PROCEDURE:	**Sanitation**	**ISSUE DATE: 1/27/26**
AUTHORIZED FOR USE AT RC:	**1422 CENTER ROAD NEWVILLE, PA 17241**	**SUPERSEDES: 1**
ISSUED BY:	**JEFFERY THOMPSON**	**REVIEWED BY: D. Kauffman**
PROCEDURE NO.	**RC- PRP-05**	**REVISION NO. 2**

1. Purpose

This procedure establishes the methods and frequencies to clean all areas of Reykjavik Creamery production facility. Based on the products and manufacturing processes, a combination of dry and wet cleaning methods is used. Successful implementation of this procedure will help prevent contamination of food and processing areas caused by improper sanitation.

Reykjavik Creamery's sanitation program is a systematic approach to ensuring that all products produced are made in an environment that is cleaned in such a way as to prevent microbiological, chemical, physical, and allergenic contaminants. It is based on the requirements by the federal government as a means to develop and ensure a safe food supply.

Plant layout and construction affect microbial contamination and overall wholesomeness of the product. It is therefore especially important to ensure that clean air and water are available and that surfaces in contact with dairy foods do not react with the products.

Soils that are found in dairy plants include minerals, proteins, lipids, carbohydrates, water, dust, lubricants, cleaning compounds, sanitizers, and microorganisms. Effective sanitation practices can reduce soil deposition and effectively remove soil and microorganisms through the optimal combination of chemical and mechanical energy and sanitizers. This condition is accomplished through the appropriate selection of clean water, cleaning compounds, cleaning and sanitizing equipment, and sanitizers for each cleaning application. It is therefore important that processing facilities verify the effectiveness of their cleaning and sanitation program through microbial analyses of both product and various equipment and areas.

The management of Reykjavik Creamery is committed to providing the resources and training necessary to maintain our production facility and equipment to the highest standards of excellence while preventing the contamination or adulteration of our facilities and products.

The environmental impact of good cleaning and sanitation practices, as well as the careful regard given to the choice of products that we use in our facility are important considerations to the management of Reykjavik Creamery. These decisions and the application of these practices will improve not only the cleanliness of our facility, but diminish the phosphates, the BOD (Biological Oxygen Demand) and COD (Chemical Oxygen Demand) loads going into our wastewater lagoon.

2. Scope

This procedure covers the development and implementation of sanitation programs and activities for all production and warehouse areas of the facility. It is intended for any personnel involved with scheduling, performing, and inspecting cleaning activities.

3. Resources

- ✓ Equipment Cleaning SOPs
- ✓ Cleaning Chemicals
- ✓ Cleaning Supplies and Utensils
- ✓ Master Sanitation Schedule
- ✓ Cleaning Checklists

4. Responsibilities

Primary responsibility in the SOP falls to four (4) classifications of personnel.

Production Manager- the responsibility of this position is to establish cleaning procedures and develop the Sanitation Schedule. The Production Manager will also ensure that all personnel receive sanitation training annually and will validate and verify the effectiveness of the program.

Quality Assurance- the responsibility of this position is to perform inspection and verification activities.

Supervisors- the responsibility of this group is to provide necessary resources to accomplish effective cleaning. This includes time, labor, and cleaning tools.

Operations personnel- the responsibility of this group is to understand and follow all cleaning procedures.

5. Definitions

- **Potable Water:** Commonly known as "drinking water" means that the water meets the U.S. "National Primary Drinking Water Regulations (40 CFR 141)
- **ATP testing:** is a process of rapidly measuring actively growing microorganisms through detection of adenosine triphosphate. ATP is a molecule found in and around living cells, and as such it gives a direct measure of biological concentration and health. ATP is quantified by measuring the light produced through its reaction with the naturally occurring firefly enzyme luciferase using a luminometer. The amount of light produced is directly proportional to the amount of ATP present in the sample.
- **CFR:** Code of Federal Regulations is the codification of the general and permanent rules and regulations (sometimes called administrative law) published in the *Federal Register* by the executive departments and agencies of the federal government of the United States. The CFR is divided into 50 titles that represent broad areas subject to federal regulation.
- **CIP:** Cleaning in place can be described as the cleaning of equipment and vessels at the same place without movement of them to a different place. The cleaning agents can be transferred to the vessel or equipment types either thorough fixed piping or flexible hoses.
- **COP:** Cleaning Out of Place is defined as a method of cleaning equipment items by removing them from their operational area and taking them to a designated cleaning station for cleaning. It requires dismantling an apparatus, washing it in a central washing area using an automated system, and checking it at reassembly.
- **QA-** Quality Assurance

