



STANDARD FOR PRODUCING HYGIENICALLY CLEAN REUSABLE TEXTILES FOR USE IN THE FOOD AND BEVERAGE INDUSTRY (NAPERY)

05/05/2016

1. Scope

- 1.1. The purpose of this standard is to develop quality criteria for the production and certification of hygienically clean reusable textiles for use in food and beverage industry establishments. Compliance with this standard is based on microbial (bacteriological) testing, documentation of laundry best management practices, and facility inspections.
- 1.2. This standard describes procedures for quality assurance; quality control inspections, sampling, and testing; minimum performance specifications; certification; outsourcing of services; non-compliance procedures; recordkeeping; and an appeals process to ensure the production of hygienically clean textiles.
- 1.3. Bacteriological testing applies to hygienically clean textiles as they leave the laundry. Best practices documentation applies to all aspects of laundry processing including transportation of the textiles to their destination under the care and custody of the customer.
- 1.4. This standard does not address all safety or health issues associated with food and beverage, commercial or industrial laundry operations. It is the responsibility of the laundry facility to comply with all federal and state regulations (incorporating CDC and FDA applicable guidelines) and operating permits.

2. Background

- 2.1. Please see Appendix 2 for a history of laundry certification programs.

3. Terminology

3.1. Definitions

- 3.1.1. **Hygienically Clean:** Free of pathogens in sufficient numbers to cause human illness.¹

This may be the most quoted definition for hygienically clean, yet no one has scientifically or quantitatively defined what the term “sufficient numbers” means. **For the purpose of this certification program textiles are considered hygienically clean if they comply with the Minimum Microbiological Performance Specifications in Section 8.2.**

¹ Association for the Advancement of Medical Instrumentation, ANSI/AAMI ST 65:2008, *Processing of reusable surgical textiles for use in health care facilities*, 2008, Arlington, VA



- 3.1.2. HACCP: (Hazard Analysis Critical Control Point) is the systematic preventative approach to food safety. It addresses physical, chemical, and biological hazards as a means of prevention rather than finished product inspection. This approach has significant benefits to organizations operating within the food supply chain as it enables them to determine key controls over processes and concentrate resources on activities that are critical to ensure safe products.
- 3.1.3. Linens: Fabric items such as cloth hampers, cloth napkins, table cloths, wiping cloths, and work garments including cloth gloves.

4. Procedures

- 4.1. Application – Application must be made for TRSA certification of hygienically clean reusable textiles on forms supplied by TRSA.
- 4.2. Fees – Each application must be accompanied by an application fee as set forth in the TRSA Hygienically Clean Fee Schedule. Your application fee will expire if your facility is not certified within 12 months.
- 4.3. Processing - Upon receipt of the application and application fee, the paperwork will be processed to completion under the guidelines for certification in Sections 5, 6, 7, and 8.
- 4.4. Testing – Testing may begin prior to the submission of the application. Initial test results must be submitted 60 days after the submission of your application. Secondary test results must be submitted no later than 45 days after the initial results are received.
- 4.5. Compilation of Quality Assurance Manual - The quality assurance manual should be compiled during the testing phase. An inspection must be scheduled within 60 days of the secondary sample submission meeting the standard requirements.
- 4.6. Certificate of Compliance – For each application that certification is granted, a Certificate of Compliance stating conformance to production of hygienically clean textiles will be issued. The facility will then be given permission to use the TRSA logo indicating conformance to this standard.
- 4.7. Right to Appeal – The client has the right to appeal any decision by TRSA in executing any provisions in this standard. See Appendix 1 on Appeals.
- 4.8. Revocation, Suspension, or Modification of Certification – Certification may be revoked, suspended, or modified for any of the following reasons.
- Failure to comply with the provisions of this standard.
 - Any misstatements, intentional or unintentional, made in the application or in any data submitted in support of the application.
 - Failure to comply with the certification criteria contained in this standard.
 - Any other grounds considered reasonable in the judgment of TRSA which lead to the conclusion that the textiles produced by the laundry do not meet the criteria established under this standard.



5. Quality Assurance Program

The Quality Assurance program/manual should document the facility's adherence to Hazard Analysis and Critical Control Points (HACCP) principles and reflect consistency with applicable guidelines of the Global Food Safety Initiative (GFSI), U.S. Food and Drug Administration (FDA) and CODEX Alimentarius International Food Standards, as well as recommended practices from the Centers for Disease Control and Prevention relevant to the handling and processing of textile products used in food and beverage industry establishments.

