3-A Sanitary Standards, Inc.
Board of Directors

OFFICERS
Lyle Clem, Chair
Electrol Specialties Co.
John Allan, Treasurer
International Dairy Foods Association
Chris Hylkema, Secretary
New York State Department of Agriculture & Markets

DIRECTORS
Kenneth Anderson
Harold Wainess & Associates
Paul Dix
Chair, 3-A Steering Committee
Maryland Department of Health
Randy Elsberry
FDA/CFSAN-Milk Safety Branch
Dennis Glick
USDA/AMS Dairy Programs, Dairy Grading Branch

COUNSEL
Hugh Webster
Webster, Chamberlain & Bean

COMMITTEE LEADERSHIP
Communications & Education Committee
Greg Marconnet, Mead & Hunt
Reinhard Moss
GEA Westfalia Separator Group
Allen Sayler
Chair, TPV Coordinating Committee
EAS Consulting
Ronald Schmidt
Food Science & Human Nutrition
University of Florida

3-A Sanitary Standards, Inc.
It is the mission of 3-A Sanitary Standards, Inc. to enhance product safety for consumers of food, beverages, and pharmaceutical products through the development and use of 3-A Sanitary Standards and 3-A Accepted Practices.

3-A SSI: Why It Matters
Like every association in these challenging times, 3-A SSI works hard with the support of many dedicated volunteers to provide high value programs, documents, special services, networking, and much more. This report tries to capture at least some of these accomplishments in the latest year.

But the questions often arise: How does it benefit us? Why does it matter?
3-A SSI advances the application of 3-A Sanitary Standards in the processing of food, beverages and other products.
The daily news reminds us that food safety remains the top concern of consumers around the world. The work of 3-A SSI provides a unique and tangible benefit to regulatory professionals, processors and fabricators to meet this public policy and business objective.

3-A SSI promotes recognition and adoption of 3-A hygienic design criteria worldwide.
The ‘3A’ brand has a long history and positive recognition owing largely to the unselfish sharing of expertise by everyone involved in overseeing our documents and resources. Our work is unquestionably aligned with a common, non-proprietary interest.

3-A SSI operates a modern, efficient consensus process for standards development.
Good standards, trusted and valued by industry, lessen the need for complex and onerous regulations. Where regulations are necessary, good standards make for an excellent basis for the regulations. 3-A SSI strives to maintain very good standards.

The role of voluntary third party certification programs based on proven standards and practices will become increasingly important to meet regulatory objectives in the coming years. 3-A SSI reflects a strong partnership of public and private cooperation to protect the public health. The engagement of associations and individual volunteers in 3-A SSI makes evident the commitment they share to serving not just their members but each community at-large. We hope to strengthen this cooperation in the coming period, enhance the integrity of the standards we develop, and broaden recognition and acceptance of 3-A SSI programs and resources.

We are deeply grateful for the support of members, volunteers and contributors who dedicate energy, time and expertise to help ensure 3-A SSI remains a strong and trusted steward in Advancing Food Safety Through Hygienic Design.
3-A Symbol Program Achieves Record Year

Strong demand for modern hygienic equipment across all segments of the food processing industry produced a record year for demand for new 3-A Symbol authorizations and other voluntary certificates in 2019. 3-A SSI has achieved positive organic growth in the program each year since 2008, reflecting a growing worldwide consumer demand for food safety and 3-A design criteria.

New federal rules on Preventive Controls under the Food Safety Modernization Act now require processing facilities for human and animal food to establish and implement a written food safety plan that includes an analysis of hazards and risk-based preventive controls. All FDA-regulated products imported into the U.S. are required to meet the same laws and regulations as domestic food.

The voluntary 3-A Symbol authorization program helps regulatory professionals, processors, and fabricators identify equipment that conforms to the criteria of 3-A Sanitary Standards. Fabricators from across the U.S. and 24 other countries around the world maintain a 3-A Symbol authorization to verify the equipment conforms to 3-A Sanitary Standards.

