kept on file for 3 years from the date of training.** [ANSI/AAMI ST65:2013; Std. 4.3; CDC HICPAC GL IC HCW, 1998: II.B.3-5; II.E-F; OSHA: 29 CFR 1910.1030 (h)(2)(ii)]

**5.6.5.2. The documentation must include, but is not limited to:** [OSHA: 29 CFR 1910.1030 (h)(2)(i)(A-D), (h)(2)(ii)]

**5.6.5.2.1. Dates and times of training;**

**5.6.5.2.2. Method of training;**

**5.6.5.2.3. Topic;**

**5.6.5.2.4. Trainer's name, title, signature, and qualifications;**

**5.6.5.2.5. Copies of printed training materials;**

**5.6.5.2.6. Validation that the training objectives and a minimum level of competency were achieved; and**

**5.6.5.2.7. Certificates or signature proof of personnel's attendance.**

## 6. Laundry Customers

### 6.1. Provider Policy

**6.1.1.** The provider should have a policy on file that reflects the interaction with customers as described in the following statements of this subpart.

### 6.2. Contact

**6.2.1.** The provider shall maintain a written list of all customer contacts for access of information exchange and service.

**6.2.2.** The provider shall have a 24/7 customer service capability to receive customer messages (e.g., voicemail, email, etc.).

### 6.3. Visitation

**6.3.1.** The provider shall make their plants available to customers and prospective customers for inspection.

**6.3.2.** The provider should annually visit the customer's healthcare facility for the purpose of conducting a walk-through of all areas where healthcare textiles are used, collected, transported or stored.

**6.3.3.** The provider should annually meet with the customer to determine the textile products used, expected textile usage, and their service expectations.

### 6.4. Customer Complaints

**6.4.1.** The provider shall maintain a written log of administrative or policy issues or problems with customers, including names of personnel involved and the resolution. (JCHLGL Guidelines for Healthcare Linen Service, 1994; 11.B)

## 7. Quality Assessment

**7.1.** Textile products used in healthcare facilities shall be of a quality to ensure patient and healthcare personnel comfort and textile durability.

### 7.2. Quality Control

**7.2.1.** Textile quality shall be defined and documented between the provider and the customer.

**7.2.2.** The provider processing COG textiles shall comply with pre-established textile maintenance standards as specified by each customer.

**7.2.3.** Defined quality standards shall keep mending and patching to a minimum.

**7.2.4.** The entire processing cycle shall have documented quality control procedures to ensure the cleanliness and serviceability of the textiles to include:

**7.2.4.1.** Requirements to rewash, repair, or replace textiles as necessary to maintain quality standards.

**7.2.4.2.** Planned and posted traffic patterns where required (e.g., pony washers) to minimize the potential for contaminating clean textiles.

**7.2.4.3.** Limited traffic in all areas of the facility to authorized personnel as outlined in the provider's policies and procedures. (ANSI/AAMI ST65:2013; 3.2.4; ANSI/AAMI ST79:2010; Std. 3.2.4, 8.9.2)

### **7.3. Quality Assurance**

**7.3.1** The provider should have written policies and procedures, covering all areas of responsibility relating to services provided to the customer. (ANSI/AAMI ST65:2013; Std. 6.4, 11.4)

**7.3.2.** The provider shall maintain records of any laundry processing and/or quality assurance problems experienced and mutually agreed upon solutions.

**7.3.2.1.** A customer call log may be used for this purpose.

**7.3.3.** The provider and personnel shall periodically review the entire service program (i.e., safe and efficient work environment, competency of the workforce, and quality assurance of the textile process and product) and make adjustments as necessary and appropriate.

**7.3.3.1.** This review should be accomplished through monthly reports, regularly scheduled meetings with personnel, and/or annually.

**7.3.3.2.** Adjustments should be documented and filed for future use or reference.

**7.3.4.** Each classification of healthcare textiles shall be evaluated and/or tested to assure the established standards are met.

### **7.4. Process Monitoring**

**7.4.1.** Providers shall engage in process monitoring to verify that ongoing operations are producing clean textiles that will meet customer expectations and needs.

**7.4.2.** Providers shall prepare detailed process monitoring checklists and use them to document key elements of laundry processing.

**7.4.2.1.** Process monitoring checklists shall include, but are not limited to, the following items:

**7.4.2.1.1.** Chemical supplies: Refer to HLAC Standard Part I Subpart 4 Section 4.3. Elements 4.3.3. and 4.3.4.

**7.4.2.1.1.1.** The provider shall verify with the manufacturer and chemical supplier that laundry chemicals are appropriate for the equipment in accordance with the equipment manufacturer, textile classifications, and water temperatures being used.

**7.4.2.1.1.2. Every chemical used must have an SDS on file.**

**7.4.2.1.1.3. Every chemical must have an appropriate label on every container into which the chemical is placed in accordance with OSHA Hazard Communications Standard.** (OSHA: 29 CFR 1910.1200; ANSI/AAMI ST65:2013; Std. 6.4.2.2)

**7.4.2.1.2. Water:** Refer to HLAC Standard Part I Subpart 4 Section 4.3. Elements 4.3.2. and 4.3.5.

**7.4.2.1.2.1.** Incoming water shall be tested for hardness, alkalinity (active and total), iron content, and pH.

**7.4.2.1.2.2.** Testing shall occur on a regular basis, at a minimum, monthly or more often during periods of abnormal water conditions (e.g., when water quality advisories are issued by the municipal water utility).

**7.4.2.1.2.3.** The provider's wash formula may require adjustment based on these factors. (ANSI/AAMI ST65:2008; Std. 6.4.2.4)

**7.4.2.1.3. Titration:** (ANSI/AAMI ST65:2013; Std. 6.4.4)

**7.4.2.1.3.1.** Monthly titrations of the correct wash chemistry shall be performed according to the formula for each major classification of soil. (ANSI/AAMI ST65:2013; Std. 6.4.3.e)

**7.4.2.1.4. Systems and procedures must be in place to ensure that the provider's use of air, water, chemicals, and other materials is in compliance with federal and state regulations.**

**7.4.2.1.5. Load size:**

**7.4.2.1.5.1.** Load size shall follow the equipment manufacturer's recommendations where available.

**7.4.2.1.5.2.** Each load shall be weighed, using a calibrated scale. Refer to HLAC Standard Part I Subpart 4 Section 4.5. Elements 4.5.1.

**7.4.2.1.5.3.** The scale shall be inspected and calibrated by an outside auditor on a scheduled basis, but at a minimum annually; and the results made available to the customer upon request. (ANSI/AAMI ST65:2013; Std. 6.2.2; 6.4.2.5) Refer to HLAC Standard Part I Subpart 4 Section 4.5. Elements 4.5.2.

**7.4.2.1.6. Equipment:**

**7.4.2.1.6.1.** All provider equipment shall be included in the provider's Preventive Maintenance (PM) Program and checked on a regular basis as defined by the manufacturer for proper operation. Refer to HLAC Standard Part I Subpart 4 Section 4.4.

**7.4.2.1.6.2.** Typically, a chemical titration and service report from the provider's chemical supplier's technician should have all this information.

**7.4.2.1.6.3.** Automatic equipment dispensers shall also record the chemical injection amounts and times by classification. (ANSI/AAMI ST65:2013; Std. 6.4.3) Refer to HLAC Standard Part I Subpart 4 Section 4.3.

**7.4.2.1.6.4.** Ironer temperatures shall be based on the equipment manufacturer's manual and recommendations appropriate for the type of fabric being processed. Refer to HLAC Standard Part I Subpart 4 Section 4.3.

**7.4.2.1.7.** Finished products:

**7.4.2.1.7.1.** The quality of finished products shall be maintained as pre-defined by the customer and shall be sufficient to meet the needs of the customer.

**7.4.2.1.7.2.** A variety of process monitors should be used to indicate how the provider process has performed including:

**7.4.2.1.7.2.1.** Rewash rates;

**7.4.2.1.7.2.2.** pH spot tests; and

**7.4.2.1.7.2.3.** Residual chlorine spot tests.

**7.4.2.1.8.** Personnel competency:

**7.4.2.1.8.1.** Supervisors shall verify personnel competency from training documentation (Refer to HLAC Standard Part I Subpart 5 Section 5.6. Element 5.6.5.) and mark the checklist accordingly.

## **7.5. Accounting**

**7.5.1.** The provider should obtain and maintain on file the customer's written contract to weigh and/or count textiles for accurate billing procedures based on these weights or counts.