5.1. Best Management Practices (BMPs)

The Quality Assurance program/manual shall incorporate the following Best Management Practices that are important to the production of hygienically clean textiles. How the facility complies with each BMP must be documented and the documentation will be a key focus when a TRSA inspector visits a laundry to conduct an inspection. Laundry BMPs subject to mandatory federal regulations covered in Section 5.5 - Compliance with OSHA Regulations will not be duplicated in this Best Management Practices section.

5.1.1. Plant Facilities

5.1.1.1. Prevention of Cross Contamination

The QA program/manual shall describe how the textiles flow throughout the facility to prevent the cross contamination of cleaned textiles by soiled textiles or soiled facility areas. Soiled textiles shall never be transported or stored in the clean areas of the plant, and clean textiles shall never be transported or stored in the soiled areas of the plant. The program/manual shall describe how items that may travel in and out of the same door are protected to prevent cross contamination or how deliveries are scheduled to prevent cross contamination.

5.1.1.2. Equipment and equipment maintenance

The QA program/manual shall contain a list of all major equipment, including washers, dryers, finishing equipment, etc. A written maintenance schedule for each piece of equipment as prescribed by the manufacturer or appropriate regulatory requirement shall be included in the QA program/manual. Maintenance records shall be recorded and maintained for at least six-years and be made available for review by the TRSA inspector.

5.1.1.3. Equipment Calibration

The QA program/manual shall describe the procedures for calibration of equipment and controls. This includes temperature gauges, flow controllers, and any other measurement devices critical to keeping the equipment and chemical dispensing apparatus operating to manufacturer's specifications. Calibration records must be documented, made available to the TRSA inspector, and maintained for six years.

5.1.1.4. Pest Control Plan



Each laundry-processing plant should have an ongoing effective and continual pest-control program implemented to minimize hazards.

5.1.2. Housekeeping

The QA program/manual shall describe in detail procedures for the following housekeeping functions.

- 5.1.2.1. Use, cleaning and care of equipment. Structures found inside the plant are built of durable material that is easy to maintain, clean and that, if necessary, can be sanitized.
- 5.1.2.2. Cleaning of work surfaces and stations
 - 5.1.2.2.1 Slings that might be used in the production processes – soiled or clean
- 5.1.2.3. Cleaning of carts
 - 5.1.2.3.1 Transportation carts that are used to transport soiled and then used to transport clean back to the customer
 - 5.1.2.3.2 Carts that are used internally within the plant to transport work in process to different production stations
 - 5.1.2.3.3 Any other cart or container that is used in the production process
 - 5.1.2.3.4 Use of cart liners within carts to transport and protect textiles
- 5.1.2.4. Selection, measurement and proper use of cleaning supplies
- 5.1.2.5. Cleaning schedule

5.1.3. Laundry Process

5.1.3.1. Soiled linen handling

Procedures for handling soiled linen shall be documented in the QA program/manual. The QA program/manual shall describe when use of personal protective equipment is mandatory based on compliance with the HACCP-CODEX Checklist and other federal regulations.

5.1.3.2. Washing Procedures

- Wash Formulas

Each classification shall have established standard wash formulas for the following factors to optimize the cleaning and the effectiveness of the wash process:

- Cycle time: Pre-wash, wash, rinse, and final rinse times
- Water levels/usage: Total water usage and/or water levels;
- Temperature: Wash cycle, bleach cycle, and rinse cycle temperatures;
- Chemical usage: Chemical types and usage levels for each step in the wash process.

- Wash Temperature

Hot-water washing – if hot water is used the water temperature shall be at a temperature prescribed by the chemical manufacturer.



Low-temperature water washing – if low-temperature (<70°C) laundry cycles are used, chemicals suitable for low-temperature washing at proper use concentrations, as prescribed by the chemical manufacturer, shall be used.

- Use of disinfectants, e.g. chlorine
The circumstances, conditions, and procedures regarding when bleach or other disinfectants are added shall be described in the quality assurance manual.

- Final pH

Each classification shall be soured to a pH which is suitable for skin compatibility and for proper finishing processes.

- Extraction

The provider shall extract and/or dry the clean 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.

Damp textiles shall not be inappropriately stored (e.g., tightly packed and poorly ventilated) as this may prevent drying and facilitate microbial growth.

