Food Safety & Quality Policy

Policy No.: 5.1.05
Title: Facility & Equipment Maintenance
Section: Food Safety: Current Good Manufacturing Practice, Hazard Analysis, and Risk-Based Preventive Controls for Human Food
Issue Date: 04/08/2019
Revision(s): 0

Purpose:

The purpose of this policy is to define quality-related requirements pertaining to equipment maintenance. These are designed to prevent or minimize equipment failures and to ensure that maintenance and repair activities will be carried out in a manner that reduces risk of product, packaging, or equipment contamination.

Policy:

The Company ensures that Partner Facilities take appropriate measures to prevent equipment and maintenance activities from becoming potential sources of contamination. Based on risk, quality requirements for maintenance are implemented in GMP-designated areas. The Company recommends that Partner Facilities maintain local preventive maintenance procedures based on their operations, equipment, and historical evidence.

1.0 Maintenance Training: Maintenance personnel and contractors (if applicable) are trained on GMPs and follow established GMPs when working in GMP-designated areas. Mechanics are included in annual GMP training as outlined in Policy 5.1.1 Employee Food Safety & Quality Training. Mechanics are instructed to report and document when performing maintenance in GMP areas and when maintenance activities present risks to food safety and/or quality. In addition, personnel performing maintenance on equipment in GMP areas maintain clean tools suitable for product contact equipment.

2.0 Preventive Maintenance Schedule: Maintenance managers incorporate all equipment in GMP-designated areas into a preventive maintenance program. Preventive maintenance is predetermined and documented on a schedule or routine inspection.

3.0 Equipment Recommendations and Maintenance: Maintenance managers are given the responsibility for determining and overseeing maintenance activities. Outlined below are quality-specific requirements that managers consider when scheduling and conducting maintenance:

3.1 Scrolls: Facilities include scrolls in routine inspections to include evaluation for noise, drive, bearings, adequate closure, and any other items deemed necessary by the facility. Internal bearings are constructed of appropriate materials for indirect contact with food.

3.2 Elevators: Facilities incorporate elevators on routine inspections to include belt or chain tension, belt tracking, noise, head and tail pulleys and any other items deemed necessary by the facility.

3.3 Blown Air Systems & Dust Collection: Facilities ensure that air systems are filtered to minimize dust. Air systems may include granulator intake air, tote machine air, and car pressurization equipment. Filter recommendations are a MERV 8 or greater. Filters must be stored in a sanitary manner and maintained in a clean state.

3.4 Compressed Air: Compressed air lines for direct food or packaging contact are fitted with a filter no larger than 0.5 micron. Filters, including particulate, coalescing, and/or oil are changed annually. Oil for compressors used in this application must be food grade or employ an oil-free compressor.

3.5 Silo Maintenance: Sugar silo maintenance involves personnel performing maintenance directly above or on top of sugar supplies and possesses very high risks if not managed properly. Facilities take all precautions to ensure maintenance in these cases do not present contamination dangers.

3.6 Boilers for Liquid Sugar: Facilities ensure that all boiler chemicals are food grade and kosher certified.

3.7 Filters, Screens, and Strainers: Facilities ensure filters, screens, and strainers are constructed of either food grade material (sock filters) or stainless steel. Light gauge wire screens such as those in classifying equipment should be magnetic stainless steel.

3.8 Pumps: Pump leaks should be repaired quickly to prevent sanitation and/or pest control problems.

3.9 Pipes Hoses & Fittings: All liquid product piping should be stainless steel. Portable product hoses are FDA-approved food grade. Gaskets are white, FDA-approved food grade. Facilities employing portable hoses provide rack systems to allow proper storage of hoses and enclosed containers to store spare, sanitized fittings. Facilities maintain hoses in good repair and replace damaged hoses.

3.10 Water Treatment: Liquid sugar facilities treat ingredient water through filtration/RO, softening, and carbon filtration. Facilities install 5-micron filters for incoming water and monitor the filters by manual inspection or pressure monitoring. Facilities determine frequencies for monitoring based on historical evidence. Softeners are installed when water hardness exceeds 200 ppm of CaCo3. Carbon columns are installed when there is a risk for elevated chlorine levels e.g. municipal water source or treated well water. Column effectiveness is verified by periodic chlorine testing before and after the column using DPD Method 8167. Facilities determine chlorine testing frequency based on risk.

