NATIONAL SUGAR MARKETING

Food Safety & Quality Assurance Manual

2024 General Revision

Amalgamated Sugar

SMBSC

Spreckels Since 1891 ALL NATURAL SUGAR

Introduction

National Sugar Marketing ("NSM") and its shareholders Amalgamated Sugar, Southern Minnesota Beet Sugar Cooperative, and Spreckels Sugar strive to maintain a world-class food safety and quality assurance program. We choose to lead the industry in food safety and quality by ensuring that our programs and practices embody industry best-practices, exceed customer expectations, and meet all regulatory requirements.

This manual communicates all standardized, food safety and quality requirements in place at company-owned facilities. Requirements are communicated through policy, standard operating procedures, and standardized forms. Our Member Partners are fully committed to providing appropriate resources to maintain our HACCP-based programs and drive for continuous improvement. These documents have been created to meet customer expectation, Safe Quality Food certification standards, British Retail Consortium certification standards, and American Baking International certification standards.

Questions, comments, or change requests can be submitted to quality@natsugar.com.

Food Safety & Quality Assurance Manual

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1.0 Management Commitment

1.1 Commitment to Food Safety and Quality

The primary mission of National Sugar Marketing ("NSM") is to provide our customers quality products at competitive pricing on a national platform. We have partnered with industry leaders, cooperatives, and local communities to achieve our mission; to provide our valued customers the products and services they expect. Our member partners, Amalgamated Sugar, Southern Minnesota Beet Sugar Cooperative, and Spreckels Sugar Company are committed to this mission and to manufacturing safe and authentic sweeteners. This pursuit has granted us recognition as a premium supplier in food, beverage, and pharmaceutical industries.

NSM and its member partners are fully committed to providing appropriate resources to maintain HACCP-based and regulatory-compliant food safety and quality assurance programs. Our programs and facilities are audited annually by internationally accredited agencies to ensure compliance with local regulations and industry best practices. To further advance our commitment, all processing locations meet the stringent requirements of Global Food Safety Initiative (GFSI) certification standards. Our partner facilities, both domestic and abroad, take the actions necessary to ensure compliance with the Federal Food, Drug and Cosmetic Act and all current requirements set forth in the Food Safety Modernization Act.

To maintain our status in the industry, our teams have a long-standing tradition for championing continual improvement. These efforts consistently improve our processes, programs, and products, which ensures fulfillment of our mission and that we consistently exceed customer expectations. Part of this is to establish a food safety and quality culture with objectives that we review annually. Our success in these objectives requires a commitment from each one of us and to understand our role in a larger team with a shared mission. We provide our staff with training and instruction to report food safety and quality problems to personnel with the authority to initiate action to ensure continuity of our established culture.

We continue to demonstrate ethical responsibility to our customers, our member partners, the community, and the environment. Our efforts set a precedence in our industry and provide benefit for our customers and member partners.

1.2 Change Management

1.2.1 Purpose

The purpose of this policy is to outline the Company's program for handling significant changes to equipment, process, policy, packaging, labeling, and specifications that might affect food safety and quality assurance.

1.2.2 Policy

Changes that affect the quality and safety of our products are subject to formal change control processes. Such processes provide a managed and orderly method for key personnel to handle changes. Changes are requested, evaluated, validated, reviewed/approved, communicated, implemented, and documented. Depending on the nature of the change, changes are handled and on a multi-Partner level, e.g., standardized policy change, or on a Partner corporate level, e.g., process or equipment change. Some changes will also require customer notification.

1.2.2.1 **Significant Changes**: Facilities evaluate the significance of a change regarding quality and food safety based on if the change affects the final product. Whenever the change affects the final product's physical and chemical properties as a direct result of the change or if it affects the food's safety, quality, or legality, then the Company deems such a change as significant, and it is subject to this policy.

1.2.2.2 **Change Proposal Requirements**: Changes that have been evaluated and considered significant will require the following actions:

Local or Partner Changes: Partners handle all local changes, including but not limited to process, equipment, raw material, etc., according to local processes. These processes ensure that change requests are reviewed and validated before implementation. Supervisory personnel participate in change reviews.

Multi-Partner Change Request Submission: Partners requesting changes to NSM quality assurance or standardized food safety policies submit requests via an online form: Food Safety & Quality Change Request Form. NSM retains submissions and coordinates review with applicable Partners. This process includes the following steps:

Change Request Review: NSM reviews proposed changes with applicable Partner personnel by jointly reviewing a submitted request. This review determines actions to be taken and if changes require validation.

Documented Validation: Quality assurance personnel, based on requesting locations, validate changes before implementation and documents any trial data.

Customer Notification: The Director of Quality, or designate, and Account Support Department notify customers if the change affects the customer. Typically, customer notification includes changes to specifications or sourcing product from alternate suppliers.

Requester Notification: After evaluation, members of the Quality Assurance Team inform the requester after final reviews, validation, and changes are made, including any additional training that might be required. Policy changes are communicated to the Quality Assurance Team.

1.2.2.3 **Change Types**: The requirements for a formal change control process will vary based on the type of change. The list below briefly outlines some basic requirements as well as guidance to which parties typically handle such changes:

Equipment: (Local/Corporate) Facilities evaluate intended changes to equipment through process improvement and engineering meetings and formal approval through a documented requisition approved by the facility manager. These types of changes are managed locally. Changes to equipment in the scope of HACCP require change management and validation, excluding equipment replaced with similar equipment.

Process: (Local/Corporate) Facilities evaluate modifications to the process in coordination with local/corporate quality assurance when there is concern that the intended change may affect product quality. Evaluations should also include new processing aids for Kosher certification/approval and allergens verification.

Standardized Policy: (NSM/Partner) Quality Assurance documents and updates policies in the Food Safety and Quality Assurance manual as the need arises. The Director of Quality Assurance approves these changes. Annually, a corporate team, consisting of members from each partner reviews all amendments to the policies in a formal meeting. The newly reviewed manual is published electronically. These requirements are covered in Policy 1.5 Food Safety and Quality System Review (Management Review).

Packaging: (NSM/Partner/Customer) Changes to packaging require corporate purchasing approval with collaboration with quality assurance. Except for non-private label artwork, packaging changes require customer notification. Validation typically involves supplier letter of guarantee that material meets FDA Indirect Food Additives criteria outlined in the Code of Federal Regulations.

Central Laboratory: (NSM/Partner/Customer) Laboratory changes relating to national formulary sugars will need to be addressed with customers receiving these products. In some cases, these will be require verification with written agreements. Additional items not listed in the general list include, outsourcing analyses, lab location changes, major changes to reporting systems, test methods, etc.

Labeling: (NSM/Partner/Customer) All labeling changes are coordinated through Partner Quality Assurance and the Director of Quality Assurance. Updates require customer notification, unless it is a regulated event affecting all food, e.g., National Labeling Education Act.

Raw Material: (Local) Major changes to raw material types require local/corporate quality assurance notification and risk analysis.

Specification: (NSM/Partner/Customer) The Director of Quality Assurance manages changes to standardized product specifications. Customer-specific specifications are agreed upon by the Customer, NSM Quality, and Partner Quality and are entered directly into Partner software (JDE, Sugartrax, Prism).

Emerging Product Hazards: (NSM/Partner) Whenever new information is published about emerging hazards, Quality Assurance reviews the facility's food safety plan. Policy 3.3 Technical, Regulatory, and Industry Updates outlines methods for ensuring that NSM and Partners are informed on industry and regulatory updates.

Food Safety Plan Failure: (NSM/Partner/Customer) If NSM Quality Assurance Team determines that a food safety plan is ineffective or there is an unanticipated problem arising from a corrective action, the food safety plan must be reviewed. Examples of this could be ineffective critical control points, ineffective critical limits, or excess customer complaints surrounding the controlled hazard.

1.2.2.4 **Change Management Records**: Facilities maintain records about the evaluation, validation, approval, review, and implementation of significant changes. All multi-partner change requests are maintained via an electronic database and available for review upon request.

1.2.3 Responsibility

Quality Assurance Team: Responsible for coordinating change request reviews, implementing changes, and for determining which process require formal change control requirements.

NSM Director of Quality Assurance: Responsible for overseeing specification approval and the customer notification process. This process typically involves Account Support assistance. Responsible for overseeing customer notification where required.

Account Support: Responsible for assisting with customer notification where required.

NSM Quality Assurance: Responsible for maintaining the change request database and coordinating and conducting a policy review. Responsible for assisting with customer notification where required.

Local/Partner Quality Assurance: Responsible for participating in the multi-partner change management process and for ensuring local changes are reviewed and validated for food safety.

Supervisory Personnel: Responsible for participating in the approval process for local changes.

1.2.4 Forms & Documents

Doc. No.:	Doc. Title:	Description:
1.2-01	Food Safety & Quality Change Request Form	An online form utilized for multi-partner change request submissions.

1.3 Continual Improvement Measures & Food Safety Objectives

1.3.1 Purpose

The purpose of this policy is to outline the general requirements for measuring and demonstrating continual improvement for facilities certifying to a Global Food Safety Initiative (GFSI) standard.

1.3.2 Policy

The Company and Partner Facilities engage in continual improvement by establishing food safety objectives and monitoring the effectiveness of food safety and quality programs. Part of continual improvement is engaging employees through training and metric reporting to make informed decisions. Methods for continual improvement are in place to measure effectiveness (validate) and pinpoint potential deficiencies to foster continual improvement. Facilities certifying to a GFSI-recognized standard maintain food safety objectives and annually review the facility's performance considering the objectives (BRCGS certified facilities review food safety objectives quarterly).