5.1.3.3. Drying and Finishing Procedures

- The drying procedures shall be controlled and monitored for each textile classification to ensure appropriate drying.
- Hot, dry loads should be subjected to sufficient cool-down to enable personnel to handle the textiles comfortably and to minimize wrinkling.
- Drying and finishing must be done in a manner which ensures textiles are dried to proper moisture content without subsequent bacterial recontamination. Cleaned, dried goods must be separated from all soiled goods.

5.1.3.4. Garment Inspection Procedures

- Garments are sorted and inspected prior to delivery.
- Garments needing replacement are removed and replaced. The replacements are put through the HACCP/GFSI wash process.
- Garments needing mending or repairs are identified, sent through the steam tunnel, repaired, and steamed again.
- Once the textiles complete and pass final inspection, they are processed and poly-wrapped for redelivery, consistent with customer requirements. (Poly-wrap shall be used on items for redelivery unless a written exception is received from the customer.)

5.1.3.5. Transportation

- The process for servicing food accounts must be designed and executed to prevent cross-contamination
- HACCP/GFSI trained service rep arrives for scheduled pick-up/delivery



- Items should be transported in designated approved containers, sealed bags or poly-wrapped. (Poly-wrap shall be used on items for redelivery unless a written exception is received from the customer.)
- Service trucks should be cleaned on a regular basis to minimize dust and dirt.

5.1.3.6. Delivery

- Functional separation should continue during transportation of clean textiles to the customer.
- Transport clean and soiled linen in containers that functionally separate them from other linens in the vehicle.
- Reusable bags, containers, or carts used to transport soiled linen must be properly cleaned before they are used to transport clean or soiled linen in order to maintain functional separation. The term "properly cleaned" means either steam-cleaned or cleaned with an EPA approved cleansing agent/ disinfectant and water solution.
- Hand sanitizer dispenser should be available for use in all delivery trucks. Spill Kits should also be available for use when necessary.
- Laundries should package, transport, and store clean textiles and fabrics by methods that will ensure their cleanliness and protect them from dust and soil during interfacility loading, transport, and unloading.

5.2. Facilities should use HACCP principles to:

5.2.1. Conduct a Hazard Analysis

5.2.2. Determine Critical Control Points (CCP's) by use of the *Codex decision tree* when determining CCPs

5.2.3. Establish Critical Limits

5.2.4. Establish a system to monitor control of the CCP's

5.2.5. Establish the corrective actions to be taken when monitoring indicates that a particular CCP is not under control

5.2.6. Establish procedures of validation and verification to confirm that the HACCP system is working effectively

5.2.7. Establish documentation concerning all procedures and records appropriate to these principles and their application

5.2.8. Establish records required to show ongoing conformance to CCP requirements, Also document effective corrective action that may occur if there is a non-conformance.

5.3. Establishment of operational flow chart – The QA program/manual shall contain an operational flow chart that outlines the laundry process and it's Critical Control Points for producing Hygienically Clean linen. (including, but not limited to the following)



- 5.3.1. Soil Pickup – Soiled Garments and textiles are kept sealed and away from clean garments to prevent cross contamination
 - 5.3.2. Soil Unloading – Garments and textiles are dropped off at a designated area
 - 5.3.3. Soil Sorting- Food Soiled Garments are separated from industrial items and sorted by degree of soil, color and fabric
 - 5.3.4. Washing and Conditioning- Garments are washed using manufacturers’ care instructions, ensuring proper temperatures and chemical injections as prescribed by the chemical manufacturer
 - 5.3.5. Finishing – Garments are properly dried and transported to the finishing area
 - 5.3.6. Clean Sorting and Inspection – – Garments are inspected. Items passing inspection are sorted and prepared for delivery per customer requirements. Others are redistributed for replacement or repair
 - 5.3.7. Final Inspection and Bagging – After final inspection, clean garments are covered to protect them from cross contamination, consistent with customer requirements
 - 5.3.8. Delivery Back to the Customer – Products are loaded on the truck and transported back to the customer, Soiled Garments are kept separated and away from clean garments to prevent cross contamination
- 5.4. Regular monitoring of the laundry process and critical control points are needed to ensure the production of a high quality hygienically clean product. Monitoring must be continuous, and any necessary changes to processes and procedures should be properly communicated, trained and documented.

5.5. Compliance With OSHA Regulations

The QA manual shall contain, at a minimum, a copy of the following regulations.