**PART II**  
**THE TEXTILE PROCESSING CYCLE**



## 2016 HLAC Accreditation Standards

### Part II. The Textile Processing Cycle

#### 1. Handling, Collection and Transportation of Soiled Healthcare Textiles

##### 1.1. Universal Precautions

**1.1.1. All soiled healthcare textiles must be assumed to be contaminated.** (JCHLGL Guidelines for Healthcare Linen Service, 1994; 7..A)

**1.1.2. Universal Precautions must apply to all personnel who handle soiled textiles during moving, containing, loading, unloading, and sorting said textiles.** [OSHA: 29 CFR 1910.1030 (d)(1)]

##### 1.2. Handling and Collection

**1.2.1. All healthcare textiles must be handled and collected in accordance with federal and local regulations or those of the AHJ, thereby minimizing potential exposure of laundry personnel to bloodborne pathogens or other infectious agents.** [OSHA: 29 CFR 1910.1030 (d)(4)(iv)(A)(2); ANSI/AAMI ST79:2010 Std. 6.3]

**1.2.2. Soiled, contaminated textiles and fabrics must be handled and collected with minimal agitation at all times to prevent contamination of air, surfaces, clean textiles, and persons.** [CDC HICPAC GL EIC, 2003:II.G.III.A; OSHA: 29 CFR 1910.1030 (d)(4)(iv) (A)]

##### 1.3. Transportation

**1.3.1. The provider must maintain functional separation of clean textiles from soiled textiles in carts and/or vehicles at all times during handling, collection, and transportation of soiled textiles.** (JCHLGL Guidelines for Healthcare Linen Service, 1994; 6.B.3, 8.A; ANSI/AAMI ST79:2010 Std. 3.2.3, 3.3.7.1, 6.5.6; FGI GL 2014: 2.1-5.2 Linen Services 2.1-5.2.2.1, 2.2-5.2.3.1-3)

**1.3.2. Functional separation of clean from soiled textiles must be maintained during transportation by:**

**1.3.2.1. Bagging soiled textiles in fluid-resistant containers;** (ANSI/AAMI ST65:2013; Std. 9.5.3)

**1.3.2.2. Anchoring soiled textile containers in the vehicle to prevent spillage from their containers;**

**1.3.2.3. Training personnel regarding proper bagging and placement of textiles in the transporting truck; and**

**1.3.2.4. Ensuring that all personnel with this responsibility follow Universal Precautions when necessary (e.g., when handling loose soiled textiles not contained in bags).**

## **1.4. Carts Used for Soiled Textiles**

**1.4.1. Carts, containers, covers, and liners used to collect or transport soiled textiles must be properly cleaned and disinfected after the cart is emptied and before any next use, whether to transport clean textiles or soiled textiles. (ANSI/AAMI ST65:2013; Std. 9.5.4.1, ANSI/AAMI ST79:2010 Std. 8.10.2; FGI GL 2014: 2.1-5.2.2.1. Linen Services 2.1-5.2.3.3.)**

**1.4.2. If state regulation or AHJ indicates that carts used for soiled textiles cannot be used subsequently to transport clean textiles, the provider must comply with this restriction.**

**1.4.3. Proper cleaning shall include any of the following:**

**1.4.3.1. Steam cleaning,**

**1.4.3.2. Cleaning with a detergent and water, or**

**1.4.3.3. Using an EPA-registered hospital-grade detergent/disinfectant.**

**1.4.3.3.1. EPA-registered products shall be used according to label instructions, ensuring that the product remains on surfaces for the full contact time. (ANSI/AAMI ST65:2013; Std. 9.5.4.1; ANSI/AAMI ST79:2010 Std. 8.10.2; CDC HICPAC GL EIC, 2003:II.E.I.A)**

## **2. Sorting**

### **2.1. Soiled Sorting Area**

**2.1.1. The surfaces in the soil sort room must be cleaned and disinfected in accordance with Part I Subpart 2 Section 2.1. Element 2.1.3.1. and Part I Subpart 2 Section 2.2. Elements 2.2.2.1. - 2.2.2.5.1.2. of this HLAC Standard. (CDC HICPAC GL EIC, 2003:II.E.I-II; ANSI/AAMI ST79:2010 Std. 3.4; OSHA 29 CFR 1910.1030 (d)(ii, ii A))**

### **2.2. Universal Precautions**

**2.2.1. All personnel who handle soiled healthcare textiles must follow Universal Precautions in accordance with Part II, Subpart 1, Section 1.1 of this HLAC Standard and use appropriate PPE for this**

**task.** [OSHA: 29 CFR 1910.1030 (d)(1); OSHA 29 CFR 1910.1030 (d)(4)(iv)(B); CDC HICPAC GL EIC, 2003: II.F.III; CDC HICPAC GL IC HCW, 1998: II.B.3]

## **2.3. Sorting Soiled Textiles**

**2.3.1.** Soiled textiles shall be sorted into appropriate wash loads by classification (i.e., color, type of fabric, soil type or soil load) and/or type of goods (e.g., diapers, sheets, patient gowns, etc.) for each laundry formula used. (ANSI/AAMI ST65:2013; Std. 5.4.2)

**2.3.2. Laundry bags and textiles contaminated with hazardous substances must be prewashed, and then the textiles added to other laundry for a second wash.** (OSHA: 29 CFR 1910.1200; The OSHA Technical Manual: Haz Drugs, Sec 6, Chap 2)

## **2.4. Foreign Object Policies**

**2.4.1.** Foreign objects shall be removed during the sorting process to be disposed of or returned to the customer in accordance with provider/customer contract.

**2.4.1.1.** Reusable surgical instruments shall be retrieved from the textiles prior to laundering, placed into designated containers, and returned to the customer. (ANSI/AAMI ST65:2013; Std. 5.3.1)

**2.4.1.2.** Disposable devices shall be retrieved from the textiles prior to laundering, discarded into designated containers, and/or returned to the customer. (ANSI/AAMI ST65:2013; Std. 5.3.1)

**2.4.1.3.** Personal patient information shall be retrieved from the textiles prior to laundering, placed into designated containers, and returned to the customer. (ANSI/AAMI ST65:2013; Std. 5.3.1)

### **2.4.2. Sharps Policy:**

**2.4.2.1. The provider must maintain a written sharps policy that includes, at a minimum:**

**2.4.2.1.1. Appropriate sharps containers must be closable, puncture resistant, leakproof on sides and bottom, and labeled (e.g., using the biohazard symbol) or color-coded;**

**2.4.2.1.2. Sharps containers must be located near soiled textile handling or sorting stations for collection and proper disposal of sharps; and** [OSHA: 29 CFR 1910.1030 (d)(2)(viii)(A-C), (d)(4)(iii)(A)(2)(i); ANSI/AAMI ST65:2013; Std. 5.3.1; CDC HICPAC GL EIC, 2003:II.I-III]

**2.4.2.1.3. Personnel injured by a sharp must follow OSHA's regulations on sharps injury documentation, post-exposure evaluation, and follow-up.** [OSHA: 29 CFR 1910.1030 (f)(3); CDC HICPAC GL IC HCW, 1998: II.E]

### 3. Washing and Extraction

#### 3.1. Equipment

**3.1.1.** Washers, washer/extractors, and/or continuous batch washers shall be used in the processing of healthcare textiles. (ANSI/AAMI ST65:2013; Std. 2.59)

**3.1.2.** The provider shall document equipment requirements and/or modifications in processing healthcare textiles to assure that agreed upon quality standards are consistently met, date them, and revise as needed as equipment needs change.

#### 3.2. Washing

**3.2.1.** The provider shall follow fabric-care instructions and special laundering requirements for items used by the customer, thereby ensuring that washed healthcare textiles become hygienically clean. (CDC HICPAC GL EIC, 2003:II.G.IV.A, C, D)

**3.2.2.** The provider shall sort and process environmental cleaning and disinfection textiles (e.g., cleaning cloths, microfiber cloths, mop heads, etc.) in separate wash loads from healthcare textiles intended for patient use.

**3.2.3.** The provider shall establish the load size (weight) for each textile classification and for each type of equipment used and shall record for each load processed. (ANSI/AAMI ST65:2013; Std. 6.2.2)

**3.2.3.1.** Equipment and textile product manufacturers' recommendations should be consulted when establishing load size. (ANSI/AAMI ST65:2013; Std. 6.2.2)

**3.2.4.** Each classification shall have established parameters to optimize the wash processes:

**3.2.4.1.** Cycle time: Pre-wash, wash, rinse, and final rinse times;

**3.2.4.2.** Water levels/usage: Total water usage and/or water levels;

**3.2.4.3.** Temperature: Wash cycle, bleach cycle, and rinse cycle temperatures; and

**3.2.4.4.** Chemical usage: Chemical types and usage levels for each step in the wash process.

**3.2.5.** The provider must demonstrate that wash processes are in compliance with state and local requirements by including a copy of these requirements in appropriate documentation and referrals to these requirements in policies.

**3.2.6.** If soiled textiles are received from the customer as labeled with hazardous drug contamination (i.e., chemotherapy drugs), the provider shall follow an appropriate textile process that includes:

**3.2.6.1.** Pre-wash of contaminated textiles in a washable laundry bag (e.g., net bag) separate from all other textiles and

**3.2.6.2.** Second wash process with other soiled textiles prior to drying cycle.

### **3.3. Extraction**

**3.3.1.** The provider shall extract and/or dry the clean healthcare textiles in a manner that preserves the integrity of the textiles, minimizes microbial growth after washing, and prepares the textiles for efficient ironing or folding. (ANSI/AAMI ST65:2013; Std. 6.2.3.8)

**3.3.2.** Damp textiles shall not be inappropriately stored (e.g., tightly packed and poorly ventilated [which interferes with drying]), as this may facilitate microbial growth in said textiles. (CDC HICPAC GL EIC, 2003:II. G.II.D)

## **4. Drying**

### **4.1. Equipment**

**4.1.1.** Dryers shall be in good operating condition.

### **4.2. Drying**

**4.2.1.** Drying procedures shall be described, controlled, and monitored for each textile classification to ensure appropriate drying. (ANSI/AAMI ST65:2013; Std. 6.3.1)

**4.2.2.** Hot, dry loads should be subjected to sufficient cool-down to enable personnel to handle the textiles comfortably and to minimize wrinkling. (ANSI/AAMI ST65:2013; Std. 6.3.3.3)

## **5. Finishing**

### **5.1. Ironing Equipment**

**5.1.1.** Ironers shall be maintained in good operating condition, so that they adequately iron, dry, and fold the textiles without excessive heat, pressure, or mechanical damage.

**5.1.2.** The equipment shall maintain a temperature appropriate for the type of fabric being processed and based on the equipment manufacturer's manual and recommendations, if available. (TRSA Healthcare Service Operations Manual, p.14)

**5.1.3.** Documentation of monthly temperatures and preventive maintenance shall be maintained.

## **5.2. Folding and Stacking**

**5.2.1.** Dry folding equipment shall be in good operating condition to properly fold the textiles without damage.

**5.2.2.** The folding and stacking process shall ensure that the textile merchandise is maintained in the same hygienically clean state as was achieved when it emerged from washing.