1.3.2.1 **Food Safety Objectives/Quality Metrics**: Food safety objectives are tools for diagnosing and thoroughly improving cGMP areas of the food safety program through a focused, goal-based system. Food safety objectives originate from the conclusions of annual reviews, and the Quality Assurance Department selects them based on priority. The following items constitute annual food safety objectives:

1.3.2.2 **Customer Satisfaction and Shipping Accuracy**: Reduce customer complaint trending compared to the same quarter of the previous year, and for the year ending averages. The number of shipments should be utilized for calculations. Information may be obtained from quarterly and annual customer complaint trending:

- Maintain a successful shipment rate of 99.5%. Calculated by a ratio of number of shipments and complaints
- Maintain a successful shipment rate of 99.9% for food safety related issues where culpability is assigned to facility
- Reduce total cost of complaints per shipment by 3% compared to the average of the prior three years or maintained under $0.03/CWT.

1.3.2.3 **Complaint Response**: Demonstrate that an investigation has been initiated, as appropriate, with a goal of 100%. Facilities provide investigation information based on the risk level assigned to the complaint. Complaint categorization is defined in Policy 1.6 Customer Complaint Management.

The Company sets goals for customer responses based on complaint severity. The goals are outlined below and are used as guidelines. In some cases, a finalized response is not feasible in the given timeframe; but communication must be initiated within that timeframe.

- **High**: 48 hours
- **Moderate**: 15 days
- **Low**: 30 days

1.3.2.4 **Third Party Audit Certification**: All locations will achieve passing certification from an independent, third-party auditing body. Facilities manufacturing products are certified against standards benchmarked by the Global Food Safety Initiative (GFSI). Facilities involved in storing product with minimal handling, including product conversion stations, certify to the American Institute of Baking Consolidated Standards for Food Safety.

Based on the facility's standard, facilities will strive for the following ratings:

- SQF-certified facilities will maintain a "Good" rating
- BRCGS-certified facilities will maintain an "A" grade

1.3.2.5 **Documentation & Recordkeeping:** Facilities will monitor routine records. The review process for compliance will include an explanation of excursions or deviations.

At a minimum, these records will be evaluated by sampling a percentage of the total generated:

- Master sanitation schedules with completion rate of 85%
- has there been any food safety issues, customer complaints, or internal incidents that have directly related to PM non-completion or an issue with PMs frequency within the last year
- Preventive maintenance inspections are sufficient to ensure that there haven't been any customer complaints directly attributable to a lack of preventive maintenance.

1.3.2.6 **Food Safety & Quality Internal Issues**: Facilities will continually monitor food safety and quality issues and, during the review, will document explanation for any deviations from defined goals.

The following items will be considered:

- Reduce the number of incidents by 3%
- Reduce the number of unplanned equipment repairs by 3%
- Maintain zero catches in designated no-catch zones (GMP-designated areas excluding bulk loading areas)
- Reduce the number of HACCP deviations by 3%
- Meeting all internal facility inspection criteria
- Reduce the number of unplanned Liquid-Only shipments by 5%, calculated annually

1.3.2.7 **Not Achieving a Goal**: The Company expects some areas from time to time in which trending will not achieve an intended goal. Quality assurance examines these areas more closely until improvement is noted and, depending on the item, issue corrective actions per Policy 1.4 Corrective Actions and Root Cause Analysis.

1.3.3 Responsibility

Quality Assurance Team: Responsible for defining annual food safety objectives for SQF and BRCGS-certified facilities.

Partner Quality Assurance: Responsible for evaluating facility performance to established food safety objectives according to frequencies defined by certification standards.

1.3.4 Forms & Documents

Doc. No.:	Doc. Title:	Description:
		There are no standardized forms or documents applicable to this policy.

1.4 Corrective Actions & Root Cause Analysis

1.4.1 Purpose

The purpose of this policy is to outline the responsibility and requirements for handling corrective actions.

1.4.2 Policy

NSM and Partner Facilities utilize corrective and preventive action methodology for incidents and non-conformances. Corrective action processes identify root causes, document investigations, declare preventive measures, and allows tracking for future effectiveness validation.

1.4.2.1 **Corrective Action Determination:** NSM and Facility Quality Assurance determine the need for corrective actions and manage the process. Corrective actions can address issues noted from customer complaints, audit results, incidents, and internal discoveries. Not all nonconformities can be adequately prevented; therefore, not all corrections or complaints will have a subsequent corrective action**.**

1.4.2.2 **Corrective Action Initiation and Documentation:** Partner Quality Assurance and NSM initiate and document corrective actions for nonconformances arising from various sources: internal audits, facility inspections, customer complaints, internal incidents, etc.

Customer Complaints: NSM Quality Assurance and Partner Quality Assurance respond to customer complaints by utilizing standard documentation and methodology (5 Why Technique).

General Corrective Actions: Partners determine the need, format, and methodology for non-complaint related corrective actions.

1.4.2.3 **Preventive Measures:** Facilities implement preventive measures to prevent recurrence. Preventive measures may be implemented on a local or company-wide scale depending on the nature of the incident and the results of root cause analysis.

Local Preventive Measures: Preventive measures handled locally typically involve modifications to equipment, employee training, modifications to local work instructions/procedures, etc. Partner Quality Assurance manages all local preventive measures.

Company-Wide Preventive Measures: Company-wide measures are communicated to the Quality Assurance Team for implementation and typically involve modifications to standardized policy, records, or procedures. During this process, members of the Quality Assurance Team are notified, and change control measures are implemented per Policy 1.2 Change Management.

1.4.2.4 **Management Review:** Facilities incorporate corrective actions into management review programs. All corrective actions are reviewed upon completion and reviewed during the annual management review.

Initial Review: Initial review consists of management signature and incorporates the proposed plans for implementation. Physical or digital signatures are acceptable.

Annual Management Review: Corrective actions are incorporated into annual management reviews to verify/validate changes. Incorporation should align with the requirements of Policy 1.5 Food Safety and Quality System Review (Management Review).

1.4.3 Responsibility

Quality Assurance Team: Responsible for interpretation of FDA law, certification standards, and their application to Company policies. Responsible for reviewing and implementing company-wide corrective actions.

NSM Quality Assurance: Responsible for overseeing the corrective action process for customer complaints with the assistance of Partner Quality Assurance. NSM Quality oversees the company-wide implementation with support from the NSM Quality Assurance Team.

Partner Quality Assurance: Responsible for overseeing the corrective action process on a local scale and supporting NSM Quality in corrective actions involving customer complaint and company-wide implementation.

1.4.4 Forms & Documents

Doc. No.:	Doc. Title:	Description:
		There are no standardized forms or documents applicable to this policy.

1.5 Food Safety & Quality System Review (Management Review)

1.5.1 Purpose

The purpose of this policy is to outline the Company's food safety and quality assurance system review program, including local management reviews. Formal handling of reviews ensures that our quality programs align with current regulations, industry best practices, and customer expectations.

1.5.2 Policy

The Company and partner facilities conduct management reviews of the food safety and quality programs every calendar year and coordinate monthly meetings to review current topics. The Quality Assurance Team schedules program reviews with relevant personnel, and Partner Quality Assurance communicates results of reviews to local management.

1.5.2.1 **Annual Reviews:** NSM Quality Assurance schedules annual food safety and quality assurance reviews for standardized elements of food safety and quality programs. During annual reviews, meeting members review shared quality assurance policies, standard operating procedures, and current issues that would affect multiple locations. Records annual reviews utilize meeting minutes to be shared with local management personnel.

Items	Notes
Policy Statement	Reviewed as changes are needed.
Customer Complaints	Quarterly and annual trending is emailed to key personnel. Complaints affecting policy are reviewed during the annual meeting.
Food Safety and Quality Manual/ Standardized SOPs	Reviewed during the annual meeting.
Food Safety Objectives	Reviewed during the annual meeting.
Regulations and Technical Developments	Reviewed as needed during the annual meeting.
Product Withdrawal and Recall	Corporate procedure review
Specifications	Reviewed and uploaded each year electronically.
Food Fraud Assessment	Reviewed and uploaded each year electronically.
Corporate Risk Assessments	Reviewed and uploaded each year electronically.
Supplier Approval	Sugar supplier review. Documents stored electronically.
Prior Year Review Items	

1.5.2.2 **Monthly Quality Meetings:** NSM Quality Assurance hosts monthly quality meetings to discuss current internal issues, program updates, customer complaints, and customer audit information. Records of these reviews utilize meeting minutes that are emailed to key personnel and posted to all Partners electronically. Calls may be postponed in cases where team members are on site at a given facility and meetings are conducted in person, e.g., internal audit. NSM strives to achieve monthly meetings at least ten months in a given calendar year.

Items	Notes
Monthly Management Updates	Corporate level monthly updates.
Customer Complaints	
Internal and External Audit Results	
Local incidents	

1.5.2.3 **Review Guidelines & Local Reviews:** Annual review or monthly quality call meetings do not cover all elements that may be required for a facility's certification standard. Outlined below are some suggested additional items for review that may not be covered during corporate, annual, or monthly reviews. The information presented below is for guideline purposes only. In cases where an annual review misses a certain topic, Partner Quality Assurance reviews missed topics locally. The following table outlines the criteria that should be reviewed during local reviews:

Local/Partner Reviews	
Items	**Notes**
Customer Complaints	Annual reviews will not cover all complaints.
Food Safety Plans (HACCP)	
Food Safety Objectives	Local performance to objectives.
Monthly Management Updates	Local level monthly updates.
Pest Control Surveys	Review of annual PCO survey.
Risk Assessments	Local risk assessments not covered by the corporate review.
Incidents and Corrective Actions	
Crisis Management Planning	
Food Defense Plan	
Food Defense Vulnerability Assessment	
Food Safety Culture	Review of food safety culture performance to established metrics.
External Environment	
Supplier Approval	Local packaging and raw material suppliers.
Traceability	

1.5.3 Responsibility

Quality Assurance Team: Responsible for interpretation of FDA law, certification standards, and their application to Company policies. Responsible for coordinating annual standardized policy reviews and reviewing shared criteria. Responsible for conducting monthly quality assurance review calls.