- 29 CFR 1910.1200..... Hazard Communication
- 29 CFR 1910.1200 App E..... Guidelines for Employer Compliance (Advisory)

The Quality Assurance manual shall describe how the facility implements each of the following OSHA requirements.

5.5.1. OSHA 1910.1200 Hazard Communication Required Practices

- 5.5.1.1. 1910.1200(a) Purpose
- 5.5.1.2. 1910.1200(b) Scope and application
- 5.5.1.3. 1910.1200(c) Definitions
- 5.5.1.4. 1910.1200(d) Hazard Determination
- 5.5.1.5. 1910.1200(e) Written hazard communication program
- 5.5.1.6. 1910.1200(f) Labels and other forms of warning
- 5.5.1.7. 1910.1200(g) Material safety data sheets
- 5.5.1.8. 1910.1200(h) Employee Information and training
- 5.5.1.9. 1910.1200(i) Trade secrets



5.5.2. Compliance with OSHA 1910.1200 Hazard Communication App E – Guidelines for Employer Compliance (Advisory)

- 5.5.2.1. “Becoming familiar with the rule”
- 5.5.2.2. “Identify Responsible staff”
- 5.5.2.3. “Identify Hazardous Chemicals in the Workplace”
- 5.5.2.4. “Preparing and Implementing a Hazard Communication Program”
 - “Labels and Other Forms of Warning”
 - “Safety Data Sheets”
 - “Employee Information and Training”
 - “Other Requirements”
- 5.5.2.5. “Checklist for Compliance”
 - Obtained a copy of the rule.
 - Read and understand the requirements
 - Assigned responsibility for tasks.
 - Prepared an inventory of chemicals.
 - Ensured containers are labeled.
 - Obtained SDS for each chemical.
 - Prepared written program.
 - Made SDSs available to workers.
 - Conducted training of workers.
 - Established procedures to maintain current program.
 - Established procedures to evaluate effectiveness.

6. Facility Inspections

6.1. General

Inspectors shall have access to certified facilities during normal business hours to conduct inspections for the purpose of determining compliance with this standard. Inspections will be scheduled at a mutually agreeable time between the TRSA inspector and the laundry facility. Expenses incurred by TRSA for on-site inspections shall be the responsibility of the facility seeking certification.

6.2. Initial Qualification Inspection

6.2.1. An initial on-site inspection must be conducted by a representative of TRSA to evaluate compliance with the provisions of this standard.

6.3. Quality Control Inspections

6.3.1. After the initial on-site inspection, facilities shall be inspected on a three-year basis.



6.4. On-site Confirmation of the Operational Flow Chart.

6.4.1. The TRSA inspector will verify that the facility has an operational flow chart on site and that the management team has ensured that permanent operations are carried out according to operational flow chart. The inspector will monitor operations to ensure the flow chart's accuracy and follow up with the management team regarding deviations or modifications. *The confirmation of the flow diagram should be performed by a person or persons with sufficient knowledge of the processing operation.*

6.5. On-site ATP Testing of Hard Surfaces

6.5.1. The TRSA inspector will use the most commonly adopted method for real-time monitoring of cleaning process performance to verify the regular cleaning of hard surfaces that come in contact with the textiles. A real-time ATP surface hygiene test will be used to provide an objective indication of cleanliness in seconds. RLU limits have been established for a Pass of less than or equal to 50, caution range of 51-100, and an automatic failure of anything 101 or above.

7. Sample Selection for Bacteriological Testing

7.1. General

7.1.1. In all cases items are to be shipped to the laboratory in separate air-tight plastic bags or plastic wrapping that are labeled with the following information.

- Name of laundry
- Location of laundry (number and street, city, state, zip code)
- Name of contact person for this facility
- Contact phone number and e-mail
- Date of production
- Textile description
- Items should be mailed using an overnight or two day delivery service.
- Remember to include the chain of custody form in the box.

7.2. Initial Qualification

7.2.1. For initial qualification of a facility the Contacts in the plant shall select 2 textiles for bacteriological testing. Samples must pass testing on three consecutive rounds and the plant must pass inspection prior to qualification. Samples shall be shipped to a laboratory chosen by the facility that is on the TRSA-approved laboratory list.

7.3. Probationary Period

7.3.1. The probationary period ends when three consecutive months of bacteriological testing meet the minimum Microbiological Performance Specifications outlined in Section 8.2 and the plant has passed inspection. Bacteriological testing of textile items will be conducted in each of the first three months.