3.11 Liquid Storage Tanks: Liquid storage tanks are constructed of 304L or 316 stainless steel or mild steel. If liners are used, tanks are lined with food grade epoxy liners (ISBT guidelines outline preferred liners). Storage tanks positioned outside are insulated. Facilities CIP sanitize any liquid tanks after periods of maintenance prior to use. Additional requirements are as follows:

3.11.1 UV Lights: Ionizing radiation is employed to treat air entering tank headspace. Facilities maintain UV light effectiveness by changing the bulbs every six months. Facilities install filters between the UV lamps and the tank interior to prevent contamination if bulbs are broken. UV lights installed at ground level should be insulated to prevent condensation. A drain may be required.

3.11.2 Forced Air Blower: Where possible, a forced air blower should be installed to scrub moisture from the headspace of the tank, to mitigate potential microbiological problems at the product surface. The blower should be sized so that the air transfer rate is equivalent to four (4) tank volumes per hour. Forced air blowers are not required for facilities turning over liquid sugar tanks every 24 hours.

3.11.3 Air Filters: Incoming air should be filtered with a prefilter and a HEPA-type that is 99% efficient at 0.3 microns. HEPA filters should be changed annually or more often as needed. Air discharge vents should be “U” shaped and must be screened with fine mesh stainless steel to prevent debris or insect contamination.

3.12 Wash Bay Spinners and Spray Balls: Spinners and spray balls are evaluated with each use and their inspection incorporated into the preventive maintenance schedule.

4.0 Equipment Failures: Failures of plant equipment are documented in facility records and, if deemed necessary by maintenance managers, incorporated into preventive maintenance schedules. Facilities identify non-functioning equipment by using LOTO or caution tape while not in use.

5.0 Temporary Repairs: Temporary repairs include repairs with materials such as wood, duct tape, cardboard, and string or twine. Temporary repairs are not permitted during normal operations. If a temporary repair is needed for emergency cases, the repair is documented and facilities submit work orders to make the repairs permanent.

6.0 Loose Equipment: Facilities do not permit loose objects or tools to be stored on equipment.

7.0 Maintenance Tool Verification and Cleanup: Facility-designated personnel clean affected areas after maintenance to remove potential contaminants, tools, loose objects, and parts. Individuals performing maintenance complete documented post tool and part verification checks and designated personnel, typically foremen and/or designees, inspect areas prior to commissioning equipment back into service. Mechanics document all maintenance in GMP areas.

8.0 Grounds & Facility: In addition to the external requirements relating to harborage abatement outlined in Policy 5.1.03 Integrated Pest Management, facilities facing dust issues suppress dust during the dry months by employing water tankers to target unsealed roadways.

9.0 Lubricants: Facilities ensure that all lubricants utilized in GMP-designated areas are of food grade status and allergen free. Lubricants are subject to Policy 5.1.16 Chemical Control and Approval. The use of lubricating compounds is controlled and management cautions employees against overuse. Food-grade lubricants are stored independently from non-food-grade chemicals and are protected from contamination.

10.0 Paints: Facilities manage paints to ensure that they do not contaminate food products or packaging. Facilities remove peeling paint as needed and prohibit personnel from painting food contact surfaces. Paints are labeled, segregated, and stored in designated areas.

11.0 Food Contact Equipment: All equipment that contacts food products in GMP areas are constructed of suitable material and, where applicable, FDA food grade. This includes all poly filters, gaskets, silicone, etc.

Responsibility: The responsibilities for implementing this policy are:

Quality Assurance Team: Responsible for interpretation of FDA law, certification standards, and their application to Company policies.

Maintenance Manager: The maintenance manager may be the facilities manager, on shift superintendent or area designate (inter-campaign), mechanical supervisor, warehouse manager, or facility designate. Maintenance manager is responsible for overseeing completion of all routine or non-routine repairs on equipment and/or the facility or delegating authority as appropriate.

Partner Quality Assurance: Responsible for verifying the implementation of this policy through facility inspection, internal auditing, and prerequisite program verification.

Forms & Documents:

Doc. No.:	Doc. Title:	Description:
		There are no standardized forms or documents associated with this policy.

Amendments:

Date:	Rev. No.:	Description:
04/08/2019	0	New policy generated to incorporate partner facilities. Revisions considered NSM, Amalgamated, and SMBSC policies.