Partner Quality Assurance: Responsible for scheduling and overseeing the local quality assurance reviews and covering all items not addressed through annual reviews and the monthly quality assurance review calls.

1.5.4 Forms & Documents

Doc. No.:	Doc. Title:	Description:
N/A	System Review Meeting Minutes	A summary of review items, action items, industry updates, and other items integral to the system review documented on an uncontrolled summary.

1.6 Customer Complaint Management

1.6.1 Purpose

The purpose of this policy is to outline the Company's program for handling customer complaints. Effective complaint handling drives root cause analysis and continuous improvement.

1.6.2 Policy

The Company addresses all customer complaints and the NSM Quality Assurance Team is responsible for general oversight of the complaint program, including overseeing root cause investigation and closure and customer correspondence.

1.6.2.1 **Complaint Receipt & Communication:** Complaints may be received by multiple parties, including Account Support Department representatives, NSM Quality Assurance, Partner Quality Assurance, and local warehouses. Receiving parties communicate complaint information to NSM Quality Assurance as complaints are received. NSM strives to initiate customer communication within 24 hours for food safety/security complaints and five (5) business days for quality complaints that do not affect customer production. NSM Quality Assurance submits complaint information to all Partners promptly by emailing pertinent complaint information within 48 hours.

1.6.2.2 **Complaint Classification:** NSM Quality Assurance classifies customer complaints during the receipt and communication process. Classification can be described as the following:

- **Low:** Customer has noted an issue with the product, but the issue has not resulted in a product rejection nor a customer hold of their products.
- **Moderate:** Customer has noted an issue with the product that has resulted in a rejection or hold of sugar products.
- **High:** Customer has noted an issue with the product that has subsequently resulted in the customer holding their finished products or retrieving their products from commerce.

1.6.2.3 **Intercompany Complaints:** Intercompany warehouses communicate product/shipment issues using the electronic complaint management system. The Company handles intercompany complaints in the same manner as customer complaints.

1.6.2.4 **Complaint Standard Operating Procedure**: The Company has documented the customer complaint process in SOP 1.6-01 Customer Complaint Handling. The shared SOP is made available to all Partners electronically.

1.6.2.5 **Complaint Corrective Actions & Customer Response:** Partner facilities implement corrective actions for customer complaints by Policy 1.4 Corrective Actions and Root Cause Analysis commensurate with the seriousness of the complaint. Occasionally complaints are lodged for informational purposes only. The Company recognizes that not all customer complaints require corrective actions. In these cases, The Company does not provide customer responses and corrective action summaries.

1.6.2.6 **Complaint Records**: NSM Quality Assurance maintains complaint records electronically and works with Partner facilities to gather documentation pertinent to complaints. Records include initial investigations, corrections, root cause analyses, and corrective actions. Electronic complaint information can be made available upon request.

1.6.2.7 **Complaint Trending and Communication:** NSM Quality Assurance provides complaint trending to all Partners, with data reporting of quarterly and annually.

1.6.3 Responsibility

Quality Assurance Team: Responsible for facilitating the customer complaint system, including receipt, customer contact, internal communication, corrective action coordination, customer response, and customer recompense.

NSM Logistics Team: Responsible for coordination of replacement orders, product removal, customer recompense, and logistics.

NSM Quality Assurance Team: Responsible for general oversight of the customer complaint program and customer correspondence.

Partner Quality Management: Responsible for conducting root cause analyses, communicating complaints to local senior management, and coordinating corrective actions.

1.6.4 Forms & Documents

Doc. No.:	Doc. Title:	Description:
1.6-01	Customer Complaints	Standard Operating Procedure outlining the business process for handling customer complaints.

1.7 Crisis Management & Contingency Planning

1.7.1 Purpose

The purpose of this policy is to outline the business processes for preventing service disruptions during a crisis.

1.7.2 Policy

The Company implements crisis management teams and plans to ensure that crises are handled promptly and that affected product is not inadvertently released into commerce. Crisis management plans also attemt to ensure that shipments to customers are not disrupted and that any affected product is held and verified prior to release.

1.7.2.1 **Crisis Management Teams:** NSM maintains a 24-hour emergency contact list. This list is made available under NSM Emergency Contacts posted to the website and is updated as needed to remain current. Partner Facilities establish local crisis management teams and train those teams on local crisis management procedures. Crisis management teams for SQF-certified locations must include identification of alternate SQF practitioners. Local crisis management teams consist of senior management. Crisis Management Plans are often jointly managed between Site Management, Safety Departments, and Quality Assurance.

1.7.2.2 **Business Threats:** Local crisis management plans are developed based on potential business threats which may include but are not limited to contamination of product (intentional or unintentional), major equipment failure, fire/explosion, bomb threats, loss of water, cybersecurity attacks/failure, labor force issues, or natural disaster. Procedures for identified items are developed and incorporated into the crisis management plan.

1.7.2.3 **Crisis Communication and Contacts:** The Company ensures that appropriate communication occurs for all crises affecting the delivery of contracted sugar. NSM and Partners jointly maintain a customer emergency contact list and sends update requests annually to customers to ensure contacts are current. Emergency contacts are available upon request. Legal sources are maintained per Partner and NSM's Legal Counsel is listed in SOP 3.2-01 Recall Plan. In addition, NSM Quality Assurance may utilize the following contacts depending on the nature of the issue:

FDA Office of Regulatory Affairs (ORA) Recall Coordinators: FDA Website ORA Recall Coordinators (Vary by State)	
SQF: foodsafetycrisis@sqfi.com	
SGS (SQF): AU.SQF@sgs.com	SGS: US.food@sgs.com
SGS (BRCGS): Globalbrc@sgs.com	CICS Americas: clientresponse@cics-americas.com pdiaz@cics-americas.com czarate@cics-americas.com

1.7.2.4 **Employee Safety:** Employee safety is paramount in an emergency and takes priorities over all other activities. Only after facilities are cleared by local Safety Departments can quality assurance inspections occur.

1.7.2.5 **Product Evaluation:** Facility and corporate quality assurance evaluate all products affected by a crisis for suitability and communicates issues with NSM. Evaluation criteria depends on the crisis, e.g., odor evaluation for fire damage, and product is verified prior to release. The evaluation is documented in incident forms or other records and maintained for future review. Compromised product is held according to Policy 7.3 Hold and Release. In cases where product is not available to fill orders, Partner Facilities notify Account Support Department for alternate sourcing options.

1.7.2.6 **Sourcing Alternate Products:** The Company will make all attempts to satisfy customer needs during a facility crisis. Potential disruptions are averted by promptly notifying Account Support during emergencies involving downtime. NSM Quality Assurance strives to assist customers in approving multiple locations for sourcing product. In cases where customers have not received product from a separate facility, Account Support notifies the customer and requests approval.

1.7.2.7 **Crisis Plan Updates:** Crisis Management Plans and contact lists are updated or reviewed at least annually or when there are changes to key personnel.

1.7.2.8 **Crisis Plan Testing and Verification:** Annually, facilities test an element of their crisis management plan by selecting a known threat and evaluating established procedures for handling. Facilities should alternate known risks each year. Testing may involve a trace or a facility inventory; however, traces or inventories may not be required for all testing. Plans are modified according to testing and verification.

1.7.3 Responsibility

Quality Assurance Team: Responsible for interpretation of FDA law, certification standards, and their application to Company policies. Responsible for evaluating crisis types and for general oversight of the quality assurance portion of crisis planning.

Account Support Department: Assists in customer communication during crises, modifying orders to alternate facilities, and for verifying that the customer will accept product from alternate locations.

Partner Quality Assurance: Responsible for maintaining local crisis management plans as they relate to quality assurance and food safety.

1.7.4 Forms & Documents

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

2.0 Document Control

2.1 Document Control: Creation, Approval, and Implementation

2.1.1 Purpose

The purpose of this policy is to establish guidelines for document control. Document control ensures that the Company controls the creation, approval, and distribution of documents. This practice ensures that personnel only have access to current documents and that document history is maintained.

2.1.2 Policy

The Company will take appropriate measures to ensure that document control is managed. A Quality Assurance Team consisting of various Partner Members has been established to create, review, and approve standardized documents. Controls applied are listed below:

2.1.2.1 **Documentation Structure & Type:** The Company has based its established document tier system on the principles outlined in ISO 9001. Figure 1 outlines the standard approach to documentation.

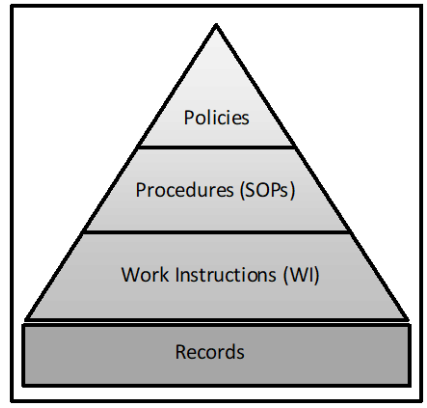

Figure 1

- **Standardized Policies:** Policies shared between partners to facilitate consistency and industry best practices.
- **Standard Operating Procedures:** Include both partner and facility-specific SOPs. Every attempt shall be made to standardize where feasible; however, not all SOPs can be standardized among partner facilities.
- **Work Instructions:** Facility-specific documents where specific task instruction is needed.
- **Standardized Records:** Include paper forms or electronic records shared between partners to ensure that the same information is being recorded for a task or SOP. Not all records for all facilities will be shared or standardized.