After the initial samples meet the microbiological criteria, (Section 7.2.1 above), textile samples shall be selected on a rotating basis such that in the first three months six different textile items are tested.

Plants will be allowed to resubmit/re-test one failed test result in the probationary period. If a failed test result is received, the plant must immediately resubmit the same item for testing to the same test lab. See 7.8.1

7.4. Quality Control Microbial Testing

- 7.4.1. After successful completion of the precertification period, microbial testing will be conducted on a quarterly basis.
- 7.4.2. Four times yearly, two textile items will be submitted by plant personnel to an approved laboratory for bacteriological testing. Samples shall be selected on a rotating basis, with a goal of testing twenty eight (28) different textile pieces at least once in the first three-year period.
- 7.4.3. Should any textile item fail quarterly bacteriological testing, TRSA may require that product to be one of the textiles tested semi-annually until it is reasonably assured there are no compliance issues.

7.5. Triennial On-site Inspections

- 7.5.1. At least once every three years a TRSA representative shall physically visit each laundry facility and select two items for microbial testing. The products selected shall be those projected to have the highest potential to fail to meet the minimum performance specifications in Section 8.2 based on previous microbial testing. The representative will ship the samples to a TRSA-approved laboratory chosen by the client for microbial testing.

7.6. Significant Process Change Testing

- 7.6.1. When a facility makes a significant change in the laundry process that may affect compliance with this standard, e.g. major washing equipment or chemistry changes, a bacteriological test on the two most prominent Food Service textile items processed shall be conducted to confirm the facility remains in compliance.

7.7. Optional Testing

- 7.7.1. A laundry may conduct additional bacteriological testing at their discretion. Test results must be immediately reported to TRSA after receipt.

7.8. Non-compliance Testing

- 7.8.1. Upon notification of a test failure, the facility shall contact TRSA, immediately select a sample of the textile item that failed for re-test, and ship it by next-day-air to the same laboratory that conducted the non-complying test. Test results must be provided to TRSA as soon as the test results are available.

8. Quality Control Microbial Testing

- 8.1. All testing shall be done by a TRSA-approved laboratory that is accredited by any accreditation body recognized under the ILAC MRA (Mutual Recognition Arrangement) or recognized by federal or state agencies for microbiological testing. Examples of acceptable third-party accreditation bodies include the International Accreditation Service (IAS), American Association of Laboratory Accreditation (A2LA), and ANSI-ASQ National



Accreditation Board doing business as ACLASS. Laboratories recognized by federal or state agencies such as EPA, FDA, Department of Agriculture, CDC, CPSC, and OSHA are also approved.

8.2. Minimum Microbiological Performance Specifications

Microbial testing shall be performed using the following test methods: RODAC Plate count quarterly and United States Pharmacopeia (USP) 62 semi-annually. United States Pharmacopeia (USP) 62 - Microbiological Enumeration of Nonsterile Products: Microbial Examination Tests. See current pass/fail criteria below. Methods and criteria are continuously reviewed and subject to revision.

RODAC Plate Test	Pass/Fail Criteria
Total aerobic microbial count (TAMC)	Acceptance criterion for microbiological quality: ≤ 50 cfu per square decimeter

Test Method USP 62	Pass/Fail Criteria
Specified Microorganisms	Acceptance criterion for microbiological quality: Absent

8.2.1. Laboratories shall provide copies of all test reports to the laundry facility and TRSA.

9. Certification

9.1. Facility Certification

Evaluation of the facility’s application, facility inspection, and test data will result in:

- TRSA certification of the laundry as complying with the requirements in this standard for producing hygienically clean textiles, or
- Disapproval for lack of evidence justifying certification to the requirements of this standard (See section 4.5 – Right to Appeal and Appendix 1 – Appeals, Complaints, and Resolution of Disputes.)

10. Outsourcing

10.1. If a facility is unable to fulfill its obligations or agreements for any reason and must outsource work to another laundry, extension of the TRSA Hygienically Clean certification to the outsourced textiles will be restricted as follows.

10.1.1. If the outsource laundry is also certified by TRSA, the TRSA certification logo may be used to indicate the textiles are certified as hygienically clean.