**5.2.3.** The folding and stacking procedures shall meet the needs and expectations of the customer. (ANSI/AAMI ST65:2008; Std. 8.3.1)

**5.2.4.** If any textiles become soiled in this process, they shall be rewashed in accordance with HLAC Standard Part II Subpart 3 Section 3.2. (ANSI/AAMI ST65:2008; Std. 9.4)

## **5.3. Packaging**

**5.3.1. Healthcare textile packaging must preserve textiles in a hygienically clean state for delivery to the customer.** (CDC HICPAC GL EIC, 2003:II.G.IV.E; ANSI/AAMI ST65:2013; Std. 9.4)

**5.3.2. Textiles must be wrapped into fluid-resistant bundles or placed as unwrapped bundles into fluid-resistant covered carts or hampers.**

**5.3.3.** Wrapping material shall be plastic or other material that will protect the textiles from inadvertent environmental contamination.

**5.3.4.** During packaging, textiles shall be handled as little as possible to prevent soiling or contamination. (ANSI/AAMI ST65:2013; Std. 9.4)

**5.3.5. The wrapping material or the cart must be securely closed during transport to the customer.**

## **5.4. Reprocessing Requirements**

**5.4.1. If any textiles become soiled during any stage of the finishing processing (including packaging), they must be rewashed and reprocessed in accordance with HLAC Standard Part II Subpart 3 Section 3.2.** (ANSI/AAMI ST65:2013; Std. 9.4)

## 6. Storage (FGI 2014 2.1-2.6.11.1)

### 6.1. Rationale

**6.1.1.** The provider's storage strategies and handling methods of healthcare textiles must preserve the textiles in a hygienically clean state for delivery to the customer. (ANSI/AAMI ST65:2013; Std. 9.1; 9.6.1-2; ANSI/AAMI ST79:2010 Std. 8.9.2)

**6.1.2.** Stock inventory of clean finished textiles shall be rotated and used in a first-in/first-out manner. (ANSI/AAMI ST65:2013; Std. 9.6.3; ANSI/AAMI ST79:2010 Std. 8.9.3)

### 6.2. Storage Areas

**6.2.1.** Storage parameters must be consistent with Part I, Subpart 2, Section 2.1, Subsection 2.1.3, Elements 2.1.3.1 – 2.1.3.4.4. of this HLAC Standard.

**6.2.2.** Unwrapped clean textiles shall be stored in designated storage rooms, areas, or carts. (JCHLGL Guidelines for Healthcare Linen Service, 1994; 6.B.3; ANSI/AAMI ST65:2013; Std. 9.6.1-2; ANSI/AAMI ST79:2010 Std. 8.9.2; FGI GL 2014: 2.1-5.2 Linen Services 2.1-5.2.2.1-2, 2.1-5.2.3., 2.1-2.6.11.1)

**6.2.3.** Only clean textiles shall be stored in this area and signage posted as "Textile storage room." (ANSI/AAMI ST65:2013; Std. 9.6.2)

**6.2.4.** Storage area cleanliness:

**6.2.4.1.** A schedule of surface cleaning with a detergent and water, including floor and shelves, shall be in writing.

**6.2.4.2.** Should this storage area require disinfection after cleaning, the provider shall use an EPA registered hospital grade disinfectant according to label instructions per provider's policy. (CDC HICPAC GL EIC, 2003:II.E.I-II; ANSI/AAMI ST79:2010 Std. 3.4)

**6.2.5.** Storage area entry and exit:

**6.2.5.1.** The door to the clean textile storage area shall remain closed at all times, except for entrance or exit. (ANSI/AAMI ST65:2013; Std. 9.6.2)

**6.2.5.2.** Storage rooms shall only be accessible by authorized personnel. (ANSI/AAMI ST65:2013; Std. 9.6.2; ANSI/AAMI ST79:2010 Std. 8.9.2)

### 6.3. Storage Options

**6.3.1.** Bundled and wrapped textiles shall be stored in open racks in the laundry, on the trucks, or at the customer's facility provided the integrity of bundled and wrapped textiles is not compromised. (ANSI/AAMI ST65:2013; Std. 9.6.2; ANSI/AAMI ST79:2010 Std. 8.9.2)

**6.3.2.** If unwrapped textiles are placed into carts or hampers and covered, the container shall remain covered at all times until delivered to the customer's textiles storage room or other designated location in the healthcare facility.

**6.3.3.** If the cart does not have a solid bottom (i.e., drain holes), the bottom must be lined with a hygienically clean barrier that prevents environmental contamination before placing clean textiles inside. (JCHLGL Guidelines for Healthcare Linen Service, 1994; 6.B.3; ANSI/AAMI ST65:2013; Std. 9.6.1-2; ANSI/AAMI ST79:2010 Std. 8.9.2)

### 6.4. Reprocessing Requirements

**6.4.1.** If any textiles become soiled during storage, they must be rewashed and reprocessed in accordance with Part II Subpart 3 Section 3.2. of this HLAC Standard. (ANSI/AAMI ST65:2013; Std. 9.4)

## 7. Delivery of Cleaned Healthcare Textiles

**7.1.** Clean healthcare textiles must be transported, delivered to the customer's storage area, and stored by methods designed to minimize microbial contamination from surface contact or airborne deposition. (JCHLGL Guidelines for Healthcare Linen Service, 1994; 6, 6.B.1-3; FGI GL 2014: 2.1-5.2 Linen Services 2.1-5.2.2.; 2.1-5.2.3.; CDC HICPAC GL EIC, 2003:II.G.IV.E; ANSI/AAMI ST65:2013; Std. 9.5.1)

### 7.2. Delivery methods:

**7.2.1.** Clean textiles shall be transported in containers used exclusively for this purpose and/or including, but not limited to, any of the following methods:

**7.2.1.1.** Clean textiles shall be placed in a hamper lined with a clean liner;

**7.2.1.1.1.** The hamper shall be covered with a clean cover or the liner shall be closed to protect the textiles. (JCHLGL Guidelines for Healthcare Linen Service, 1994; 6.A.1; ANSI/AAMI ST65:2013; Std. 9.5.2; 9.6.1-2)

**7.2.1.2.** Clean textiles shall be placed in a cart, covering it with clean material, and securing the cover. (JCHLGL Guidelines for Healthcare Linen Service, 1994; 6.A.2; ANSI/AAMI ST65:2013; Std. 9.5.2; 9.6.1-2; ANSI/AAMI ST79:2010 Std. 8.10.2)



**7.2.1.2.1.** When the cart contains clean textiles, textiles shall be wrapped inside the cart.

**7.2.1.2.2. If the clean textiles are unwrapped while in the cart, the cart bottom must be lined with a hygienically clean barrier that prevents environmental contamination and be securely covered.** (ANSI/AAMI ST65:2013; Std. 9.5.4.1; ANSI/AAMI ST79:2010 Std. 8.9.2)

**7.2.1.3.** Clean textiles shall be placed on a wire rack and covered with a suitable cover. (JCHLGL Guidelines for Healthcare Linen Service, 1994; 6.A.3; ANSI/AAMI ST65:2013; Std. 9.5.2; 9.6.2; ANSI/AAMI ST79:2010 Std. 8.10.2)

**7.2.2.** Clean textiles shall be wrapped for delivery. (JCHLGL Guidelines for Healthcare Linen Service, 1994; 6.A.4; ANSI/AAMI ST65:2013; Std. 9.6.1-2; ANSI/AAMI ST79: 2010 Std. 8.10.2)

### **7.3. Cart Function and Cleanliness**

**7.3.1.** Carts shall be maintained in good working order with wheels free from strings or other debris that impairs functioning or collects dirt.

**7.3.2.** Cart cleanliness:

**7.3.2.1.** Carts shall be cleaned and disinfected in accordance with Part II Subpart 1 Section 1.4 Element 1.4.3. of this HLAC Standard. (CDC HICPAC GL EIC, 2003:II.E.I-II; ANSI/AAMI ST79:2010 Std. 3.4)

**7.3.2.2.** Carts, containers, reusable cart covers, and liners used for clean textiles shall be properly cleaned and disinfected after the cart is emptied and upon return to the facility. (ANSI/AAMI ST65:2013; Std. 9.5.4.1; ANSI/AAMI ST79:2010 Std. 8.10.2)

**7.3.2.3. Reusable textile cover materials (e.g., liners) must be washed before the next use.** (ANSI/AAMI ST65:2013; Std. 9.5.4.1; ANSI/AAMI ST79:2010 Std. 8.10.2)

**7.3.2.4. If a cart used to transport clean textiles appears soiled, it must be cleaned and disinfected before it is subsequently used.** (ANSI/AAMI ST65:2013; Std. 9.5.4.1; ANSI/AAMI ST79:2010 Std. 8.10.2)

### **7.4. Vehicle Considerations**

**7.4.1.** Functional separation:

**7.4.1.1. Clean and soiled textiles transported in the same vehicle must have proper and effective functional separation maintained at all times.**

**7.4.1.2. Separation must be accomplished by the use of physical barriers and/or space separation sufficient to protect clean textiles from contact with soiled textiles.** (JCHLGL Guidelines for Healthcare Linen Service, 1994; 6.B.1-3; ANSI/AAMI ST65:2013; Std. 9.5.5; ANSI/AAMI ST79:2010 Std. 8.11.5)

**7.4.2. Vehicle cleanliness:**

**7.4.2.1.** The interior of the vehicle's cargo area used to transport healthcare textiles shall be cleaned on a regular basis per provider's policies and procedures and whenever visibly soiled. (ANSI/AAMI ST65:2013; Std. 9.5.5; ANSI/AAMI ST79:2010 Std. 8.11.5)