2.1.2.2 **Partner Document Creation:** The Company ensures the following guidelines are met when generating partner documentation:

- **Standardized Templates:** Are developed for policies, partner SOPs, and specifications. The Quality Assurance Team oversees generation of these documents. Template requirements include a revision number, issue date, and document history as outlined in an amendments section. Standardized records do not require an amendment history as that will be documented on the register.
- **Partner Document Approval:** All partner quality assurance documents undergo an approval process. Standardized documents may include partner policies, specifications, procedures, and records. Annually, as part of the system review, this manual and its policies will be reviewed and amended, as necessary.
- **Document Implementation:** This manual and its policies are made available to partner facilities electronically. Partner facilities oversee implementation for their respective facility. All parties ensure that their documents are safely stored with appropriate backups and readily accessible to employees.

2.1.2.3 **Document Updates & Replacements:** Partner policies and SOPs may be modified throughout the year between annual system reviews. In these cases, policies and SOPs are modified, and revisions are updated electronically under control of NSM Quality Assurance. Email notifications are employed to communicate updates and all updates throughout the year are reviewed during the annual systems review meeting facilitated by NSM Quality Assurance. Partner Quality Assurance communicates updates to their assigned facilities.

2.1.2.4 **Document Storage:** Document originals are maintained electronically, using suitably backed up storage systems to ensure they are stored securely and easily accessible.

2.1.2.5 **Document Registers:** All standardized documents will be incorporated into a register. Facilities maintain registers for local, non-standardized documents.

Registers include document number, document name, current revision/version number, and issue dates. Items required to be included in registers include**:**

- Policies
- Standard Operating Procedures
- Work Instructions
- Records
- Approved Suppliers
- Product Specifications
- Raw Material Specifications
- Packaging Specifications
- Contract Services

2.1.2.6 **Local Documents:** Partner facilities oversee the development of local SOPs, work instructions, and location-specific records. Those facilities establish local food safety committees to manage the approval of local documents and generate local document control SOPs to manage local documents. Local documents should have a local format that includes at a minimum a revision number, issue date, and a means to track document history.

2.1.3 Responsibility

Director of Quality Assurance: Responsible for oversight and policy decision making, specification management, resolving documentation disputes, and oversight of the Quality Assurance Team.

Senior Quality Assurance Specialist: Responsible for drafting standardized documentation, coordinating reviews, and communicating updates.

Partner Quality Assurance: Responsible for facility insight, participating in documentation reviews, and implementing approved partner documentation for their respective facility.

2.1.4 Forms & Documents

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

2.2 Records: Completion and Retention

2.2.1 Purpose

The purpose of this policy is to document the requirements for establishing, completing, and retaining records. Records ensure and prove that personnel complete activities required by the Company's food safety and quality programs. Records may be used as a legal document or shared with customers and should be generated and protected appropriately.

2.2.2 Policy

The Company generates records for key activities that are complete, legible, controlled, protected against damage or loss, and are easily retrievable. To ensure this is met, facilities incorporate the following requirements:

2.2.2.1 **Paper Records**: Paper records contain the name of the record, the name and location of the facility, an employee printed name, signature or initial, a date, a time for time-sensitive documentation, and where appropriate, product identification such as the lot number. If these records require verification, then the record must contain signature or initials of the person reviewing the record and the date of review.

The Company instructs employees to:

- Complete records in permanent ink; pencils are not permitted
- Write legibly
- Complete all required fields
- Complete forms concurrently with the task. Employees do not complete records in advance or use previous information
- Complete each field or line. Ditto marks, drag lines, arrows, or writing across multiple boxes is prohibited
- Correct mistakes by striking error with a single line, writing the correction, and initialing the modification. White out, correction tape, or scribbling out information is prohibited

2.2.2.2 **Electronic Records**: Facilities electing to use electronic records ensure that software appropriately captures employees' identity, includes authorized access, and contains a validated/controlled measure for applying a date and/or time stamp. Servers capturing electronic data are suitably backed up daily. Facilities contracting electronic data storage ensure contractors are subject to contract service provider requirements. In addition, information regarding contractor security and backup capabilities should be maintained by the facility.

Electronic records may include but are not limited to:

- ParcView
- Prism
- JDE
- Basicsafe
- SugarTrax
- PDF Fillable Forms
- Email
- Datahex

2.2.2.3 **Record Storage and Retention**: Facilities ensure that records are protected from damage by securely storing records or scanning records into secured servers. Facilities retain all records for the product's shelf life at a minimum unless specifically stated through customer request, BRCGS standard, more stringent Partner standards, or new legislation. In cases where extended retention is required, facilities keep a separate register listing the records names and the required retention. Facilities electing to store records other than the food safety plan offsite must ensure that records are retrievable within 24 hours of FDA request for official review.

2.2.2.4 **Record Verification**: Some records such as those required for food safety plans require verification steps. Verification steps ensure frequencies are met, document legibility, and document completeness. Quality assurance teams determine the need for verification. Requirements are communicated in food safety plans, SOPs, or on paper forms. Verification may be either electronic signoffs, a signature, or an initial.

2.2.2.5 In accordance with the requirements outlined in 21 CFR 117.165, monitoring records and corrective action records must be reviewed and verified within 7 days of generation. If a facility does not meet the review frequency, the preventive control qualified individual (PCQI) must document a written justification for exceeding the timeframe.

2.2.3 Responsibility

Partner Quality Assurance: Responsible for implementing this policy and ensuring employees are trained on it. Facility quality assurance is also responsible for furnishing records for customer complaints and corrective action requests.

2.2.4 Forms & Documents

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

3.0 Regulatory Compliance

3.1 FDA Registration & Regulatory Compliance

3.1.1 Purpose

The purpose of this policy is to define Company requirements to register all facilities employed to process, pack, or hold food as well as to outline the methods for handling regulatory facility inspections.

3.1.2 Policy

The Company ensure that all facilities utilized to process, pack, or hold our sugar products meet state and federal food regulations. As such, operating facilities will meet FDA registration requirements, which includes initial and continued registration. This requirement extends to company-operated and contracted facilities. Also, registered facilities will anticipate regulatory inspections by using a written regulatory inspection procedure and a predetermined inspection handling team.

3.1.2.1 **FDA Registration:** Partner Facility Warehouse Management is given the responsibility to register facilities within their control and ensure that all contracted warehousing maintains a current registration. New facilities are registered before use, and registered facilities submit a renewal registration every even year beginning October 1 and ending December 31.

3.1.2.2 **Regulatory Inspection Procedure:** Each Partner maintains a regulatory inspection procedure. If a Partner does not have a regulatory inspection procedure, an NSM procedure is available. Some general guidance is as follows:

Regulatory Inspection Team: The regulatory inspection team must consist of the most senior official of a site, e.g., plant manager, general manager, facility manager and the assistance of warehouse management and quality management, if applicable.

Access to and Copies of Records: The FDA has varying levels of access to Company records. Outlined below are examples of different levels of access:

Permitted Access: The FDA is granted access to review and copy records applicable to regulations, manufacturing, processing, packing, distribution, receipt, storage, or importation of food. The FDA can request access to movement in interstate commerce and/or consignees only after providing written requests. If the FDA requests copies of records, the inspected facility must generate a detailed list of records, including generation dates, of such records prior to granting FDA access. If those records include reference to trademarked materials, e.g., private label products, NSM must notify trademark owners.

Restricted Access: The FDA is not permitted to review or copy product formulations, financial data, pricing, personnel data, research data, or sales data.

Employee Interviews: Facilities do not permit inspectors to interview employees. Inspectors should address questions to assigned escorts only.

Photographs: The FDA's investigations operations manual section 5.3.4 permits the FDA to obtain photos. There is currently not a clear legal consensus regarding the FDA's right to use photographic evidence during inspections. The inspector can interpret refusal of photographs as a refusal to permit inspection. The Company's stance has been to permit photographs in the spirit of cooperation. This should only occur if the inspector notes deficiencies. If the inspector requests to take a photograph, immediately take a duplicate photograph for company records. If company personnel note that the inspector is focusing on small details, take additional photos from different angles or widen the shot to provide broader contexts. Partners refusing to permit photographs must have a documented policy with consistent enforcement.

Recording Devices: The FDA is not permitted to utilize tape recording devices during an inspection.

Affidavits: There is no legal requirement for facility personnel to sign affidavits written by FDA inspectors. Facility personnel do not sign affidavits.

3.1.2.3 **Receipt of a Warning Letter or Notice:** If a regulatory inspector issues a warning letter or similar action that requires public notification, the Director of Quality Assurance notifies both the facility's certification scheme owner and the certification body in writing within 24 hours of issuance.

3.1.3 Responsibility

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

Facility Managers: Responsible for selecting a team to handle regulatory inspections.

Partner Facility Warehouse Management: Responsible for ensuring facilities under their control are registered with the FDA.

3.1.4 Forms & Documents

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

3.2 Recall Program & Testing

3.2.1 Purpose

The purpose of this policy is to define the requirements for developing recall procedures, conducting recalls, and performing recall testing exercises.

3.2.2 Policy

National Sugar Marketing and Partners jointly generate and maintain a documented recall program that complies with current regulations. The program assigns responsibility and ensures that, if necessary, mechanisms are in place to effectively remove products from commerce promptly to protect our customers and reduce the cost impacts of a recall. The plan is tested each calendar year against standards for success, and NSM or Facilities implement corrective actions when testing reveals opportunities for improvement.

3.2.2.1 **Recall Procedures:** The Company has developed and implemented a procedure for handling market withdrawals, and product recalls. Recalls are only initiated with approval of the NSM Board. If initiated, the NSM Director of Quality Assurance has oversight for the procedure. Procedural components include the following:

Recall Plan: SOP 3.2-01 Recall Plan is a procedure that outlines the required steps for conducting recalls. The plan is a corporate standard operating procedure shared between Partners.