10.1.2. If the outsource laundry is not certified by TRSA, no documentation, e.g. invoices, bills-of-lading, or any other form of correspondence associated with the laundry processed by the outsource laundry may carry the TRSA certification logo. If the customer expects TRSA Hygienically Clean certified textiles



through contracts or other agreements, the customer must be made aware the textiles processed by the outsource laundry are not certified to the TRSA Hygienically Clean – Food and Beverage Industry standard.

11. Non-compliance Procedures

After certification is awarded to a facility, any non-compliance issues found in a subsequent inspection report or non-complying test result shall be reported to TRSA by phone or e-mail within 24-hours or the next business day if notification falls on a weekend or holiday. Non-complying test results shall be defined as failure to meet the Minimum Microbiological Performance Specifications in Section 8.2.

11.1. Corrective Actions

11.1.1. For each incidence of non-compliance a Corrective Action Request (CAR) shall be issued. The facility has 30-days to respond to the CAR and bring the plant back into compliance. If corrective action is taken within 30-days to bring the facility back into compliance the certification will not lapse. Failure to completely address all CARs within 30-days will result in certification being revoked, suspended, or modified depending on the severity of the non-compliance issue.

11.2. Reinstatement Following Revocation or Suspension of Certification

11.2.1. After a facility is brought back into compliance certification is reinstated and a new probationary period started. Bacteriological testing following the procedures in Section 7.4 must be conducted until test results from three consecutive months are in compliance with Section 8.2.

12. Recordkeeping

All applications, inspection records, and test results shall be maintained by TRSA and the laundry for as long as a facility is certified plus an additional three years.

13. References

Association for the Advancement of Medical Instrumentation, ANSI/AAMI ST 65:2008, Processing of reusable surgical textiles for use in health care facilities, 2008, Arlington, VA

Association for the Advancement of Medical Instrumentation, ANSI/AAMI ST65:2000, Processing of Reusable Surgical Textiles for Use in Health Care Facilities,

CAC Codex HACCP Audit Checklist, Food Safety Auditing Toolbox

FDA Regulations, FDA Food Code 2009: Chapter 1 Purpose & Definitions, Chapter 4 Equipment, Utensils & Linens, Chapter , Chapter 4.8 Laundering and subparts, Chapter 4.801-4.803 (objective, frequency and methods)

German Certification Association for Professional Textile Services, RAL-GZ 992/2 – Hospital Linen, Bönningheim, Germany

German Institute for Standardization, European Standard EN 14065 : 2002, Laundry processed textiles – Biocontamination control system, Berlin, Germany, November 2002

Industrial Launderer, Preventing Bacteria from Spreading Through Uniforms, November 2006

Institute for Sustainability and Hygiene International, Certification Standards for Processing Reusable Linen, MacKenzie, Brisbane, Queensland, Australia, April 2011

International Food Safety and Quality Network HACCP Audit Checklist

Standards Australia and Standards New Zealand, AS/NZS 4146:2000, Australian/New Zealand Standard – Laundry practice, February 2000

Textile Rental Services Association of America, Guidelines for Healthcare Linen Service-1999, By Joint Committee on Healthcare Laundry Guidelines, Alexandria, VA, 1999



The Healthcare Laundry Accreditation Council (HLAC), Healthcare Accreditation Standards for Processing Reusable Textiles for Use in Healthcare Facilities 2011 Edition, Frankfort, IL, June 2011
U.S. Department of Health and Human Services, Centers for Disease Control and Prevention (CDC), Guidelines for Environmental Infection Control in Health-Care Facilities, Recommendations of CDC and the Healthcare Infection Control Practices Advisory Committee (HICPAC), Atlanta, GA, 2003

Appendix 1

Appeals, Complaints, and Resolution of Disputes

1.0 PURPOSE/SCOPE

The purpose of this procedure is to describe the process for identifying, recording, and resolving applicant or certificant complaints, inspection and testing non-conformances, and appeals of certification decisions. This procedure applies to all TRSA employees and inspectors engaged in certification, inspection and testing activities and to all applicants and certification holders, hereinafter referred to collectively as “Customers.”

2.0 RESPONSIBILITY

TRSA personnel are responsible for:

- Recognizing and accurately recording each Customer complaint;
- Notifying and forwarding Customer complaints to the TRSA Manager of Certification Programs; and
- Maintaining confidentiality and avoiding conflicts of interest.

The Manager of Certification Programs is responsible for:

- Making an initial evaluation of each Customer complaint or appeal;
- Investigating the cause of the complaint or appeal;
- Developing a corrective action plan; and
- Ensuring the Customer understands the rationale for the resolution of the complaint or appeal.