**7.4.2.2. Should the interior surfaces of the cargo area become contaminated with blood or OPIM, these surfaces must be decontaminated, cleaned with a detergent and water, and disinfected with an EPA registered hospital grade disinfectant labeled as tuberculocidal or selected from EPA Lists D or E (i.e., activity against HBV and HIV) and used according to label instructions.** (CDC HICPAC GL EIC, 2003:II.E.I-II; ANSI/AAMI ST79:2010 Std. 3.4; OSHA Std statement)

**7.4.3. Occupational safety for drivers:**

**7.4.3.1. Hand care:**

**7.4.3.1.1. Vehicles used to transport healthcare textiles must have waterless antibacterial hand cleaner on board for the purpose of hand hygiene.**

**7.4.3.1.2. Drivers must use gloves to minimize contact with soiled textiles and use appropriate hand hygiene after glove removal.**

**7.4.3.2. Vehicles used to transport healthcare textiles must have PPE and Spill Kits on board for the purpose of self protection while cleaning and disinfecting the spill according to the provider's policies and procedures.**

**PART III**  
**SURGICAL PACK ASSEMBLY ROOM STANDARDS**

## 2016 HLAC Accreditation Standards

### Part III. Surgical Pack Assembly Room Standards

**Notes:** Part III addresses facility and process elements that are unique to the presence of surgical pack assembly operations. Please refer to Parts I and II for Standards covering the laundry processes up to the point that textiles designated for surgical packs are moved to the surgical pack assembly room for subsequent management.

These Accreditation Standards **do not include textile sterilization**. Providers who perform sterilization of textiles should refer to **American National Standard Institute (ANSI)/Association for the Advancement of Medical Instrumentation (AAMI) ST65:2013 Processing of Reusable Surgical Textiles for Use in Health Care Facilities** and **ANSI/AAMI ST79:2010, Amendments 1-4 Comprehensive Guide to Steam Sterilization and Sterility Assurance in Health Care Facilities**, applicable U.S. Food and Drug (FDA) and Centers for Disease **Radiological Health (CDRH)** regulations.

#### 1. Physical Facilities of Surgical Pack Assembly Area/Room

**1.1. The size and physical layout of the surgical pack assembly room, its equipment, and engineering support must be adequate for the performance of the job function necessary to properly produce reusable surgical pack textiles.** (ANSI/AAMI ST65:2013; Std. 3.4.1)

#### 1.2. Floors, Walls, Ceilings and Vents

**1.2.1. Floors and walls must be constructed of materials that will withstand scheduled wet cleaning as well as the heat and humidity of the laundry environment.** (ANSI/AAMI ST65:2013; Std. 3.4.3; ANSI/AAMI ST79:2010 Std. 3.3.6, 3.4; FGI GL 2014: 2.1-5.2 Linen Services 2.1-7.2.3., Surfaces 2.1-7.2.3.3-4)

**1.2.2. Ceilings and vents must be constructed of materials that will withstand scheduled cleaning and vacuuming to eliminate lint and other soils associated with laundry processing.** (ANSI/AAMI ST65:2013; Std. 3.3.3, 3.4.3; FGI GL 2014: 2.1-5.2 Linen Services 2.1-7.2.3., Surfaces 2.1-7.2.3.3-4)

**1.2.3. Particulate or fiber-shedding materials must not be used in the construction of the surgical pack assembly room.** (ANSI/AAMI ST65:2013; Std. 3.4.3)

**1.2.4. Ceilings in clean work areas must be flush with recessed, enclosed fixtures.** (ANSI/AAMI ST65:2013; Std. 3.4.3)

### 1.3 Separation of Work Areas

**1.3.1. The surgical pack assembly room must be designed, so that areas in which clean textiles are received, stored, and assembled into packs are separated by a physical barrier from areas in which soiled textiles are received or processed. (ANSI/AAMI ST65:2013; Std. 3.2.3.2)**

### 1.4. Ventilation Requirements for Proper Air Flow and Climate Control

**1.4.1. Heating, ventilation, and air conditioning (HVAC) system must be designed to conform to AIA/FGI standards in effect at the time when the facility was built or renovated. (FGI GL 2014: 2.1-8; ANSI/ASHRAE/ASHE Std. 170-2013: Sec. 6, 7)**

**1.4.2. The HVAC system in the surgical pack assembly room must maintain the appropriate positive air pressure relative to the rest of the facility, preventing intrusion of contamination from the soiled textiles area. (ANSI/AAMI ST65:2013 Std. 3.4.4; FGI GL 2014: ANSI/ASHRAE/ASHE Std. 170-2013: Table 7.1, p. 11)**

**1.4.3. The HVAC system must be a down-draft system for air circulation within the space, and the number of air changes/hour (ACH) (typically 10) must be sufficient to minimize lint particles in the air. (ANSI/AAMI ST65:2013; Std. 3.4.4; FGI GL 2014: ANSI/ASHRAE/ASHE Std. 170-2013: Table 7.1, p. 11)**

**1.4.4. Return air registers (i.e., exhaust ducts) shall be at or near floor level, thereby facilitating the installation and effective maintenance of any filtering systems. (ANSI/AAMI ST65:2013; Std. 3.4.4)**

**1.4.5. Portable fans must not be permitted in the surgical pack assembly room. (ANSI/AAMI ST65:2013; Std. 3.4.4)**

**1.4.6. Supply air for the surgical pack assembly room must be filtered as indicated in the edition AIA/FGI guidelines in effect at the time of construction or renovation of the laundry facility, with the filters undergoing scheduled regular maintenance as determined by the HVAC system engineer. (ANSI/AAMI ST65:2013;Std. 3.4.4)**

**1.4.6.1. For new construction or major renovated laundry facilities' surgical pack assembly room since 2011, filtration must consist of one filter bed with a 7 MERV (minimum efficiency rating value) or 30% filtration efficiency or the FGI Guidelines at the time of the construction, as a minimum. (FGI GL, 2014: ANSI/ASHRAE/ASHE Std. 170-2013; Sec. 6, Table 6-4)**

**1.4.7. Temperatures in the surgical pack assembly room must be maintained between 72° F - 78°F to ensure a comfortable work environment for personnel in appropriate work attire. (ANSI/AAMI ST65:2013; Std. 3.4.5; FGI GL 2014: ANSI/ASHRAE/ASHE Std. 170-2013: Table 7.1, p. 11)**

**1.4.8. Relative humidity (RH) must be maintained between 20% and 60% max in all work areas, except the sterile storage area, where the humidity must not exceed 60%, for personnel comfort and to discourage microbial (e.g., fungal) growth. (ANSI/AAMI ST65:2013; Std. 3.4.5; FGI GL 2014: ANSI/ASHRAE/ASHE Std. 170-2013: Table 7.1, p.11)**

## 1.5. Lighting

**1.5.1. Lighting systems in the surgical pack assembly room must be appropriate for the tasks performed in this area.** (ANSI/AAMI ST65:2013; Std. 3.4.6)

**1.5.2.** High intensity lighting shall be available in that part of the room or area where textiles are examined (i.e., folding, assembly, and repair areas). (ANSI/AAMI ST65:2013; Std. 3.4.6)

**1.5.3.** Lower intensity overhead lighting shall be employed for areas where light illumination (e.g., table, bar, tube, etc.) inspection is performed, so the light illumination equipment can be used optimally. (ANSI/IESNA RP-29; ANSI/AAMI ST65:2013; Std. 3.4.6)

**1.5.4.** Light illumination equipment shall have a switch to turn off/on.

## 1.6. Storage Area for Clean Textile Packs

**1.6.1. The storage area for clean textile packs must be designed and managed in accordance with recommended practices for clean and sterile products.** (21 CFR 820.140 and 21 CFR 820.150; ANSI/AAMI ST65:2013; Std. 3.4.8, 3.4.9, 9.6.1-2; JCHLGL Guidelines for Healthcare Linen Service, 1994; 6.B.3; ANSI/AAMI ST79:2010 Std. 8.9.2; FGI GL 2014: 2.1-5.2 Linen Services 2.1-5.2.2.2, 2.6-5.2.1.2, 4.2-5.2.1, 4.2-5.2.3.2)

**1.6.2. Bulk shipping warehouse cardboard boxes must not be in these surgical pack assembly storage rooms.** (ANSI/AAMI ST79:2010 Std. 5.2.1)

**1.6.3. Storage rooms must be accessible only by authorized personnel.** (ANSI/AAMI ST65:2013; Std. 9.6.2; ANSI/AAMI ST79:2010 Std. 8.9.2)

**1.6.4.** Clean textile pack storage room doors shall remain closed, except for access or exit. (ANSI/AAMI ST65:2013; Std. 9.6.2)

**1.6.5. Environmental conditions in the clean surgical textile pack storage area must include:**

**1.6.5.1. Temperatures must not exceed 78°F to prevent microbial contamination;**

**1.6.5.2. Relative humidity must be less than 60% to inhibit microbial growth;**

**1.6.5.3. The room must be properly ventilated to prevent accumulation of dust and lint (i.e., air change rate of 2 ACH); and**

**1.6.5.4. The room must have positive air pressure relative to adjacent spaces, preventing intrusion of contamination from the soiled textiles areas.** (ANSI/AAMI ST65:2013; Std. 9.6.1; ANSI/AAMI ST79:2010 Std. 3.3.6.4-6; FGI GL 2014: ANSI/ASHRAE/ASHE Std. 170-2013 Table 7.1 p. 11)

**1.6.6. Storage carts must be used in lieu of fixed shelving, if allowed under state licensing.**

**1.6.7. Storage areas must be located within the surgical pack assembly room to facilitate bundling, loading onto trucks, and transportation.**