The integrity of the 3-A Symbol authorization program rests upon the Third Party Verification (TPV) inspection requirement. The TPV inspection requirement applies to any equipment built to a 3-A Sanitary Standard that is licensed to display the 3-A Symbol. A licensee must engage a credentialed inspection professional, known as a Certified Conformance Evaluator (CCE), to conduct an on-site evaluation of finished equipment and other product attributes to affirm conformance to the applicable 3-A Sanitary Standard. A complete on-site TPV inspection is required upon application and once every five years thereafter, or any time there is a significant design change or non-conformance. Representatives from each of the 3-A SSI stakeholder groups participate in oversight of the program.

- Key data in 2019 shows the increasing international recognition for the 3-A Symbol and design criteria:
- In 2019, 60% of the new 3-A Symbol or certificate applications were non-U.S. companies. China accounted for the largest number of non-U.S. applicants, with others from Europe and other Asian origin.
- Document sales in 2019 show about 55% of sales to companies in the U.S. and 45% to non-U.S. companies.
- Web site data reflects a strong international following with about 49% of unique visitors from the U.S. and 51% from non-U.S. locations.

The 3-A SSI website features on-line access to complete certificate information for all 3-A Symbol licensees and the Replacement Parts and System Component Qualification Certificate (RPSCQC) Program. This public information offers detailed information on models and equipment covered under a company’s license to assist regulatory sanitarians, processors, equipment fabricators, and other interested parties. The information is
searchable by the unique authorization number, equipment type/standard or company name. A copy of the actual authorization certificate may also be generated and printed from the online database. The certificate search database is the most frequently visited area of the 3-A SSI web resources.

The 3-A Symbol is a registered mark used since 1956 to identify equipment that meets 3-A Sanitary Standards for design and fabrication. Voluntary use of the 3-A Symbol on food processing equipment conveys assurance that equipment meets sanitary standards, provides accepted criteria to equipment manufacturers for sanitary design, and establishes guidelines for uniform evaluation and compliance by sanitarians.

Landmark Year for Protection of 3-A SSI Marks

3-A SSI marked several major accomplishments this year in a long effort to protect the 3-A Symbol from numerous unlicensed suppliers. Maintaining the integrity of the ‘3-A’ brand is critical to retain the confidence of regulatory sanitarians, processors and fabricators across the U.S. and worldwide. 3-A SSI obtained important new protection for both the 3-A Symbol as a design mark and ‘3A’ as a “standard character” or word mark.

First 3-A SSI Registrations in China
China trademark authorities issued registration certificates in six classes of equipment which encompass the types of processing equipment covered by 3-A Sanitary Standards and eligible for 3-A Symbol authorization. Registration of the trademarks provides immediate legal recourse for licensees in China against counterfeits and enhances broader international protection of the 3-A SSI marks.

The legal registration of the 3-A Symbol and other marks was described in a special Advisory on 3-A Marks in China prepared in English and Chinese by the China trademark attorneys King & Wood Mallesons. The Advisory posted on the 3-A SSI web site details all of the terms and conditions for legal use of the 3-A trademarks and it sets out the major prohibitions on infringements.

USITC Announces Major Action to Stem 3-A China Counterfeits
The United States International Trade Commission approved a sweeping order in support of a complaint by 3-A SSI to block the imports of any products from China showing a counterfeit 3-A Symbol or equivalent claim. The scope of the order is significant in its finding of injury to 3-A SSI and the type of remedy granted.

The 3-A SSI complaint alleged that certain Chinese companies used false or misleading representations of 3-A Symbol authorization in the advertising or sale of certain food processing equipment. The ruling by Administrative Law Judge David P. Shaw found that the unlicensed use of the 3-A Symbol “has substantially injured 3-A SSI’s domestic industry by harming the goodwill associated with the 3-A Certification Marks.” Significantly, Judge Shaw agreed that the evidence submitted by 3-A SSI justified a general exclusion order, which authorizes future action against products that infringe from any source.

European Union Applications
3-A SSI applications are pending in the European Union Intellectual Property Office (EUIPO) to register the 3-A Symbol and word mark in several classes of equipment. 3-A SSI added applications to register marks associated with the Replacement Parts and System Component Qualification Certificate Program. This voluntary certificate program for parts and components associated with equipment eligible for 3-A Symbol authorization has grown significantly in recent years.

India Applications
3-A SSI filed applications to register marks for the 3-A Symbol and the RPSCQC program before the Registrar of Trade Marks, Delhi.