3.0 PROCEDURES

3.1 Administrative Review of Complaint or Appeal

When a complaint or appeal is received by TRSA, it shall be documented on a TRSA Disposition Form. The Manager of Certification Programs shall examine all pertinent data and any decisions based upon the data. The disposition form, results of the review and recommended actions shall be put into a report by the Manager of Certification Programs. If further action is deemed necessary, TRSA will retest or re-inspect and reissue the appropriate report. If the new data impacts a certification decision, a new decision shall be documented and issued. Should this Administrative Review fail to resolve the complaint or appeal, the matter shall be referred to the Technical Review Board.



3.2 Resolution of Compliant or Appeal by the Technical Review Board

If a dispute arises between a Customer and TRSA that cannot be resolved by the initial Administrative Review and recommended actions, the Customer may obtain a review of the complaint or appeal by the Technical Review Board. The Customer shall present to the Manager of Certification Programs of TRSA a written statement of its position. The matter shall then be referred to the Technical Review Board. The Customer shall be offered a full opportunity, in person and by counsel if desired, to be heard by and to present any relevant additional evidence to the Technical Review Board. Unless otherwise agreed to in writing by both parties, the Technical Review Board will make a final decision on the matter within fourteen (14) days.

3.3 Technical Review Board (TRB)

The Technical Review Board shall consist of three members and two alternates. The members and the alternates shall be appointed by the TRSA Board of Directors from TRSA member companies. Any Technical Review Board member or alternate who has a conflict of interest or is otherwise unable to maintain impartiality shall be ineligible to participate in the appeal. In such event, the Board of Directors shall appoint one of the alternates to serve on the Technical Review Board for that appeal. Decisions of the Technical Review Board shall be final.

4.0 RECORDS

The Manager, Certification Programs shall maintain a log and records of all customer complaints and appeals and the details and results of investigations and corrective actions. Records shall be maintained for the duration of the contract plus five years.



Appendix 2

Laundry Certification Background

Historically certification of laundries processing reusable textiles for use in the healthcare industry has been based on the laundry process with no requirement for microbial (bacteriological) testing of products. Certification standards in the United States^{2,3}, Australia and New Zealand⁴, and Europe⁵ all base certification on a laundry's process with no mandatory microbial testing of textile products.

In the United States the status quo is no bacteriological testing of reusable textiles. This may be the result of statements made by the U.S. Centers for Disease Control (CDC) in their *Guidelines for Environmental Infection Control in Health-Care Facilities*⁶. Three quotes from the CDC Guidelines shed light on the reasons the CDC does not recommend routine microbiologic testing.

1. "Before 1970, U.S. hospitals conducted regularly scheduled culturing of the air and environmental surfaces (e.g. floors, walls, and table tops). By 1970, CDC and the American Hospital Association (AHA) were advocating the discontinuation of routine environmental culturing because rates of health-care-associated infection had not been associated with levels of general microbial contamination of air or environmental surfaces, and because meaningful standards for permissible levels of microbial contamination of environmental surfaces or air did not exist." (pg. 88)
2. **"In the absence of microbiologic standards for laundered textiles, no rationale exists for routine microbiologic sampling of cleaned health-care textiles and fabrics.** (emphasis added)" (pg. 102)
3. "Although contaminated textiles and fabrics in health-care facilities can be a source of substantial numbers of pathogenic microorganisms, reports of health-care-associated diseases linked to contaminated fabrics are so few in number that the overall risk of disease transmission during the laundry process likely is negligible." (pg. 98)

The take-away from this CDC document is routine microbiologic testing is not necessary.

² The Healthcare Laundry Accreditation Council (HLAC), *Healthcare Accreditation Standards for Processing Reusable Textiles for Use in Healthcare Facilities 2011 Edition*, Frankfort, IL, June 2011

³ Association for the Advancement of Medical Instrumentation, *ANSI/AAMI ST65:2000, Processing of Reusable Surgical Textiles for Use in Health Care Facilities*,

⁴ Standards Australia and Standards New Zealand, *AS/NZS 4146:2000, Australian/New Zealand Standard – Laundry practice*, February 2000

⁵ German Institute for Standardization, *European Standard EN 14065 : 2002, Laundry processed textiles – Biocontamination control system*, Berlin, Germany, November 2002