## **2. Surgical Pack Assembly Room Entry and Admission**

### **2.1. Policies:**

**2.1.1. Criteria for authorized entry and movement within the surgical pack assembly room must be specified in written policies and procedures. (ANSI/AAMI ST65:2013; Std. 3.2.4)**

**2.1.2. Eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses must be prohibited in the surgical pack assembly room. ([OSHA: 29 CFR 1910.1030 (d)(2)(ix)])**

**2.1.3. Traffic in the surgical pack assembly room must be limited to authorized personnel only. (ANSI/AAMI ST65:2013; Std. 3.2.4)**

**2.1.4. Policies and procedures must be developed to address visitor access and the circumstances for access and must establish a dress code to reduce the potential for contamination of surgical textiles. (ANSI/AAMI ST65:2013; Std. 3.2.4)**

### **2.2. Location of Hand Hygiene Stations**

**2.2.1. Personnel must wash their hands before entering and working in the surgical pack assembly room.**

**2.2.2. Handwashing sinks with soap and paper towels must be readily accessible in or near the surgical pack assembly room. (ANSI/AAMI ST65:2013; Std. 3.4.7)**

**2.2.3. Alcohol hand sanitizer also must be made readily available at the entrance and exit of the surgical pack assembly room door. (ANSI/AAMI ST65:2013; Std. 3.4.7)**

## **3. Surgical Textile Assembly Process**

### **3.1. Carts Used to Move Clean Surgical Textiles to the Surgical Pack Assembly Room**

**3.1.1. Carts that are utilized for clean surgical textiles must be cleaned and disinfected in accordance with Part II, Subpart 7, Section 7.3. Element 7.3.2. of this HLAC Standard. (ANSI/AAMI ST65:2013;Std. 9.5.4.1)**

### 3.2. Inspection of Clean Surgical Textiles Prior to Pack Assembly

**3.2.1. Before each reuse, all surgical textile products must be visually inspected against written quality standards between provider and customer(s).** (ANSI/AAMI ST65:2013; Std. 7.2.1)

**3.2.1.1.** These standards shall be jointly developed and applied to the textile functional requirements and attributes as well as end-user requirements. (ANSI/AAMI ST65:2013; Std. 7.2.1)

**3.2.1.2.** Written quality standards shall define the acceptance and rejection criteria for each product type and explain how rejected items should be managed. (ANSI/AAMI ST65:2013; Std. 7.2.1)

**3.2.2. If surgical textile integrity and quality are monitored by the provider, the critical zones of surgical textiles must be visually inspected with the use of light illumination (e.g., table, bar, tube, etc.) for the presence of stains, residue, physical defects, chemical or thermal damage, and foreign debris, and to ensure that appropriate labels are in place and a tracking system is intact.** (ANSI/AAMI ST65:2013; Std. 7.2.1)

**3.2.2.1.** The provider and customer shall agree to a written procedure for reporting, investigating, and returning surgical textile barrier efficacy issues and strike-through occurrences to the textile manufacturer and reporting to the non-COG customer. (ANSI/AAMI ST65:2013; Std. 11.4)

**3.2.2.2. A tracking mechanism suitable for each surgical textile barrier product must be used to track the number of product's uses based on the textile manufacturer's recommendations.** (ANSI/AAMI ST65:2013; Std. 11.5)

#### 3.2.3. Stains:

**3.2.3.1. If, during the inspection process, surgical textiles are determined to be stained, these textiles must be rewashed or retired as appropriate.** (ANSI/AAMI ST65:2013; Std. 7.2.2, 7.4.3)

**3.2.3.2.** Surgical textiles with aesthetic stains that do not adversely affect the functionality of the textile may remain in service unless the end user determines otherwise. (ANSI/AAMI ST65:2013; Std. 7.2.2)

**3.2.3.3. Stained surgical textiles must be retired if rewashing cannot successfully remove unacceptable stains or residues (e.g., medicines, lubricants, adhesives, blood and/or body fluids, hard-surfaced or foreign matter of unknown composition, and raised or tactile residues).** (ANSI/AAMI ST65:2013; Std. 7.2.2)

#### 3.2.4. Physical defects:

**3.2.4.1. Physical defects (i.e., loose threads, loose or missing ties/attachments, damaged/missing snaps, cuts, tears, and holes) must be repaired as appropriate with patching and mending before the textile is reused in accordance with Part III Subpart 3 Section 3.3 of this HLC Standard.** (ANSI/AAMI ST65:2013; Std. 7.2.3)

#### 3.2.5. Chemical or thermal damage:



**3.2.5.1. Surgical textiles must be inspected for evidence of chemical and/or thermal damages (usually apparent as discoloration, stiffening, or compromised structural integrity holes).** (ANSI/AAMI ST65:2013; Std. 7.2.4)

**3.2.5.2. Surgical textiles with chemical and/or thermal damage that adversely impacts the important functional attributes of the textile must be retired or removed from service.** (ANSI/AAMI ST65:2013; Std. 7.2.4)

### **3.2.6. Foreign debris**

**3.2.6.1. Surgical textiles must be free of foreign debris (e.g., lint, hair, loose fibers, fibrous pills, other particulates) prior to assembly into packs.** (ANSI/AAMI ST65:2013; Std. 7.2.5)

**3.2.6.2. Foreign debris must be removed with an appropriate method (e.g., a delinting roller or sticky tape) as approved by the textile manufacturer.** (ANSI/AAMI ST65:2013; Std. 7.2.5)

**3.2.6.3. Work practices must be implemented to keep surgical textiles free from foreign debris. Such practices include, at a minimum, the following:**

**3.2.6.3.1. Dress code suitable for the inspection area of the surgical pack assembly room, consisting of dedicated uniforms or other suitable outerwear, hair covering, and beard covers as appropriate;**

**3.2.6.3.2. Handwashing procedures;**

**3.2.6.3.3. Housekeeping procedures to minimize dust and lint; and**

**3.2.6.3.4. Facility maintenance (e.g., keeping dryer lint screens clean).** (ANSI/AAMI ST65:2013; Std. 7.2.5)

### **3.2.7. Labeling:**

**3.2.7.1. New surgical textiles shall be inspected for appropriate labels and accompanying manufacturer's instructions.** (ANSI/AAMI ST65:2013; Std. 7.2.6)

**3.2.7.2. Labels shall contain information as manufacturer, product type, and lot code numbers.** (ANSI/AAMI ST65:2013; Std. 7.2.6)

**3.2.7.3. Labels with lot code information must remain intact throughout the effective life of the textile.** (ANSI/AAMI ST65:2013; Std. 7.2.6)

**3.2.7.4. Surgical textiles that are labeled as in compliance with ANSI/AAMI PB70 must be labeled with their barrier classification.** (ANSI/AAMI PB70; ANSI/AAMI ST65:2013; Std. 7.2.6, 7.3.4.2)

### **3.2.8. Tracking System**

**3.2.8.1. If a tracking mechanism (e.g., radio frequency identification [RFID], grid, bar code) is present on a surgical textile, this must be visually inspected, marked, scanned, or read each time the product is processed. (ANSI/AAMI ST65:2013; Std. 7.2.7)**

**3.2.8.2. If the integrity of the tracking mechanism is in question, the textile must be pulled from service or an alternate method of tracking must be used until the tracking problem is resolved. (ANSI/AAMI ST65:2013; Std. 7.2.7)**

### **3.2.9. Effective Life of Surgical Textiles**

**3.2.9.1. Methods must be designed and in place to the number of uses/washes for surgical textile barrier products. (ANSI/AAMI ST65:2013; Std. 7.3.3)**

**3.2.9.2. Textile manufacturers must be consulted for directions on evaluating the critical performance attributes of their textile products, to include barrier properties (e.g., repellent finish, deterioration of coatings or film), absorbency, strength, drapeability, physical defects, and signs of textile aging. (ANSI/AAMI ST65:2013; Std. 7.3.3)**

## **3.3. Maintenance of Surgical Textiles**

### **3.3.1. Patching and Mending**

**3.3.1.1. Sewing and use of patches shall be acceptable for repairs in non-critical zones of surgical textiles. (ANSI/AAMI ST65:2013; Std. 7.4.1-2)**

**3.3.1.2. Physical defects within the critical zones of the various surgical textiles must be repaired, following manufacturer's guidelines. (ANSI/AAMI ST65:2013; Std. 7.2.3)**

**3.3.1.2.1. Heat-sealed patches must be used to repair physical defects present in the critical zones of surgical textiles. Attributes of these patches must include: (ANSI/AAMI ST65:2013; Std. 7.4.1)**

**3.3.1.2.1.1. Meeting the same general medical device safety and effectiveness requirements as the textile being repaired,**

**3.3.1.2.1.2. Being applied per manufacturer's instructions,**

**3.3.1.2.1.3. Providing at least the same performance characteristics, including level of barrier performance as the textile being repaired,**

**3.3.1.2.1.4. Providing at least the same life expectancy as the textile being repaired, and**

**3.3.1.2.1.5. Allowing for effective sterilization.** (ANSI/AAMI ST65:2013; Std. 7.4.1)

**3.3.1.2.2. Patches must not be sewn to the textile.** (ANSI/AAMI ST65:2013; Std. 7.4.1)

**3.3.1.2.3.** Patches may need to be applied on one or both sides of a textile, depending on the textile's design and according to the textile manufacturer's instructions. (ANSI/AAMI ST65:2013; Std. 7.4.1)

**3.3.1.2.4. Use of sewing is discouraged for repairs in textiles' critical zones; but if sewing is indicated for a successful repair, heat-sealed patches must be used to seal the needle holes.** (ANSI/AAMI ST65:2013; Std. 7.4.2)

**3.3.1.3. Loose patches must be removed and new patches applied.** (ANSI/AAMI ST65:2013; Std. 7.4.1)

**3.3.1.4. Acceptable number, location, shape, and size of patches must be clearly delineated in written quality standards and repair procedures.** (ANSI/AAMI ST65:2013; Std. 7.4.1)