FDA/Certification Body/Certification Standard Notification: Public notification recalls will require certification body and certifying standard owner notification. In these cases, NSM will provide notification to the certification body (CB) and standard owners within twenty-four (24 hours). Contact information is available in Policy 1.7 Crisis Management & Contingency Planning.

Consignee List: A list of all consignees, including customer contact information. Form 3.2-02 Consignee List is utilized to document and communicate consignee information with the FDA.

Health Hazard Assessment: Assessments are documented on Form 3.2-03 Health Hazard Assessment utilized to document health hazards associated with the recall. Examples of information contained in the health hazard assessment may vary but could include hazard classification, explanation of foreign material/substance, e.g., composition, size, amount, etc., safety data sheet information, parts per million / weight of the suspect material, medical journals associated with the contaminant.

Recall Strategy Template: A standard template to document the recall strategy: Form 3.2-04 Recall Strategy Template. Recall strategy template includes reference to the health hazard assessment, consignee list, FDA classification, depth of recall (customer/public), product return strategy, effectiveness check strategy, and proposed corrective action. The recall strategy is required to be prepared and presented to the FDA for review during a recall.

Recall Notification Letter: A standardized letter for customer distribution/ notification. The recall letter is a standard template letter that is documented on Form 3.2-05 Recall Notification Letter. NSM Quality Assurance distributes recall notifications to customers within 24 hours of making the determination to recall product.

Withdrawal/Recall Customer Response Form: A customer-completed document captured on Form 3.2-06 Recall Customer Response Form. This form is utilized to gather information from customers regarding products that may be affected and what the customer intends to do with the affected products. The Company utilizes this information for recall effectiveness checks.

Return Authorization Form: A form initiated by Account Support which authorizes a return for affected products. Return Authorizations are documented on Form 7.4-01 Return Authorization.

Destroyed/Damaged Product Declaration: A customer-completed form that is expressing customer's guarantee that the customer has destroyed product. Product destruction records are recorded on Form 1.6-02 Product Destruction Form. This form may function to capture destroyed sugar products and a customer's product.

3.2.2.2 **Recall Testing:** The Company jointly conducts recall test exercises a minimum of once each calendar year. Recall testing must include a full lot across multiple product types and production shifts. Criteria for success when testing is ≥ 98% product identification and recall strategy development within 24 hours of notification. Recall testing may involve participation from NSM Quality Assurance, NSM Logistics, Account Support, Partner Quality Assurance, and Partner Warehousing. During testing, responsible parties test all aspects of a product recall plan except for customer notification/letters, and effectiveness checks. These items are omitted from testing because they require customer contact. When performing testing, responsibilities are as follows:

NSM: Responsible for coordinating product recall test exercises, conducting health hazard assessments, consignee contacts, generating a recall strategy, and customer notification.

Partner: Responsible for performing product traces and for furnishing production records including but not limited to the following:

- Certificates of Analysis
- Bills of Lading
- Critical Control Point Records
- Shipping Summaries, e.g., lots/quantities produced, lots/quantities shipped, and consignees

Test Summary: Employees communicate summaries of recall exercises and any ensuing corrective actions to key personnel. All corrective actions will follow standard corrective action requirements outlined in 8.0 Corrective Actions & Root Cause Analysis.

3.2.2.3 **Program Review:** The recall program in its entirety is reviewed annually as part of the standard system review and after the completion of an actual recall.

3.2.3 Responsibility

NSM Director of Quality Assurance: Responsible for recall oversight, recall team selection, Partner coordination, and annual recall testing.

NSM Vice President of Logistics: Responsible for overseeing product retrieval, Account Support activities, and assisting with effectiveness check summaries.

NSM Legal Counsel: Responsible for providing legal counsel, public notification for Class I Recalls, communication with Press.

Partner Recall Team: Responsible for product trace, production records, insight into the incident/event, additional duties as needed.

3.2.4 Forms & Documents

Doc. No.:	Doc. Title:	Description:
3.2-01	Recall Plan	A corporate procedure that outlines requires steps for conducting recalls.
3.2-02	Consignee List	A from that lists all consignees, including customer contact information.
3.2-03	Health Hazard Assessment	An NSM/Partner assessment of the public health hazards associated with the recall.
3.2-04	Recall Strategy Template	A standard template to document the recall strategy.
3.2-05	Customer Recall Notification Letter	A prewritten letter utilized to notify customers of NSMs intent to recall product.
3.2-06	Recall Customer Response Form	A customer-completed form used to gather recall information and perform effectiveness checks.
7.4-01	Return Authorization Form	A form authorizing product returns, inventory adjustments, and credits.
1.6-02	Product Destruction Form	A form documenting the customer's destruction of product.

3.3 Technical, Regulatory, & Industry Updates

3.3.1 Purpose

The purpose of this policy is to define the methods the Company employs for ensuring that NSM and Partners are informed on technical and regulatory updates.

3.3.2 Policy

The Company takes appropriate measures to ensure facilities and quality personnel are informed of emerging regulations and applicable technical updates. This is met by jointly employing a combination of the following methods for update notification and information sharing:

3.3.2.1 **Regulation References and Updates**: The Quality Assurance Department maintains current copies of all regulations affecting product legality. The following documents are available electronically through www.ecfr.gov or reachable through links below:

- 21 CFR 101: Food Labeling
- 21 CFR 11: Electronic Records; Electronic Signatures
- 21 CFR 117: Current Good Manufacturing Practice, Hazard Analysis, and Risk-Based Preventive Controls for Human Food
- 21 CFR 1, Subpart O: Sanitary Transportation of Human and Animal Food
- 21 CFR 1, Subpart L: Foreign Supplier Verification Programs for Food Importers
- 21 CFR 121: Mitigation Strategies to Protect Food Against Intentional Adulteration
- 21 CFR 172: Food Additives Permitted for Direct Addition to Food for Human Consumption
- 21 CFR 173: Secondary Direct Food Additives Permitted in Food for Human Consumption
- 21 CFR 175: Indirect Food Additives: Adhesives and Components of Coatings
- 21 CFR 176: Indirect Food Additives: Paper and Paperboard Components
- 21 CFR 177: Indirect Food Additives: Polymers
- 21 CFR 182: Substances Generally Recognized as Safe
- 21 CFR 189: Substances Prohibited from Use in Human Food

3.3.2.2 **Posted Information**: NSM Quality Assurance posts white papers, peer-reviewed journals, and association publications to a common location. This information will include but is not limited to:

- SQF Certification Standard
- SQF Module 2 Guidance
- SQF Module 11 Guidance
- BRCGS Standard
- BRCGS Auditor Guidelines
- Codex Standards for Sugar

- ISBT: Liquid Sucrose
- ISBT: Medium Invert
- ISBT: Wash Station Guidelines
- International Commission for Microbiological Specifications for Foods: Sugar, Syrups, and Honey

3.3.2.3 **Technical and Industry Updates**: The Company is kept informed of industry and regulatory updates by affiliating with or subscribing to the following:

- FDA & USDA Food Safety Alerts
- Food Industry Environmental Network
- Institute of Food Technologists (IFT)
- American Society of Beet Sugar Technologists (ASSBT)
- Sugar Association
- Northwest Food Processors Association (NFPA)
- Food Safety News
- International Society of Beverage Technologists (ISBT)

3.3.3 Responsibility

NSM Director of Quality Assurance: Responsible for communicating pertinent technical and regulatory updates to operating facilities.

Quality Assurance Team: Responsible for ensuring that our facilities demonstrate compliance with applicable regulations and share emerging information.

3.3.4 Forms & Documents

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

3.4 Non-Food Sugar Sales

3.4.1 Purpose

The purpose of this policy is to define the regulatory requirements for handling non-food sugar sales, which ensures that proper disclaimers and labeling accompany all paperwork.

3.4.2 Policy

Labeling: The Company requires a printed disclaimer to either accompany or be printed on the paperwork. All non-food products must be appropriately labeled or defaced to indicate the fact, minimizing the likelihood of inadvertent comingling with product intended for human consumption. Disclaimers must include:

- Not for Human Consumption Disclaimer: This disclaimer must state, "not for human consumption."
- Hazard Disclaimer: In cases where metal detection is not possible for downgraded, high color sugar, a disclaimer must state: "This product is not processed to control metal hazards."

Protection from Adulteration: Facilities ensure that containers for non-food products are clean and will not present contamination risks by inspecting containers prior to use for all cases where containers are reusable.

Storage Segregation: Facilities must store non-food sugar away from products reserved for human consumption to mitigate the risk of inadvertent commingling.

Vessel Inspections: When facilities ship non-food sugar products via a carrier or in bulk, the standard vehicle inspection must be conducted to ensure trailer or vessel suitability. An inspection is not necessary when a customer is responsible for picking up the product via their own vehicle or a vehicle that they contract.

3.4.3 Responsibility

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

Warehouse/General Managers: Responsible for ensuring non-food products handled and shipped under their control meet the requirements outlined in this policy.

3.4.4 Forms & Documents

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

4.0 Product Identification

4.1 Product Lot Numbers

4.1.1 Purpose

The purpose of this policy is to define the requirements and format for product lot number coding.

4.1.2 Policy

All products packaged and shipped are identified by unique lot number codes to facilitate traceability. Lot numbers and manufacturing dates are assigned as granulated sugar is packaged or products are made and packaged/loaded, e.g., liquid sucrose into a tanker, brown sugar, or powdered sugar. Sugar that is reprocessed such as work in process, reconditioned, or conversion sugar (bulk rail to bulk truck) will be assigned a new lot number at the time of processing. Partner facilities ensure all packaged products are labeled with legible, accurate lot numbers and that all bulk products are identified via accompanying paperwork, e.g., Bills of Lading, and Certificates of Analysis. Currently, lot structure will vary by Partner.