6. Procedure

Reykjavik Creamery has developed and will continue to improve upon their Sanitation program. Our food production facility has been designed first to be cleaned and secondly to perform the functions of the equipment.

Methods & Schedule

- Utensils and Equipment are cleaned according to the Pasteurized Milk Ordinance (PMO). Methods and frequency are included in the equipment CIP SOPs and COP SOP.
- Equipment exteriors and rooms are cleaned by foaming. Methods are outlined in the Foaming SOPs and Cleaning Checklists. Locations and frequency of foaming are included on Cleaning Checklists.
- Surfaces and equipment that are not cleanable through CIP, COP or foaming are cleaned by operations personnel by manual scrubbing and/or sanitized wiping using appropriate cleaning tools. Locations and frequency are included on Master Sanitation Schedule

Visual Inspection Responsibilities

- Utensils and equipment cleaned through CIP or COP are inspected by Operators prior to use.
- Equipment and rooms cleaned by foaming are inspected by QA
- Master Sanitation Schedule items are inspected by QA

Water

It is important to note that water is the best cleaner. Water removes most of the soils and carries them away, and it dissolves detergents and sanitizers and distributes them over the surfaces of equipment to accomplish the cleaning or sanitation objectives. No other component provides a more critically important role in the cleaning process. However, water can also be our worst enemy in food production facilities. Natural chemicals and microorganisms that can be present in our water can negatively affect both the cleaning and sanitizing processes. Reykjavik Creamery will therefore consider and treat our water as a food.

Water used in our facility will comply with local and nationally recognized **potable wate**r microbiological and quality standards as required.

The State of Pennsylvania conducts at least two full tests of the on-site well water system and provides the facility with the testing result reports.

Non-potable water is not used.

General Sanitation Considerations

Six Critical Areas where Plant Sanitation Problems can occur:

1. Clean, potable process water
2. Cleanliness of food-contact surfaces
3. Prevention of Contamination
4. Protection of food, food packaging, and food-contact surfaces from adulteration.
5. Control of employee hygiene that could result in contaminated food.
6. Pests: insects, mice, rats, and birds.

There are four (4) well distinguished cleaning situations:

1. Routine Cleaning: The cleaning procedures that are done every day, at the end of a shift, or at the end of the workday.
2. Deep Cleaning: The cleaning that is done when soil as accumulated, when procedures are changing, when a problem has been detected, when the routine cleaning is not correct or sufficient.
3. Emergency Cleaning: The procedure that is performed when an accident occurs, and cleaning cannot wait until the end of the shift.
4. Cleaning new equipment: The procedures done mainly to eliminate the machining lubricants and polishing powders and protectants.

Methods of Cleaning used within the production facility:

1. Manual Cleaning – Physical cleaning done by hand by action of scrubbing
2. **CIP** cleaning or Clean In Place
    a. **Never recirculate soiled rinse water or wash water** (Purge the water that contains most of the soil)
    b. Burst Rinsing is most effective. The burst rinses vary from wash to wash.
3. **COP** cleaning or Clean Out of Place

Steps in all Cleaning Processes:

1. Warm Rinse to thoroughly remove organic matter; until rinse water is clear.
2. Hot Detergent Wash, 145-155°F for CIP wash
3. Rinse: Room Temperature
4. Sanitization: Room Temperature

4 Critical Factors Facilitating the Cleaning Process:

1. **Temperature**: should be higher than the melting temperature of the fats and greases used in production. Most grease will melt at 113°F. Each cleaner has specific recommendations to be followed.
2. **Cleaner Concentration**: It is important to use the correct concentrations of chemicals from the manufacturer. Too little will be ineffective, yet too high can damage equipment and require larger amounts of rinse water for effective removal.
3. **Cleaning Time**: Cleaning improvements can be made by adding more time or repeating this particular cycle. As in other cases though, there is a point at which increasing time will have no more positive effect. Minimizing the time taken to initiating the cleaning process will also increase its efficiency. Residues increase in viscosity as they cool. In addition, as they dry in the presence of heat applied, they will oxidize or otherwise react with other components and become more difficult to remove.
4. **Mechanical Action**: Higher velocity or more turbulence increases the effectiveness of the cleaning cycle.