**3.3.1.5. If patching and/or mending is performed, the textiles must be rewashed.** (ANSI/AAMI ST65:2013; Std. 7.4.3)

### **3.3.2. Rewashing surgical textiles**

**3.3.2.1. If a reusable surgical textile requires rewashing, the procedure used must be compatible with the product.** (ANSI/AAMI ST65:2013; Std. 7.4.3)

**3.3.2.2. Each rewash cycle must be counted as an additional life cycle for the item.** (ANSI/AAMI ST65:2013; Std. 7.4.3)

### **3.3.3. Rejuvenation of surgical textiles**

**3.3.3.1. If reusable surgical textile products require rejuvenation or a laundry additive is used to maintain repellency, the process must be compatible with the textile product.** (ANSI/AAMI ST65:2013; Std. 7.4.4)

**3.3.3.2. Additives that maintain surgical textile performance characteristics (e.g., repellency) must be used according to product instructions.** (ANSI/AAMI ST65:2013; Std. 7.4.4)

**3.3.3.3. Rejuvenation cycles must be counted as additional life cycles.** (ANSI/AAMI ST65:2013; Std. 7.4.4)

### **3.3.4. Surgical textile retirement or alternate use:**

**3.3.4.1. When reusable surgical textile products fail to meet their minimum functional performance criteria, they must be retired from use, downgraded to a less stringent alternate use**

category (e.g., cover gowns), or remade into a different product (e.g., a smaller wrapper). (ANSI/AAMI ST65:2013; Std. 7.4.5)

**3.3.4.2.** Products placed into alternate use or remade into different products shall continue to be safe and effective for their intended use. (ANSI/AAMI ST65:2013; Std. 7.4.5)

**3.3.4.3.** Items placed into alternate use must be permanently marked in some obvious fashion to prevent mix-ups or inappropriate use. (ANSI/AAMI ST65:2013; Std. 7.4.5)

## **4. Preparation and Wrapping of Surgical Textiles**

### **4.1. Preparation**

**4.1.1.** Policies and procedures must be in place to ensure that reusable surgical textiles are laundered, dried, folded, and packed in a manner that will permit sterilization and delivered to the customer via a means such that the textiles maintain their hygienic integrity, avoiding contamination. (ANSI/AAMI ST65:2013; Std. 11.3)

**4.1.2.** Preparation, folding, and packing procedures for reusable surgical textiles shall be developed with consultation from the customer and documented. (ANSI/AAMI ST65:2013; Std. 8.2)

### **4.2. Folding**

**4.2.1.** Reusable surgical textiles shall be folded and packaged properly and consistently each time they are processed in accordance with customer's requirements. (ANSI/AAMI ST65:2013; Std. 8.2)

**4.2.2.** Standards must be in place to identify the specific folds, components, and other details for each surgical pack built by the laundry. (ANSI/AAMI ST65:2013; Std. 8.2, 8.3.1)

**4.2.3.** The following elements must be taken into account regarding the folding of clean, reusable surgical textiles: (ANSI/AAMI ST65:2013; Std. 8.3.1)

**4.2.3.1.** Following inspection, all items must be folded in a manner that will allow them to be aseptically donned and/or presented to the sterile field with as little manipulation and chance of contamination as possible. (ANSI/AAMI ST65:2013; Std. 8.3.1)

**4.2.3.2.** The method of folding must allow for effective penetration of the steam from the autoclave into the pack. (ANSI/AAMI ST65:2013; Std. 8.3.1)

**4.2.3.3.** The method of folding must allow for easy identification and orientation of the items. (ANSI/AAMI ST65:2013; Std. 8.3.1)

**4.2.4. Clean reusable surgical textiles must be handled with clean hands in a manner to maintain their hygienic quality in accordance with Part I Subpart 5 Section 5.3 Element 5.3.3.3 of this HLAC Standard.** (ANSI/AAMI ST65:2013; Std. 4.4, 9.2)

**4.2.5.** Procedures for folding surgical textiles shall be reviewed as needed to ensure that they are still applicable with the customer. (ANSI/AAMI ST65:2013; Std. 8.3.1, 9.2)

**4.2.5.1.** ANSI/AAMI ST65:2013 should be consulted for basic correct folding procedures in addition to customer's requests and preferences. (ANSI/AAMI ST65:2013; Std. 8.3.1)

**4.2.5.2.** Folding specifications shall be provided by and/or approved by the customer for whom the surgical packs are being built. (ANSI/AAMI ST65:2013; Std. 8.3.1)

**4.2.5.3.** These specifications shall be documented, using photographs or drawings or other visual media with accompanying instruction notations, and a photograph or drawing of the finished products shall be included. (ANSI/AAMI ST65:2013; Annex A: Examples of Folding Procedures)

**4.2.5.4.** These photographs and/or drawings specifications shall be maintained in the surgical pack assembly room.

### **4.3. Surgical Textile Pack Assembly**

**4.3.1. Pack order, from top to bottom, must be developed in consultation with the customer to ensure that items can be removed from the pack, in the order of their use, without compromising the sterile field.** (ANSI/AAMI ST65:2013; Std. 8.4)

**4.3.2. After the order of the pack is agreed upon, the pack configuration must be documented (i.e., pack master list and/or a device master record [DMR]).** (ANSI/AAMI ST65:2013; Std. 8.4)

**4.3.3.** The contents and order of each pack configuration shall be reviewed by the manager, who is responsible for pack assembly to ensure that the pack meets all appropriate requirements; documentation for each pack configuration shall be reviewed on a regular basis by the surgical pack assembly room manager with the customer. (ANSI/AAMI ST65:2013; Std. 8.4)

### **4.4. Wrapping and Packaging**

**4.4.1. The barrier product used to complete the pack and provide adequate coverage of the contents must be appropriate for the method of sterilization (i.e., permits maximum penetration of the sterilant during sterilization) and must maintain the content's sterility until aseptic presentation.** (ANSI/AAMI ST65:2013; Std. 8.5)

**4.4.2.** The customer shall be consulted in the choice of appropriate barrier product.

**4.4.3. The type of barrier used must be documented in the procedure (i.e., pack master list and/or a DMR). (ANSI/AAMI ST65:2013; Std. 8.5)**

**4.4.4. The finished pack and bulk loose textiles must be packaged in a suitable material (e.g., placed in covered carts or wrapped in plastic) to avoid contamination during transport to the customer.**

#### **4.5. Labeling and Identification of Packs**

**4.5.1. Prior to delivery, assembled packs must have a label that includes the following items of information:**

**4.5.1.1. Identification (e.g., name, Julian date, and unique pack identifier)**

**4.5.1.2. Pack contents, including identifying any items containing natural rubber latex**

**4.5.1.3. Identification or identifying barcode of who and date assembled the pack.**

**(ANSI/AAMI ST65:2013; Std. 8.6)**

### **5. Storage and Transportation of Surgical Textile Packs**

#### **5.1. Storage of Surgical Textile Packs**

**5.1.1. Storage of Surgical Textile Packs must comply with Part I Subpart 2 Section 2.1. Element 2.1.3. and Part III Subpart 1 Section 1.6. of this HLAC Standard for statements addressing storage of clean surgical textile packs.**

#### **5.2. Transportation of Surgical Textile Packs**

**5.2.1. Transportation of surgical textile packs must be in accordance with Part II Subpart 7 of this HLAC Standard.**

**5.2.2. Transport of the surgical textile packs within the provider's facility or to the customer must be accomplished in a manner to maintain the hygienic quality of the packs and to minimize microbial contamination from surfaces or the air. (ANSI/AAMI ST65:2013; Std. 9.5.1)**

**5.2.3. Clean carts or containers must be used for transport of clean surgical textile packs. (ANSI/AAMI ST65:2013; Std. 9.5.2) Refer to HLAC Standard Part II Subpart 7 Section 7.3.**

**5.2.4. Carts or containers used for soiled surgical textiles must not be permitted in the surgical pack assembly room.**

**5.2.5. Characteristics of carts or containers suitable for transporting clean surgical textile packs must be in accordance to Part II Subpart 7 Sections 7.1. and 7.3. of this HLAC Standard.**

**5.2.6. Loading methods must be developed to ensure products are appropriately segregated and labeled to avoid contamination. (ANSI/AAMI ST65:2013; Std. 9.5.4.2)**

## **6. Surgical Textile Pack Assembly Room Personnel**

### **6.1. Qualifications**

**6.1.1. General elements related to personnel qualifications shall be in accordance with Part I Subpart 5 Section 5.1. of this HLAC Standard.**

**6.1.2. Surgical pack assembly room procedures must be performed correctly and supervised by knowledgeable personnel. (ANSI/AAMI ST65:2013; Std. 4.1) Refer to HLAC Standard Part I Subpart 5 Section 5.2.**

### **6.2. Training and Competency**

**6.2.1. General elements of personnel training must be in accordance with Part I Subpart 5 Sections 5.2. and 5.6. of this HLAC Standard.**

**6.2.2. Personnel must be trained on the appropriate pack processes according to each pack's use requirements. (ANSI/AAMI ST65:2013; Std. 4.3)**

**6.2.3. Personnel must be trained to operate surgical pack assembly room equipment safely and to recognize and report equipment malfunctions. (ANSI/AAMI ST65:2013; Std. 4.3)**

**6.2.4. Personnel must be trained to work with reusable surgical textiles and to be familiar with the following items:**

**6.2.4.1. Characteristics inherent to reusable surgical textiles;**

**6.2.4.2. Uses of those textiles;**

**6.2.4.3. Processes required to maintain those qualities, such as folding and preparations of the surgical packs; and**

**6.2.4.4. Infection prevention relevant to the preparation of surgical textiles. (ANSI/AAMI ST65:2013; Std. 4.3.a-e)**

### 6.3. Health and Personal Hygiene

**6.3.1. Additional health and hygiene specifics must be in accordance with HLAC Standard Part I Subpart 5 Section 5.3.**