4.1.2.1 **Packaged Product Lot Numbers**: Facilities label packaged products with lot numbers by printing lot numbers on bags or by affixing tote products with a tag or placard. Facilities may also choose to print timestamps or pallet skid numbers; however, these items are not considered part of the lot number. Lot numbers must also appear on shipping documentation. The following breakdown defines the lot structures for packaged products:

Packaged Lot Format:	Explanation:
PFYYJJJ	P = Partner Letter Designator (see table below) F = Facility Location Code (see table below) YY = Last two digits of the year JJJ = Julian Date

4.1.2.2 **Bulk Truck, Rail, and Liquid Tanker Lot Numbers**: Facilities communicate bulk truck/tanker and rail lot numbers through CoA and BoL documentation. Bulk truck/tanker and rail lot numbers are assigned to each bulk vessel. Bulk trucks, liquid tankers, and railcars that are filled over two days are assigned the Julian date of the first day. The following breakdown defines the lot structures for bulk rail shipments:

Bulk Lot Format:	Explanation:
PFYYJJJCSS	P = Partner Letter Designator (see table below) F = Facility Location Code (see table below) YY = Last two digits of the year JJJ = Julian Date C = Conveyance Type (R = Rail, T = Truck, L = Liquid) SS = Sequential Indicator (1-99)

4.1.2.3 **Facility Identification Codes**: Duplications in facility designation letters are permissible due to the difference in lot structures between partners. Lot codes utilizing a facility identifier will use the following assignation.

Partner & Facility Letter Designation:		
Amalgamated Sugar = A	Southern Minnesota Beet Sugar Cooperative = S	National Sugar Marketing = N (Owned or Contracted Facilities)
AB – Brighton AD – Ovid AE – Eaton AN – Nyssa AO – Ogden AP – Portland AR – Mini-Cassia AT – Twin Falls AV – Loveland AW – Windsor AX – Nampa	SB – Brawley SR – Renville	NC – Bensenville NF – Mariani NG – Grand Prairie NH – Chino NI – IFP, Muncie* NJ – L&S Sweeteners NK – Arro* NL – Los Angeles* NM – Tracy NS – Sweetener Products, Lodi NU – IFP, St. Louis* NY – Sweetener Products, Vernon NZ – Batory Foods*
*Currently employing contractor system lot structure.		

4.1.3 Responsibility

Quality Assurance Team: Responsible for defining lot structure, ensuring products are identified with lot numbers and correcting any related lot number coding issues.

4.1.4 Forms & Documents

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

4.2 Product Resource Numbers

4.2.1 Purpose

The purpose of this policy is to define the requirements and format for product resource numbers.

4.2.2 Policy

The Company utilizes product resources as a coding mechanism for products in certain software applications. Coding includes information about the product, including but not limited to granulation, physical characteristics, packaging, brand, customer-specific product, and pallet type. The NSM Supply Chain Planning Manager is given responsibility for new resource numbers. Outlined below are current resource numbering rules:

Resource Explanation: The table below provides a brief overview of resource formatting for various products: **Packaged Product Resources**	
GGWWWWBBP	
GG = Granulation or Product Type WWWW = Package Weight or Size BB = Product Brand	P = Pallet Type: W = White, New Pallet B = Blue, Chep Pallet

Bulk Product Resources		
GGVVVVBB		
GG = Granulation or Product Type	VVVV = Vessel Type TRK = Bulk Truck / Tanker RAIL = Railcar	BB = Product Brand RN = Renville BR = Brawley Absent = Amalgamated

Nonconforming Product
######
= A six-digit code classification for sugar products that are not sellable in their current condition. See resource definitions below for further explanation.

4.2.2.1 **Resource Product Type Definitions:** Outlined below are definitions for general resource product classification. The list below does not contain all resources and should be utilized as a guide only.

Granulation or Product Type (GG):	Explanation:
02	Granulation Non-sensitive: Sugar that has not been classified or does not meet a classified granulation specification. The sugar must meet all other quality specifications. Typically designated for retail packaging or scheduled production of liquid sugar.
04	Baker's special granulated sugar.
06	Gel gran sugar.
08	Extra fine granulated sugar.
10	Fine granulated sugar.
12	Industrial coarse granulated sugar.
20	Powdered sugar, retail.
21	Powdered sugar, 10X.
22	Powdered sugar, 12X.
24	Powdered sugar, 6X.
30	Brown sugar, light 12x2 lb. cases.
31	Brown sugar, light 24x1 lb. cases.
32	Brown sugar, dark:
40	Type 0 liquid sucrose, 66.5 brix, beet.
41	Type 0 liquid sucrose, 67.5 brix, beet.
50	Type 50 medium invert.
51	Liquid invert coating syrup.
86	Cane sugar, granulated sugar & liquid sucrose: 66.5 brix.
87	Cane liquid sucrose: 67.5 brix.
800,000	Remelt sugar: See Policy 7.2 Nonconforming Product and Materials.
850,000	Work in process (WIP): See Policy 7.2 Nonconforming Product and Materials.
890,000	Reconditioned: See Policy 7.2 Nonconforming Product and Materials.

4.2.2.2 **Resource Updates:** Requests for resource updates/changes are submitted to the NSM Supply Chain Planning Manager. Sales, Quality, and Logistics are consulted for new resource generation.

4.2.3 Responsibility

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

NSM Supply Chain Planning Manager: Responsible for product resource numbers and new resource generation.

4.2.4 Forms & Documents

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

4.3 Product Labeling & Palletized Products

4.3.1 Purpose

The purpose of this policy is to provide guidelines and standards for coding packages, pallet identification, and product identification to ensure product can be traced and easily identified by customers.

4.3.2 Policy

Facilities packaging product ensure that all product is accurately and legibly labeled and that shipping paperwork accurately reflects quantities and lot numbers shipped. The following requirements ensure that discrepancies are minimized:

4.3.2.1 **Package Coding and Printing**: All packaged products must be identified by lot number per Policy 4.1 Product Lot Numbers. Lot codes should be printed on the bag or package as it passes down the packaging line. Tote products are labeled with tags or placards as they are filled. In cases of emergency and equipment failure, paper bags may be stamped with lot information; however, bags must not be stamped so far in advance to where stamped bags exceed the lot number date being filled. Poly bags should not be affixed with stickers or labels under any circumstances. Package codes must agree with the date they are packed.

Verification: Facilities must ensure that bagging machine operators are physically verifying that printers are accurately printing. Frequencies for monitoring printing should be conducted and documented at a minimum of every four hours for bagged product. When it is found that printing fails, facilities hold and recheck pallets to identify affected pallets.

4.3.2.2 **Customer-Requested Bag Printing**: When called for in a customer's specification and agreed upon in writing, facilities can print special item coding on packaged bags. Bag printing occurs adjacent to the lot number. In cases where customer-requested printing occurs, product must be packaged and shipped under a customer-specific resource number for identification purposes. Special requirements are communicated in work orders.

4.3.2.3 **Pallet Wrapping and Caps**: Warehouses ensure that all palletized product is protected based on the product type.

Bagged Product: Palletized bag products are placed on cardboard or slip sheets and stretch wrapped. Product barriers are determined locally and may be pallet trays, slip sheets, antiskid sheets, cardboard, stretch wrap, and pallet caps. Pallets should be mechanically or tightly stretch wrapped at least three times to minimize shifting in transit.

Tote Product: Totes are placed on cardboard, antiskid, or slip sheets. Totes are not typically covered with plastic unless requested by customers and appropriate pricing terms are met. Special information is updated in the Standard Order Form (SOF) comments and communicated on the work order.

4.3.2.4 **Pallet Identification (Placarding/Tote Tags)**: All pallets must be identified through placarding or tags affixed to totes. The following guidelines are in place for accurate labeling and identification:

Pallet Placarding or Tagging: Sugar pallets are identified through placard application or tagging (totes only). Identification markers must be machine printed and sequentially numbered. At a minimum, the information must list the product name, lot number, and the number and sizes/weight of packages on the pallet. All bagged pallets must be labeled on at least two sides and should be positioned where they are easily seen from the seat of a forklift. There are cases where customers request unique information (barcoding/numbers) to be displayed on products. These are approved on a case-by-case basis and require unique resource identification.

4.3.2.5 **Split Pallets**: Split pallets are skids with two lot numbers. Split pallets may occur when the lot number changes while stacking a pallet or when units are damaged, and a single separate lot is used to fill the pallet. Warehouses identify split pallets by affixing a secondary identification tag listing the additional lot number and number of units. Operators place the secondary tag adjacent to the original identification tag. Warehouses maintain documentation for split pallets to ensure traceability. Facilities generating split pallets must ensure accuracy of accounting transactions and shipping paperwork. In some cases, short pallets may be preferable to split pallets.

Restrictions: The following restrictions are applicable to split pallets:

- Warehousing facilities cannot create or ship SMBSC split pallets due to software constraints.
- Factories are prohibited from shipping split pallets of industrial product, but forward warehouses are allowed to combine pallets to ship split pallets if necessary, e.g., a pallet that needs a few damaged bags replaced before rewrapping.
- Warehouses generating split pallets must ensure that split pallets are created by combining lots from the same factory, meet FIFO criteria, and ensure that the shipments do not exceed customer lot restrictions.

4.3.2.6 **Short Pallets**: Some customers will not accept split pallet shipments. Where applicable, warehouses attempt to minimize split pallet inventories due to the additional requirements to maintain traceability. Due to the unavoidable nature of occasional damage to units and efforts to meet customer request, warehouses may ship pallets that are short up to four (4) units rather than generating a split pallet.