3-A SSI will continue to assess the need for other international registrations.

The progress this year represents the most significant and far-reaching actions by 3-A SSI to defend the integrity of the 3-A Symbol program and its role in protecting the
public health. The leaders of 3-A SSI were united in supporting these major actions.

3-A SSI Expands Recognition

3-A SSI reaches out to a broad range of audiences each year to solidify its recognition as a trusted resource for hygienic design. This outreach helped spread important knowledge about the critical role of hygienic equipment design and the many benefits of 3-A Sanitary Standards and 3-A Accepted Practices in a wide range of food processing applications.

3-A Sanitary Design Connections

The quarterly e-newsletter 3-A Sanitary Design Connections, continues to serve a growing, diverse and broad audience of readers from across the U.S. and elsewhere. Connections brings the important role of 3-A SSI in the hygienic design of equipment used in the processing of food or other products into perspective for equipment fabricators, food processors, regulatory sanitarians, academic leaders and students.

Each issue of Connections includes a lead or feature article on a prominent issue in hygienic equipment design or the role of 3-A Sanitary Standards, 'News of Interest' with relevant news about hygienic design from other sources, and ‘What’s New In 3-A SSI’.

Leading Industry Magazines


3-A SSI continued a series of three half-page display advertisements in Dairy Foods and Food Engineering magazines this year (circulation 28,000+). These ads promote recognition of 3-A SSI’s integral role in Advancing Food Safety Through Hygienic Design.

3-A SSI participated or presented in several trade shows and meetings during the year, including State Regulatory Officials Mid Atlantic Workshop (Hagerstown, MD), Northwest food & Beverage World 2020 (Spokane, WA), and International Association for Food Protection (Louisville, KY). 3-A SSI also received attention in other magazines/periodicals including Food Industry Executive News, Cheese Reporter, Food Engineering and Food Processing.

E-Learning Resources Offer Essential Training

3-A SSI introduced a growing number of visitors from around the world to hygienic equipment design and the benefits of 3-A criteria through 3-A SSI’s free Basics e-learning modules and a new Advanced module this year. The e-learning tools have been incorporated into several academic programs and other training for regulatory professionals, processors and many fabricators.

3-A SSI offers four Basics e-learning modules for a comprehensive introduction to the principles of hygienic design, including:

1.0 Overview of Principles of Hygienic Design & Foundation Elements
2.0 The Basics of Hygienic Equipment Design
3.0 Basics of Hygienic Facility Design & Environmental Controls
4.0 Basics of Cleaning and Sanitizing

Learning objectives are clearly listed at the beginning of each module and interactive assessment tools are included to support the learning experience. Each module
is narrated and a script is provided for convenience. All materials are accompanied by straightforward illustrations including photos from the field, animations, as well as informative diagrams. Each module is about one hour in length and all viewers are encouraged to complete Module 1.0 before moving forward to deepen their knowledge with the other modules.

The first Advanced module, 2.1 Advanced Hygienic Equipment Design: Materials & Surface Finishes, offers equipment designers and specifiers with advanced hygienic design knowledge on the materials of construction and surface treatments. The content emphasizes hygienic materials selection and the metals and non-metals commonly used for product contact and non-product contact surfaces. The Module also covers surface finishes, as well as the selection process for surface treatment methods, to optimize corrosion resistance, wear, durability, toxicity, and hygienic safety.

Much of the content for the modules is derived from the comprehensive ANSI/3-A 00-01-2018, 3-A Sanitary Standards for General Requirements, a compendium of baseline sanitary (hygienic) criteria for design, materials, and fabrication/installation of equipment and systems in various 3-A Sanitary Standards and 3-A Accepted Practices.

Tracking data shows the 3-A SSI e-learning modules have recorded nearly 4,000 users from 40 countries around the world. The largest number of viewers by country are USA, Philippines, Germany, United Kingdom, Canada, Italy, India, and Brazil. Some recent visitors to the 3-A learning community hail from El Salvador, Thailand and Nigeria.

Additional modules are in development and more advanced sections are planned for several of the modules.

3-A SSI Hosts Emerging Professionals

3-A SSI hosted a highly accomplished group of future career professionals this year in the 3-A SSI Travel Award program. Since 2011, the program has helped scores of motivated, career-oriented students from leading universities across the U.S. to participate in the annual education program of 3-A SSI and gain comprehensive knowledge about hygienic design for food processing equipment and systems.