**6.3.2. Fingernails must be kept short, clean, natural, and healthy.** (2014 AORN RP on Surgical Attire; ANSI/AAMI ST65:2013; Std. 4.4)

**6.3.2.1. Surgical pack assembly room personnel must not wear nail polish, artificial nails, or artificial eyelashes.** (2014 AORN RP on Surgical Attire; ANSI/AAMI ST65:2013; Std. 4.4)

**6.3.3. Jewelry of any kind must not be worn in the surgical pack assembly room.** (2014 AORN RP on Surgical Attire; ANSI/AAMI ST65:2013; Std. 4.4)

**6.3.4. Healthy skin integrity absent of abrasions, dermatitis or other skin breakdowns must be maintained.** (2014 AORN RP Hand Hygiene; CDC HICPAC GL HH 5.A)

### 6.4. Attire and Personal Protective Equipment (PPE)

**6.4.1. The basic elements pertaining to personnel attire must be in accordance with Part I Subpart 5 Section 5.4. of this HLAC Standard as appropriate.** (ANSI/AAMI ST 65:2013; Std. 4.5.1)

**6.4.2. Personnel attire in the surgical pack assembly room must protect personnel and the integrity of the textile product.** (ANSI/AAMI ST65:2013, Std. 4.5.1)

**6.4.2.1. All head and facial hair (excluding eyebrows and eyelashes) must be completely covered with a surgical-type hair covering.** (ANSI/AAMI ST65:2013; Std. 4.5.1)

**6.4.2.2. Dedicated surgical pack assembly room attire laundered by the facility must be covered or changed upon leaving or entering the surgical pack assembly room in accordance with provider's policy.**

**6.4.2.2.1. When leaving the surgical pack assembly room, dedicated pack room personnel first must don the appropriate protective cover (e.g., cover gowns, shoe covers, hair covering, etc.) over their surgical pack assembly room attire and then must remove the appropriate protective cover (e.g., cover gowns, shoe covers, hair covering, etc.) that was over their surgical pack assembly room attire before re-entering the surgical pack assembly room in accordance with written facility policy.** (AORN 2014 RP on Surgical Attire)

**6.4.2.3. Dedicated shoes and/or disposable shoe covers must be worn in the surgical pack assembly room.**



# APPENDIX

## 2016 HLAC Accreditation Standards

### Appendix

#### Appendix A: Glossary and Terminology

**Artificial nails** – Substances or devices applied or added to the natural nails to augment or enhance the wearer’s own nails. They include, but are not limited to, bonding, tips, wrappings, and tapes. (AORN 2014 RP on Surgical Attire)

**Barrier properties** – The ability of a material to resist the penetration of liquids (e.g., irrigating fluids, blood, and OPIM). (ANSI/AAMI ST65:2013)

**Biohazard** – An infectious agent or hazardous biological material that presents a risk to the health of humans or the environment. Biohazards include tissue, blood or body fluids, and materials such as needles or other equipment contaminated with these infectious agents or hazardous biological materials.

**Cleaning** – A process that uses a cleaning agent and physical action, such as scrubbing or wiping, to remove visible soil, organic matter, and bioburden from a surface or object and in doing so renders the surface or object safe to handle. The cleaning agent may be a wet or dry chemical. The specifics of a cleaning process are dictated by factors associated with the item to be cleaned, namely chemical compatibility, location, wetness tolerance, surface topography and complexity.

**Clean textile storage area** – An area where clean textiles are stored prior to delivery. (ANSI/AAMI ST65:2013)

**Conditioning/drying area** – An area where, after extraction, textiles are either conditioned (partly dried) or fully dried in a dryer or tumbler. (ANSI/AAMI ST65:2013)

**Critical zone** – An area of protective apparel or surgical drape where direct contact with blood, body fluids, and OPIM is most likely to occur. (ANSI/AAMI ST65:2013)

**Contaminated laundry** – According to Occupational Safety and Health Administration (OSHA), laundry that has been soiled with blood or other potentially infectious materials or that may contain sharps. (OSHA 29 CFR 1910.1030)

**Decontamination** – The use of physical or chemical means to remove, inactivate, or destroy pathogens, including bloodborne pathogens, on a surface or item to the point where any remaining pathogens are no longer capable of transmitting infection and the surface or item is rendered safe for handling, use, or disposal. (Modified from OSHA 29 CFR 1910.1030)

**Device master record (DMR)** – According to the Food and Drug Administration (FDA), a compilation of records that contain the procedures and specifications for a finishing device. [21 CFR 820.3(j)]

**Extraction area** – An area where excess water is removed from textiles after laundering, but before conditioning or drying. (ANSI/AAMI ST65:2013)

**Folding area** – An area where textiles are folded. (ANSI/AAMI ST65:2013)

**Foreign object** – Objects or items considered as non-textile items (e.g., instruments, disposable devices, sharps, personal patient information, etc.) that may potentially harm people and laundry equipment if left among the textiles.

**Functional separation/barrier** – An activity or structure that separates one movement, action, or space from another. Examples include structures (e.g., walls, partitions, carts) and ventilation parameters (e.g., airflow directions and pressure). Functional separation achieved through ventilation usually employs negative air pressure to prevent potential pathogens from spreading to other areas in the facility.

**General work clothes** – Uniforms, pants, shirts, and/or blouses not intended to function as protection against a hazard are not considered to be personal protective equipment (PPE). (Modified from OSHA 29 CFR 1910.1030)

**Hazardous drugs/substances** – A pharmaceutical, chemical, or radiological agent that presents a risk of exposure, associated injury or illness, or other mishap to humans or the environment; if not prevented, minimized, controlled, confined, and/or handled according to safety precautions. Any drug identified by at least one of the following six criteria: carcinogenicity, teratogenicity or developmental toxicity, reproductive toxicity in humans, organ toxicity at low doses in humans or animals, genotoxicity, or new drugs that mimic existing hazardous drugs in structure or toxicity. (Modified NIOSH Publication 2014-138)

**Hygienically clean** – A clean state, free of pathogens in sufficient numbers to minimize risk of infection. Hygienically clean laundry carries negligible risk to healthcare workers and patients, provided that the clean textiles are not inadvertently contaminated before use. (Modified from ANSI/AAMI ST65:2013; CDC EIC guideline 2003: Part I. G. Laundry and Bedding and 2. Epidemiology and General Aspects of Infection Control)

**Ironing area** – An area where textiles that require ironing are processed through a flatwork ironer. (ANSI/AAMI ST65:2013)

**Material safety data sheet (MSDS)** – see Safety Data Sheets (SDS).

**Needle holes** – Structural breaches that allow strike-through of fluids to occur during the textile's use in surgery.

**Negative air pressure** – Directed air flow such that air flows into a room or space from a corridor or adjacent area. In a laundry facility, soiled textile sorting areas are under negative air pressure to ensure that pathogens do not spread to other areas of the facility. When a room is under negative air pressure, air flows from a clean space into the room and typically is exhausted to a diluted stable location (e.g., outside ambient air atmosphere beyond the building walls).

**Non-critical zone** – An area of a surgical gown or drape where direct contact with blood, body fluids, and OPIM is not likely to occur. (ANSI/AAMI ST65:2013)

**Other Potentially Infectious Material (OPIM)** – The following human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids; any unfixed tissue or organ (other than intact skin) from a human (living and dead); and HIV-containing cell or tissue cultures, organ cultures, and HIV- or HBV- containing culture medium or other solutions; and blood, organs, or other tissues from experimental animals infected with HIV and HBV. (OSHA 29 CFR 1910.1030)

**Particulate or fiber-shedding materials** – Porous, disintegrating construction materials that release minute separate particles, which may become airborne and/or fall on lower surfaces or substances; threadlike substance or structure, natural or artificial filament, or element that gives texture capable of becoming separated and dispersed in the air or upon surfaces (Dictionary)

**Patching/mending area** – An area where textile repairing, patching, and mending operations are performed. **NOTE:** If patching/mending is performed in the laundry area, the textiles should be rewashed before being moved to the surgical pack assembly area. (ANSI/AAMI ST65:2013)

**Pharmaceutical Waste** – A therapeutic drug or drug residue identified by the state health department or state environmental agency as requiring special handling, treatment, and disposal when said drug or drug residue is discarded as waste.

**Physical barrier** – A visible construction (e.g., floor to ceiling wall, plastic curtain, or other material) separating one area from another area.

**Physical environment** – Surfaces in the construction of the room and/or building, such as floors, walls, ceilings, working surfaces, installed equipment, and vents.

**Positive air pressure** – Directed air flow such that air flows out of a room or space from a corridor or adjacent area. In a laundry facility, clean textile processing areas are under positive air pressure to ensure that pathogens do not spread to those areas of the facility. When a room is under positive air pressure, air flows from a clean space out into an adjacent space.

**Processed** – Items that have been laundered, cleaned, disinfected, or sterilized as appropriate for safe use in an intended activity.