⁶ U.S. Department of Health and Human Services, Centers for Disease Control and Prevention (CDC), *Guidelines for Environmental Infection Control in Health-Care Facilities*, Recommendations of CDC and the Healthcare Infection Control Practices Advisory Committee (HICPAC), Atlanta, GA, 2003



While the CDC does not recommend routine microbial testing of cleaned healthcare textiles and fabrics, testing for compliance in a certification program is not routine testing; it is testing to validate compliance with a performance-based standard. TRSA's certification program is predicated on microbial testing for several reasons. The trend, both domestically and internationally, is moving toward microbial testing of reusable textiles for use in healthcare facilities. Today, some hospitals and other healthcare facilities are asking members of TRSA to conduct microbial testing on their textiles. Internationally, the German Certification Association for Professional Textile Services RAL – Hygiene Certificate Program includes mandatory microbial testing of textiles⁷. In Australia, the Institute for Sustainability and Hygiene International's Certification Standards for Processing Reusable Linen⁸ CSHLS program also requires mandatory microbial testing.

TRSA does not believe lack of mandatory testing under federal or state regulations in the U.S. is a compelling reason not to include mandatory microbial testing in our certification program. Requiring independent, third-party testing provides our customers with tangible evidence that the textiles they are using are hygienically clean, and verification that the commercial laundry process does what it is recognized by the CDC to do – result in production of hygienically clean reusable textiles.

The frequency of microbial testing selected for this certification program is not based on any federal or state regulatory requirements because none exist. No testing regimen selected would have a statistical basis as there is no database to draw from. This standard is the first of its kind in the U.S. requiring microbial testing. As stated earlier, the referenced domestic and international laundry standards^{1, 2, 3, 4} certify laundries based on the laundry process with no mandatory microbial testing. With the existing paradigm for laundry certification, any testing frequency is an improvement over the status quo of no testing. For this certification program, testing will be conducted in each of the first three months of certification, followed by semiannual testing if all testing in the first three months passes the criteria established in Section 8.2.

Selection of the bacteria to target for certification testing was also a challenge for the same reasons stated in the previous paragraph. Lack of federal and state guidelines and the CDC statement of fact that there are no microbiologic standards for laundered textiles led to an Internet search for potential resources to identify which bacteria should be targeted. The CDC publishes a list of the top ten pathogens that account for 84 percent of all Healthcare-associated Infections (HAIs). In addition to bacteria to identify for testing, it was decided a test method must be identified so all testing laboratories would use the exact same procedures to identify the bacteria present. And finally, a survey was conducted to determine the bacteria being tested for when laundries are asked to conduct microbial testing by healthcare customers. The two bacteria that stood out were staphylococcus aureus and pseudomonas aeruginosa, both of which are on the CDC Top 10 list. Other research indicated Escherichia coli (E-coli) was a very important bacteria to target.

⁷ German Certification Association for Professional Textile Services, RAL-GZ 992/2 – Hospital Linen, Bönningheim, Germany

⁸ Institute for Sustainability and Hygiene International, *Certification Standards for Processing Reusable Linen*, MacKenzie, Brisbane, Queensland, Australia, April 2011



Based on this internet research two test methods stood out. Test method United States Pharmacopeia (USP) 62 – *Microbiological Examination of Nonsterile Products: Tests for Specified Microorganisms* targets all three of these bacteria that are on the CDC Top 10 list as well as a fourth, candida albicans. This test method is considered by TRSA to be a microbiological test for hygienically clean as defined in Section 3 of this standard and was selected for our certification program.

USP 61 - *Microbiological Examination of Nonsterile Products: Microbial Enumeration Tests*, is a quantitative enumeration of mesophilic bacteria (a microorganism that grows best at 68° to 131°F (20° to 55°C)) and fungi that may grow under aerobic conditions. The pass/fail criterion selected for the TRSA hygienically clean certification program is ≤ 20 cfu, the lowest acceptance criterion for microbiological quality in USP 61.

RODAC-Replicate Organism Detection And Counting Microbiological test is modeled on European Standards.

Commercial laundries have been operating for over a century with virtually no link between reusable textiles and pathogenic disease transmission to healthcare patients or healthcare workers. There are no federal or state regulations requiring a laundry to be certified. There are no federal or state standards requiring microbial testing of reusable textiles. TRSA feels this standard, with mandatory microbial testing, is “raising the bar” in certifying laundries for producing hygienically clean reusable textiles.