Reykjavik Creamery has adopted a "Clean-As-You-Go" policy. This policy is about keeping the work area clean and tidy during the workday and places the responsibility on *all* employees to maintain safe and sanitary conditions at all times when carrying out daily duties within our production facility. This may include cleaning up spills, wiping down surfaces, removing waste to trash cans and generally keeping the work area, tools and equipment and personnel to the required levels of hygiene to produce safe products.

*It is very important to emphasize how important proper handwashing procedures are when employees are performing clean-as-you-go procedures.

Monitoring Procedures

Monitoring methods shall be based on current proper scientific methodology and will be audited on a timely and routine basis.

1. Chemical Concentrations: Checked daily by the Production Supervisor, leads or their trained designee.
2. ATP Swabbing: Performed by QA Manager or their trained designee in areas where production is occurring to verify that cleaning procedures were effective. Can also be used to validate sanitation procedures by testing prior to cleaning being done and again after the cleaning has been done over a series of days to show that the cleaning process was effective.
3. Visual Inspection: Performed by QA or Operations Personnel after a cleaning procedure is complete; visual inspection is made to verify that cleaning procedures were effective.
4. Air testing: 3M Aerobic Count plate testing of air in processing, packaging, Lab, and HTST rooms done monthly by QA.
5. Listeria testing with 3M swabs of Zones 2-4; These tests will be performed by QA or a trained designee on a planned monthly schedule. Note: No Listeria 3M swabs done in Zone 1. If performed, all product made in this equipment must be held until testing results are confirmed.
6. Finished Product testing: coliform, yeast and mold testing post manufacture of all products to show that pasteurization CCP was effective at eliminating potential pathogenic contamination; done by QA.
7. Appendix N: Done by QA or their trained designee on a daily basis. This testing is done for milk screening for the presence of antibiotics.
8. pH testing: This testing, as it pertains to sanitation…
    a. Rinse Water: to ensure that return rinse cycles are clear/clean - is done by the Production Manager or their trained designee daily during cleaning cycles of equipment (UF only);
    b. Ice Builders: used to test the alkalinity of our ice builders to maintain this water supply at the correct pH of 10 per the manufacturers instruction. Ice builder pHs are checked and documented each month by the Maintenance Manager or their trained designee.

<u>Corrective Actions</u>

Corrective action procedures will be determined and documented. These procedures will define the action that is to be taken, the disposition of the non-conformance, and the correction of the root cause of the non-conformance.

Verification

All Sanitation plans are reviewed for effectiveness annually or when any changes in the product or process have an impact on food safety. This review will ensure that the programs are being followed and that the procedures and frequencies are appropriate to maintain food safety.

Recordkeeping

All Sanitation plans and monitoring forms will be documented and maintained.

7. Quality Control

1. Personnel who perform the cleaning will sign off on their assigned tasks indicating that the cleaning was completed according to procedure.
2. The QA technician will verify that the PMO is followed and validate the effectiveness of sanitation by performing bioluminescence testing on random production equipment.
3. Overall sanitation effectiveness is verified monthly by the Environmental Monitoring program.
4. The Quality Assurance Manager will review this procedure at least once per year.
5. The Quality Assurance Manager will review all monitoring documents.
6. Any changes in the Sanitation procedures will be validated and verified by the SQF Practitioner.
7. The effectiveness of the sanitation program's SSOPs will be verified by the SQF Practitioner.

8. References

Master Sanitation Schedule
Cleaning Checklists
Titration Logs
Operational Checklists
Equipment CIP SOPs