**Receiving area** – An area where soiled textiles are received in hampers or bags typically contained within carts, waiting soil sorting. (ANSI/AAMI ST65:2013)

**Reusable surgical textile** – A drape, gown, towel, or sterilization wrapper that is intended to be used in surgery or assist in preparing the surgical team for surgery, that is made from a fabric (usually woven or knitted) or a fabric/film laminate, and that is intended to be used more than once, with appropriate cleaning, decontamination, and sterilization between uses. (ANSI/AAMI ST65:2013)

**Safety Data Sheets (SDS)** – Formerly **Material Safety Data Sheets (MSDS)**, these standardized format sheets contain summaries provided by the manufacturer to describe the chemical properties and hazards of specific chemicals and ways in which employees can protect themselves from exposure to these chemicals in the workplace. **Mandatory training of employees is required by 1 December 2013.** (OSHA. 29 CFR 1910.1200 OSHA Hazard communication standard. Appendix D, 2012)

**Soil sort area** – An area where soiled textiles are sorted usually by textile category and sometimes by degree of soiling or color. (ANSI/AAMI ST65:2013)

**Staging** – A process for preparing the textiles for delivery and having them wrapped and ready for transport.

**Standard Precautions** – The Centers for Disease Control and Prevention (CDC) term for an isolation category that incorporates Universal Precautions and Body Substance Precautions include a group of infection prevention practices that apply to ALL patients regardless of suspected or confirmed infection status in any setting where health care is delivered.

**Sterile field** – An area created with sterile draping materials where sterile technique is required (e.g., around a surgical site, on a back table, or on a gowning table). (ANSI/AAMI ST65:2013)

**Sterile pack bagging area** – An area where sterile packs are placed in dust covers, if used.

**NOTE:** HLAC Standards do not address this area nor inspect this area; provided for definition and clarification purposes only. (ANSI/AAMI ST65:2013)

**Sterile storage area** – An area where sterile surgical packs are stored prior to delivery to the user.

**NOTE:** HLAC Standards do not address this area nor inspect this area; provided for definition and clarification purposes only. (ANSI/AAMI ST65:2013)

**Sterilization area** – An area where steam sterilizers are located, including the space for loading, queuing carts, cool-down, and unloading carts.

**NOTE:** HLAC Standards do not address this area nor inspect this area; provided for definition and clarification purposes only. (ANSI/AAMI ST65:2013)

**Sterilization quarantine area** – An area where sterilized surgical packs are stationed, awaiting product release.

**NOTE:** HLAC Standards do not address this area nor inspect this area; provided for definition and clarification purposes only. (ANSI/AAMI ST65:2013)

**Sterilization wrap** – According to FDA, a device intended to be used to enclose another medical device that is to be sterilized by a health care provider. It is intended to allow sterilization of the enclosed medical device and also to maintain sterility of the enclosed device until used. (21 CFR 880.6850)

**Storage** – An area where items are stored for distribution to another area for specific activity (i.e., decontamination, cleaning, disinfection, sterilization, item for use).

**Strike-through** – Passage of a liquid that could contain microorganisms through a barrier product, including its seams and/or points of attachment. (ANSI/AAMI ST65:2013)

**Surgical pack assembly area or pack room** – An area where clean surgical textiles are received, stored, inspected, mended and folded into finished components in preparation for assembly into surgical packs. (ANSI/AAMI ST65:2013)

**Textile barrier testing area** – An area where clean surgical textiles are evaluated for barrier properties and quality.

**NOTE:** This area might be part of the surgical pack assembly area. (ANSI/AAMI ST65:2013)

**Textile inventory storage area** – An area where newly purchased textiles are received and held prior to processing and placement into the circulating inventory. (ANSI/AAMI ST65:2013)

**Universal Precautions** – A CDC term that means healthcare workers consider ALL patients as potentially infected with HIV and/or other bloodborne pathogens and to adhere rigorously to infection control precautions for minimizing the risk of exposure to blood and body fluids of all patients. Enhance the definition for application to laundry industry. As defined by OSHA and more applicable to laundry industry, Universal Precautions is an approach to infection control where all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, and other blood borne pathogens. (Modified OSHA 29 CFR 1910.1030)

**Unwrapped** – An item has been decontaminated, cleaned, inspected, assembled for use, placed in an appropriate container for sterilization in an autoclave, or ready for distribution.

**Washing (processing) area** – An area where soiled textiles are washed and in which such equipment as washers, extractors, washer-extractors, continuous-batch washers, and/or continuous processing systems are located; also known as wash floor. (ANSI/AAMI ST65:2013)

## Appendix B: Abbreviations

**AAMI** – Association for the Advancement of Medical Instrumentation

**ACH** – Air Changes per Hour

**AHE** – Association for the Healthcare Environment

**AHJ** – Authorities Having Jurisdiction

**ANSI** – American National Standards Institute

**AORN** – Association of periOperative Registered Nurses

**APIC** – Association for Professionals in Infection Control and Epidemiology

**ARTA** – American Reusable Textiles Association

**ASHRAE** – American Society for Heating, Refrigeration, and Air Conditioning Engineers

**BBP** – Bloodborne Pathogens

**CDC** – U.S. Centers for Disease Control and Prevention

**CFR** – Code of Federal Regulations

**CMS** – Centers for Medicare and Medicaid Services

**COG** – Customer Owned Goods

**DHHS** – U.S. Department of Health and Human Services

**DHS** – U.S. Department of Homeland Security

**DOT** – U.S. Department of Transportation

**ECP** – Exposure Control Plan

**EDP** – Exposure Determination Plan

**EPA** – U.S. Environmental Protection Agency

**F** – Fahrenheit

**FDA** – U.S. Food and Drug Administration

**FGI** – Facilities Guidelines Institute

**GL** – Guidelines

**GL EIC** – CDC/HICPAC Guidelines for Environmental Infection Control in Health-Care Facilities

**HICPAC** – Healthcare Infection Control Practices Advisory Committee

**HLAC** – Healthcare Laundry Accreditation Council

**IAHTM** - *International Association for Healthcare Textile Management*

**IC HCP** – Infection Control for Health-Care Personnel

**IPM** – Integrated Pest Management

**JCHLGL** – Joint Committee for Healthcare Laundry Guidelines

**NFPA** – National Fire Protection Association

**NHTSA** – U.S. Department of Transportation, National Highway Traffic Safety Administration

**NIOSH** – National Institute for Occupational Safety and Health

**NR** – No Requirement

**OPIM** – Other Potentially Infectious Material

**OPL** – On-Premise Laundry

**OSHA** – U.S. Department of Labor, Occupational Safety and Health Administration

**PPE** – Personal Protective Equipment

**PUB** – Publication

**SDS** – Safety Data Sheet(s)

**Std.** – Standard

**TRSA** – Textile Rental Services Association of America

**USC** – United States Code



**Appendix C: Design Ventilation Parameters for Healthcare Laundry Areas**

Laundry Area	Air Flow Direction	Exhaust to Outside?	Minimum Total ACH*	Minimum # ACH of Outdoor Air	Use of Recirculated Air	Temp <sup>o</sup>	Relative Humidity
Linen and Trash Room Chute	Negative	Yes	10	NR <sup>^</sup>	No	NR	NR
Soiled Linen Sorting and Storage	Negative	Yes	10	NR	No	NR	NR
Laundry	Negative	Yes	10	2	No	NR	NR
Clean Linen Storage	Positive	NR	2	NR	NR	72° - 78° F	NR

**Source:** Ventilation of Health Care Facilities. ANSI/ASHRAE/ASHE Standard 170-2013 Table 7.1, p. 11 in FGI 2014.

\* ACH = Air Changes per Hour

<sup>^</sup> NR = No Requirement

**Appendix D: Code of Federal Regulations Text for FDA Device Handling and Storage**

21 CFR Food & Drugs, Chapter 1: Food & Drug Administration, Department of Health and Human Services  
Subchapter H: Medical Devices. Part 820: Quality System Regulation.  
Subpart L: Handling, Storage, Distribution, and Installation

21 CFR 820 §820.140 Handling

Each manufacturer shall establish and maintain procedures to ensure that mixups, damage, deterioration, contamination, or other adverse effects to product do not occur during handling.

21 CFR 820 §820.150 Storage

- (a) Each manufacturer shall establish and maintain procedures for the control of storage areas and stock rooms for product to prevent mixups, damage, deterioration, contamination, or other adverse effects pending use or distribution and to ensure that no obsolete, rejected, or deteriorated product is used or distributed. When the quality of product deteriorates over time, it shall be stored in a manner to facilitate proper stock rotation, and its condition shall be assessed as appropriate.
- (b) Each manufacturer shall establish and maintain procedures that describe the methods for authorizing receipt from and dispatch to storage areas and stock rooms.

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## Appendix F: Acknowledgments

On behalf of the HLAC Standards Committee, we are very appreciative of all persons who constructively critiqued the proposed versions of the DRAFT 2015 HLAC Accreditation Standards. All of the comments from the public comment period, HLAC Advisory Committee, HLAC Inspection Committee, External Reviewers, HLAC Executive Committee, and HLAC Board of Directors were reviewed, discussed, and incorporated as appropriate, some with modifications. These approved 2015 HLAC Accreditation Standards are the result of all contributions from diverse perspectives and relationships with the laundry processing activities surrounding reusable healthcare textiles. We believe the Standards provide a means to deliver the highest quality hygienic clean textiles to end-users, namely the healthcare personnel and ultimately the patient.

## Appendix G: HLAC Board of Directors for 2012 - 2014

The HLAC Board consists of four (4) classes of Directors:

**Class 1** consists of four (4) Directors, representing textile maintenance companies (i.e., these are owners and/or operators of non-cooperative or in-house laundries) engaged in healthcare textile processing.

**Class 2** consists of four (4) Directors, representing associations interested in healthcare textile processing and support the purpose of the Council.

**Class 3** consists of two (2) Directors, representing healthcare textile maintenance cooperatives (i.e., laundries owned by several healthcare facilities) and/or in-house (laundry) textile maintenance facilities for healthcare institutions.

**Class 4** consists of two (2) Directors, representing government agencies (i.e., works or has worked within the last five years for government as an employee and is familiar with writing, using, and complying with mandates and guidance) and/or is an Infection Control Professional (i.e., works or has worked within the last five years for a hospital or healthcare organization and who understands and applies standards in their career or job).

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