Restrictions: The following restrictions are applicable to short pallets:

- Facilities cannot create or ship SMBSC short pallets due to software constraints.

4.3.3 Responsibility

Warehouse Managers and General Managers: Individuals given authority over warehouses are typically responsible for overseeing personnel conducting these activities and ensure requirements are consistently met.

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

4.3.4 Forms & Documents

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

4.4 Traceability

4.4.1 Purpose

The purpose of this policy is to define the standards for facilities to maintain traceability programs and to outline traceability requirements for finished product, ingredients, and packaging materials.

4.4.2 Policy

Facilities perform trace exercises for finished products and raw materials (ingredients and packaging materials). Trace exercises evaluate a given facility's ability to identify product produced, raw materials utilized, and finished product shipping destinations during a timed event. Facilities that identify improvement opportunities implement corrective actions per Policy 1.4 Corrective Actions and Root Cause Analysis. Outlined below are specific requirements for trace exercises:

4.4.2.1 **Product Traces**: Facilities perform product traces once per year per product type, e.g., liquid products, or granulated products. Trace procedures ensure that facilities randomly select a manufacturing/Julian date and account for all products packaged, including bulk, and packaged. A successful product trace will account for at least 99% of a given lot number in four hours. The following items must be discoverable in a product trace:

- Information about the trace (person conducting, date, timeline, etc.)
- Product type(s) traced
- Quantities (produced, shipped, on-hand, etc.)
- Raw material lot numbers
- Consignee/customers
- Processing documentation (CCP records, BoL, and CoAs)

4.4.2.2 **Raw Material Trace**: Facilities perform raw material traces once per year. Raw materials include ingredients (corn starch), finished product processing aids, and packaging materials. A successful raw material trace will ensures that all shipped product is identified involved with a given lot number in four hours. Waste material and shrink will not factor into the determination of a successful trace. The following items must be discoverable in a raw material trace:

- Information about the trace (person conducting, date, timeline, etc.)
- Raw material lot numbers traced
- Finished product affected
- Dates used
- Processing documentation (incoming material inspections, usage logs)

4.4.3 Responsibility

NSM Quality Assurance: Responsible for coordinating traceability exercises with third-party warehouses and contract manufacturers, including follow-up for nonconforming issues.

Partner Quality Assurance: Responsible for overseeing traceability requirements for their respective facility, including performing trace exercises, training personnel in trace procedures, and implementing corrective actions when trace exercises do not meet success requirements.

Warehouse Managers and General Managers: Individuals given authority over warehouses and may work with Quality during trace exercises. Warehouse managers and general managers assume trace oversight for facilities without a dedicated quality assurance staff member.

4.4.4 Forms & Documents

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

5.0 Food Safety: Good Manufacturing Practices & Hazard Analysis & Risk Based Preventative Controls

5.1 Good Manufacturing Practices & Prerequisite Programs

5.1.1 Purpose

The purpose of this policy is to describe facilities' prerequisite programs employed to meet FDA requirements for Current Good Manufacturing Practices (GMP) as described in the Code of Federal Regulations 21 part 117 and to support facilities Hazard Analysis and Critical Control Point (HACCP) programs. Additional requirements from SQF Module 11 and BRCGS standards are also communicated in GMP policies.

5.1.2 Policy

Good Manufacturing Practices (GMPs) are specific Food and Drug Administration regulations that set forth both recommended and required sanitation practices for the operation of a food plant. GMP's are used by the FDA to measure a food plant compliance to Section 402 (A), (3) (4) of the Food, Drug & Cosmetic Act. These sections of the act state that, a food is adulterated if it has been manufactured under such conditions that it is unfit for food or that the food has been prepared, packaged or held under unsanitary conditions, whereby it may have been contaminated with filth, or whereby it may have been rendered injurious to health. These sections of the act are extremely important since they affect the manner in which food is handled and stored, as well as the conditions under which it is processed, packaged, and transported. It is also important to note that actual product adulteration does not have to be proven under this law. Regulatory action can be taken if conditions exist that may permit adulteration to occur.

5.1.2.1 **Prerequisite Programs**: Company-recognized prerequisite programs are developed for the HACCP program and to meet GMP requirements. Programs consist of one or more policies/procedures and are outlined below.

- Employee Training
- Personnel Practices
- Integrated Pest Management
- Equipment Calibration
- Facility & Equipment Maintenance
- Cleaning & Sanitation
- Water & Air Programs
- Physical Contaminant Prevention & Control
- Product Storage & Warehousing
- Sanitary Transportation
- Allergens & Sensitizing Agents
- Chemical Control & Approval

- Supplier Approval
- Visitors

5.1.2.2 **Hazard Analysis and Risk-Based Preventive Controls:** These requirements are communicated through Policy 5.21 Food Safety Plan. The Company considers HACCP and HARPC as interchangeable and has considered both Codex and FDA requirements while developing food safety plans.

5.1.3 Responsibility

Quality Assurance Team: Responsible for interpretation of FDA law, certification standards, and their application to Company policies and maintaining Preventive Controls Qualified Individual (PCQI) certification. Responsible for verifying GMP and prerequisite program compliance.

Partner Quality Assurance: Responsible for local oversight for meeting GMP and prerequisite programs. Responsible for educating personnel on GMP requirements and verifying implement of GMP practices.

General Manager/Warehouse Managers: Responsible for ensuring personnel meet GMP requirements and overseeing their respective GMP Areas.

Shift Supervisors: Responsible for ensuring personnel meet GMP requirements and overseeing their respective GMP Areas (white centrifugals).

5.1.4 Forms & Documents

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

5.2 Employee Food Safety & Quality Training

5.2.1 Purpose

The purpose of this policy is to communicate the requirements for assessing and implementing a training program with an emphasis on food safety and quality assurance. Training is required by food regulation and critical to all food safety and quality programs.

5.2.2 Policy

5.2.2.1 **Preventive Control Qualified Individual (PCQI) Training**: Partner facilities ensure that Partner Quality Management personnel receive and maintain Food Safety Preventive Controls Alliance PCQI training. Facilities without onsite quality managers such as terminals and secondary warehouses utilize the PCQIs from corporate/alternate facilities. The list of assigned PCQIs is communicated in Policy 5.21 Food Safety Plan.

5.2.2.2 **Training Methodology**: Facilities employ general classroom settings, which may include the following methods for employee training:

- Presentation/video
- Retention testing with passing scores of 70%
- Signed or electronic attendance acknowledgement
- Further supervisor/manager observations of training effectiveness

5.2.2.3 **Food Safety & Quality Training**: This type of training applies to production factories and is considered basic training for food regulations and provides a brief understanding of cGMPs and an overview of the Company's food safety and quality policies. Factory employees working in designated cGMP areas receive additional training as outlined in 4.0. Partner factories ensure that this training contains at a minimum the following curriculum:

- Food safety policy statement
- Basic cGMP/housekeeping and FDA awareness
- Food defense and intentional contamination
- SQF or BRCGS awareness (certification dependent)
- HACCP awareness
- Record completion requirements
- Allergen awareness and control
- Chemical handling and control
- Food safety and quality incident notification
- Pest control device awareness and wasp spray requirements, if applicable
- Overview of requirements for cGMP areas

5.2.2.4 **GMP Area Additional Training**: This type of training applies to employees stationed in terminals, sugar warehouses, and facility designated GMP areas. Terminals and distribution warehouse should include the topics listed above in addition to these requirements. Partner factories and facilities ensure the training contains at a minimum the following additional curriculum:

- Prerequisite programs
- In-depth HACCP overview and the food safety modernization act
- Critical control point (CCP) / preventive control monitoring & deviations
- Verification requirements
- Site security and food defense
- Enhanced sanitation
- Meeting customer specifications
- Documented, on-the-job procedure training

5.2.2.5 **Contractor Training**: Contractor training requirements are determined by the Partner Facility based on the Contractor's scope of service. In most cases, a signed GMP acknowledgement may function as contractor food safety and quality training.

5.2.2.6 **Reinforcement Training**: Partner facilities implement reinforcement training after violation of food safety plan procedures, customer complaints, or as part of food safety and quality corrective actions. In addition, reinforcement training may function as means to provide topic-specific training to further emphasize policies, SOPs, or work instructions. Reinforcement training records include attendance acknowledgement and do not always require retention testing. The need for retention testing is determined by occasion and the facility.

5.2.2.7 **Training Register**: Partner facilities maintain a training register in a format of their choosing. Required elements include the name of the participant, skills covered, description of training provided, date trained, and trainer or training material (video).

5.2.3 Responsibility

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

Partner Quality Assurance: Responsible for local oversight for meeting GMP and prerequisite programs. Responsible for educating personnel on GMP requirements and verifying implement of GMP practices.

General Manager/ Warehouse Managers: Responsible for ensuring personnel meet GMP requirements and overseeing their respective GMP Areas.

Shift Supervisors: Responsible for ensuring personnel meet GMP requirements and overseeing their respective GMP Areas (white centrifugals).

5.2.4 Forms & Documents

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

5.3 Personnel Practices

5.3.1 Purpose

The purpose of this policy is to outline the health and hygiene-related requirements for personnel working in designated GMP areas. These practices ensure compliance with certification standards, federal food regulations, and customer expectations. Full implementation of this policy ensures that employees interfacing with product, packaging, or food contact surfaces do not become a source of contamination.

5.3.2 Policy

The Company implements GMP practices to ensure compliance with food regulations and to protect our food products from adulteration. This policy outlines the personnel-related requirements of GMPs.