Recipients of the 2019 awards included:

- Vijay Singh Chhetri Louisiana State University
- Anna Harrand Cornell University
- Claire Marik Virginia Tech University
- Eric Moorman North Carolina State University

Recipients of the 2019 awards demonstrated interest and commitment to food safety and quality as a student enrolled full-time in a food technology, food science, dairy science or other closely related program (undergraduate or graduate level) at a college or university in
the U.S. or Canada. Award recipients were selected on the basis of a personal essay, official transcripts and a letter of recommendation from a faculty member or department head.

**3-A SSI Volunteer Recognition**

3-A SSI announced the recipients of its 2019 Volunteer Service Awards at the 3-A SSI Annual Meeting in Bloomington, MN. The Volunteer Service Awards recognize the extraordinary dedication and commitment of individuals who contribute to the development of voluntary standards and the mission of 3-A SSI. Nominations for the awards are made by fellow volunteers from the three stakeholder groups in 3-A SSI—regulatory sanitarians, fabricators, and processors—and others.

3-A SSI Chair Lyle Clem (ESC) presented two awards for 2019. Steven McWilliams (Walker Stainless Equipment Co.) and Michael Kelley (Paul Mueller Co.) received the **Leadership Service Award** for outstanding service to the voluntary standards development of 3-A SSI and significant contributions to the mission of 3-A SSI.

**3-A SSI Delivers Comprehensive Education**

3-A SSI continued its vital role in providing expert knowledge on hygienic equipment design this year to professionals from a wide range of responsibilities and career levels. The education programs on May 13-14 were designed to maximize high-value learning and networking, followed by volunteer participation in a full schedule of Working Group meetings.

The 2019 program opened with a comprehensive introductory and networking session, **3-A SSI for Beginners and the Basics of Sanitary Design**. The program attracted participation from a wide range of early career professionals and others seeking fundamental education on hygienic design and authoritative resources for future use. Led by experienced industry faculty, the fast-moving program began with an introduction to the elements of hygienic equipment design that distinguish 3-A Sanitary Standards. Other modules included Elements of Hygienic Design, Standards and Regulation, Materials of Construction, Principles of Hygienic Equipment Design and Fabrication, Principles of Hygienic Facility Design, Cleaning and Sanitizing and Operations and Quality.
The second program day featured a lineup of leading experts and timely topics around the theme, The Unseen Threats to Food Safety. The program highlighted the key challenges to enhancing food safety equipment and systems from the standpoint of regulatory professionals, equipment users (processors) and equipment fabricators. Topics and speakers for the program included:

- **The Unseen Threats to Food Safety: Panel Perspectives**—Regulatory Sanitarians, Processors, Equipment Fabricators
- **Retail & Consumer Expectations for Hygienic Design**—Gale Prince, SAGE Food Safety, LLC
- **UV Disinfection of Packaging Materials**—Hank Black, Honle UV America, Inc.
- **Modernizing Food Manufacturing Reporting**—Tim Barthel, Cybertrol Engineering
- **Troubleshooting A CIP System**—Gabe Miller, Pi-FS, LLC
- **Block Chain: Enhancing Food Traceability**—Craig Nelson, Food Automate
- **Counterfeit Parts: What Are You Not Getting?**—Bart Fisher, Law Office of Bart S. Fisher

Presentations from previous yearly education programs are archived and available at no charge on the 3-A SSI web site

### 3-A SSI Streamlines Major Standards and Accepted Practices

The 3-A SSI Working Groups and Steering Committee continued the intensive revision of all 3-A Sanitary Standards and 3-A Accepted Practices to the “B Level” format and style. This means that revised and new Standards and Accepted Practices will use ANSI/3-A 00-01-2018, 3-A Sanitary Standard for General Requirements (GR) as a normative reference. When completed, the conversion of existing standards to the new format will modernize the entire inventory of 3-A SSI documents and provide greater efficiency in updating these criteria in the future.

So far, the following (19) Standards and (1) Accepted Practice has been revised and published:

- **3-A Sanitary Standard for Uninsulated Tanks, 32-04**
- **3-A Sanitary Standard for Plate-Type Heat Exchangers, 11-10**
- **3-A Sanitary Standard for General Requirements, ANSI/3-A 00-01-2018**
- **3-A Sanitary Standard for Stainless Steel Automotive Transportation Tanks for Bulk Delivery and Farm Pick-up Service, 05-16**
- **3-A Sanitary Standard for Forgers, Fillers, and Sealers of Containers for Fluid Products, 17-12**
- **3-A Sanitary Standard for Flow Meters, 28-06**
- **3-A Sanitary Standard for Farm Raw Milk Storage Tanks, 30-02**
- **3-A Sanitary Standard for Scrapped Surface Heat Exchangers, 31-07**
- **3-A Sanitary Standard for Metal Tubing, 33-03**
- **3-A Sanitary Standard for Open Cheese Vats and Tables, 38-01**
- **3-A Sanitary Standard for In-Line Strainers, 42-02**
- **3-A Sanitary Standard for Crossflow Membrane Modules, 45-03**
- **3-A Sanitary Standard for Vacuum Breakers and Check Valves, 58-03**
- **3-A Sanitary Standard for Steam Injection Heaters, 61-01**
- **3-A Sanitary Standard for Sensors and Sensor Fittings and Connections, 74-07**
- **3-A Sanitary Standard for Spray Cleaning Devices Intended to Remain in Place, 78-03**
- **3-A Sanitary Standard for Auger-Type Feeders, 81-01**
- **3-A Sanitary Standard for Robot-based Automation Systems, 103-00**
- **3-A Accepted Practice for Sanitary Construction, Installation, and Cleaning of Membrane Processing Systems, 610-03**

A very important new Standard was added to our automated technology category; 3-A Sanitary Standard for Unitized Equipment for Automated Milking Installations, Number 102-00. The new standard fills an important benefit for all manufacturers, processors and regulatory sanitarians to help assure minimum sanitary design crite-
ria for AMI equipment. Work on this development effort began in May 2015.

Through a very active year, 3-A SSI facilitated numerous webinar sessions with volunteer Working Group Members for the drafting and review of project revision proposals for ongoing “B Level” Standards and Accepted Practices. A number of key conversion projects are in progress:

- WG 1 (Vessels) revision Project B-22-08-A for 3-A Sanitary Standard for Silo-Type Storage Tanks
- WG 2 (Fillers) revision Project B-17-12-A for joint 3-A Sanitary Standard for Formers, Fillers, and Sealers of Containers for Fluid Products and 3-A Sanitary Standard for Packaging of Viscous Products
- WG 3 (Valves & Fittings) revision Project B-53-06-A for 3-A Sanitary Standard for Compression Valves
- WG 4 (Pumps & Mixers) revision Project B-02-11-A for 3-A Sanitary Standards for Centrifugal and Positive Rotary Pumps
- WG 5 (Heat Exchangers) revision Project B-12-07-A for 3-A Sanitary Standard for Tubular Heat Exchangers
- WG 6 (Conveyors & Feeders) revision Project B-41-03-A for Mechanical Conveyors for Dry Milk and Dry Milk Products
- WG 7 (Instruments) revision Project B-50-01-A for 3-A Sanitary Standard for Level Sensing Devices for Dry Products
- WG 8 (Concentrating Equipment) revision Project B-607-05-A for 3-A Accepted Practice for Spray Drying Systems
- WG 9 (Farm & Raw Milk) new Project B-13-11-A for 3-A Sanitary Standard for Farm Milk Cooling and Holding Tanks
- WG 10 (Cheese & Butter Equipment) revision Project B-71-01-A for 3-A Sanitary Standard for Italian-Type Pasta Filata Style Cheese Moulders
- WG 11 (Process & Cleaning Systems) revision Project B-605-04-A for 3-A Accepted Practice for Permanently Installed Product and Solution Pipelines and Cleaning Systems
- WG 12 (Plant Support Systems) revision Project B-604-05-A for 3-A Accepted Practice for Supplying Air Under Pressure in Contact with Product or Product Contact Surfaces

The strength of 3-A SSI rests upon the unwavering commitment of its subject experts from across the spectrum of fabricators, processor and regulatory professionals to hygienic equipment design.