5.3.2.1 **Personal Health & Disease Control**: The Company restricts personnel suffering from communicable illness, infectious diseases, or who are carriers of infectious diseases from handling finished products or working in direct contact positions in GMP-designated areas. Facilities instruct personnel to report such conditions. The Company grants supervisory personnel the authority to move employees with known signs of foodborne illness to non-GMP areas. Signs of foodborne illness are defined by the FDA and are as follows:

- Diarrhea
- Vomiting
- Fever
- Sore throat with fever
- Visibly infected skin (boils, cuts, rash, etc.)
- Discharge from the ear, eye, or nose

5.3.2.2 **Cuts, Lacerations, and Bandages**: Personnel cover minor cuts on exposed parts of the body with facility-supplied, metal-detectable bandages. If there is a risk where employees could bleed through the bandage, Management will move employees to an area where they will not contact product, packaging, or food contact surfaces. If there is an event involving release of blood or bodily fluids, the Facility's local Blood Borne Pathogen Response Plan is followed. If the release affects product or packaging material, then these are dispositioned as landfill. Affected equipment is cleaned, sanitized, and verified by supervisory personnel prior to commissioning back into service.

5.3.2.3 **Personal Cleanliness**: Personnel working in GMP areas conform to hygienic practices and bathe regularly. Facilities instruct personnel to keep fingernails trimmed and to not use artificial nails, polish, or false eyelashes. In addition, personnel refrain from spitting anywhere in the facility.

5.3.2.4 **Designated Eating, Drinking, and Tobacco Use**: The company restricts eating and drinking to designated areas. Items of concern include candy, gum, food, beverages, and cough drops. Water is permitted in GMP areas to allow for hydration. If a facility elects to allow tobacco in any form, including e-cigarettes on their premises, employees use tobacco in designated areas only. Designated tobacco areas are positioned away from GMP areas.

5.3.2.5 **Hand Washing**: Personnel entering GMP-designated areas wash their hands thoroughly. Personnel are instructed to wash their hands after lunches, breaks, restroom use, tobacco use (if applicable), using wash down hoses, handling contaminated material, after using a handkerchief or tissues, and any other times necessary to keep them clean. Facilities provide appropriate signage to ensure that employees are aware of hand washing requirements, including entry to GMP areas and breakroom exits.

5.3.2.6 **Hair Restraints**: Employees wear suitable, company-issued hair and beard restraints in an effective manner while in GMP-designated areas. If applicable, all facial hair is required to be covered with a beard restraint.

5.3.2.7 **Jewelry and Personal Effects**: Personnel remove all objects that could potentially become foreign material contaminants, including jewelry (except a plain wedding band without stones), visible body jewelry, wristwatches and bracelets, stones/decorations on glasses, and items in pockets above the waist while in GMP areas. Employees requiring medical alert jewelry, necklace below the shirt or bracelet, must communicate requirements to Human Resources for evaluation before accommodations can be made. Employees store personal effects in designated lockers and avoid using medicines or applying cosmetics in GMP areas. Medicines and cosmetics must be stored in assigned lockers and should not be present in GMP areas. Hand-held devices are controlled as to not become foreign material contaminants.

5.3.2.8 **Clothing & Uniforms**: The Company requires personnel working in GMP areas to wear clean clothing or uniforms in a neat and professional manner. Facilities may elect to require uniforms or clothing based on risk evaluation.

Uniforms: Facilities electing to require uniforms ensure that uniforms are provided by approved contract service providers and that uniforms contain snap fasteners and not buttons. These facilities also supply clean smocks or coveralls for outside personnel that might have duties in GMP areas.

Clothing: Facilities not electing to utilize uniforms ensure that personnel clothing is neat and clean, with restrictions against sleeves shorter than T-shirt length and shorts. Clothes must not have rips or holes and be made of a material that does not shed fibers. Clothing containing adornments such as bedazzling is also prohibited in GMP areas.

Personal Protective Equipment (PPE): Personnel maintain PPE in a sanitary manner and store appropriately in designated cabinets, racks, hooks, or coat hangers.

5.3.2.9 **Glove Usage**: Many tasks in GMP areas require the use of PPE gloves. Employees ensure that PPE gloves are maintained in a clean state and that those gloves do not directly contact product. PPE gloves can include leather gloves, rubber gloves, or rubber-coated gloves. Facilities may elect to provide nitrile gloves suitable for a food plant if personnel directly touch sensitive products. Personnel also change nitrile gloves after each break or when damaged. Personnel wash hands prior to donning all types of gloves.

5.3.2.10 **Food Contact Surfaces**: Facilities ensure that food contact surfaces are made of appropriate materials (compliant with 21 CFR 117.40), easily cleanable, not constructed of wood, and not coated with paint. Food contact surfaces may include but are not limited to equipment surfaces, packaging, shovels, scoops, picks, poke rods, hoes, hose fittings, brushes, and bulk loading covers/shrouds. Personnel do not allow food contact surfaces to come into direct contact with floors, catwalks, chemicals, or contaminated material. If a food contact surface becomes contaminated, personnel wash and sanitize it prior to use.

5.3.2.11 **Emergency Exemptions**: In times of emergency, personnel responding to injuries in GMP areas are not required to follow GMP requirements that might hinder their ability to provide immediate aid. This also includes non-employee paramedics, firemen, or police.

5.3.3 Responsibility

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

Partner Quality Assurance: Responsible for facility insight, overseeing the implementation of these requirements, and periodically verifying compliance.

5.3.4 Forms & Documents

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

5.4 Integrated Pest Management

5.4.1 Purpose

The purpose of this policy is to define the requirements for a contracted pest control program and outline the proactive measures that partner facilities take to prevent and control pests.

5.4.2 Policy

The Company and partner facilities ensure products are pest-free by implementing integrated pest management programs (IPM) at all production and storage facilities. IPM programs include the use of contracted pest control service providers and proactive measures implemented by each facility or warehouse.

5.4.2.1 **Pest Control Contractors**: Facilities utilize state-licensed Contractors for pest control. Contractors utilize GMP trained and state-licensed pest control operators (PCO). Contractors store all chemicals offsite and ensure that their activities do not present food safety risks. Contractor meets all documentation and inspection requirements outlined below:

Pest Control Documentation: Contractors provide services that meet requirements in this section and provide a documented pest control program binder. At a minimum, the Contractor provides the following items and ensures documentation is current:

Pest Elimination Plan / Service Agreement: A detailed scope of service which includes the target pests and Contractor's methods for monitoring and eliminating pests.

Site Map: A current map outlining the location, type, and number of all pest control monitoring devices. Where possible, site maps should designate GMP areas.

State License: A copy of the Contractor's state license.

PCO License & GMP Training: A copy of each PCO's license and GMP training for all PCOs that may provide inspection and application services.

Memorandum of Insurance: A hard copy of the insurance certificate, issued annually.

Approved Chemical List and SDS: A list outlining the Facility-selected, EPA-approved chemicals that might be utilized and all current SDS sheets and labels for those chemicals. This information can include web access, hard copies, or compact disc.

Service Report & Pesticide Application Records: Documented inspection results, traps monitored including noted activity, catches, and pesticide application. Evaluation of insect types on ILT's is also provided. Service reports are reviewed and signed by applicable program managers or designate.

Trending: Contractors should provide device trending at least annually, with preference given to quarterly analysis.

Annual Review/Assessment: An in-depth assessment of the facility, devices, and PCO performance, conducted each calendar year.

Devices and Inspection Frequencies: At a minimum, PCOs ensure all devices are appropriately labeled/numbered and provide inspection services meeting Company standards and agreed scope of service.

Interior Tin Cat: Inspected weekly. Tin cats are placed adjacent to walls on either side of an entrance and additionally at approximately 35' interval placement. All tin cats require a wall placard which indicates the device number.

Exterior Bait Station: Inspected at least monthly. Bait stations are secured and locked. Contractor ensures enclosure is not damaged and bait is not exposed. Contractor replaces bait as needed and documents application of bait. Regulations prohibit the use of bait stations inside buildings.

Insect Light Trap (ILT): Suggested weekly inspection; inspection frequencies are determined by Facility based on season, geographical location, and activity. Additional requirements include changing bulbs at least annually and replacing and dating sticky traps.

Fogging Services: Fogging is contracted based on need. Fogging solutions should contain around 0.5% natural pyrethrins and be labeled for use in commercial food handling areas. Fogging is not permitted in areas where there could be direct contact with open product. Insecticide is used in accordance with labeling directions.

Additional Services: Facilities may elect live trapping, pheromone lures, fly strips, bird removal, or other services based on risk. Facilities ensure devices are positioned such that they do not present food safety risks. Contractor provides an addendum to the Pest Elimination Plan / Service Agreement to cover additional services.

5.4.2.2 **Preventive Measures by Facility**: In addition to contracting services, Facilities take all appropriate proactive measures to ensure that pest inclusion and/or contamination is prevented.

External Methods: Facilities remove areas of harborage that include clutter and/or vegetation adjacent to buildings. Facilities remove potential food sources and nesting areas by maintaining waste areas and, where possible, eliminating standing water.

Barrier Methods: Facilities maintain an effective barrier that prevents pest entry. To achieve this, facilities screen structural openings, fit doors to GMP areas with self-closing devices and brushes, seal cracks and crevices, install louvres on ventilation fans, close or screen doors when not in use, and perform repairs as needed to ensure barrier effectiveness.

Internal Methods: Facilities mitigate pest risk inside facilities by having an effective sanitation and housekeeping program, utilizing designated eating areas, regularly removing waste, and maintaining a minimum of 18 inches of unobstructed space adjacent to exterior walls in product and packaging storage areas.

Facility-applied Pesticides: Facilities may elect to purchase and handle wasp spray, insect spray, and ant bait only if specialized precautions are taken. Requirements are outlined in SOP 5.1.03 Local Storage and Use of Pesticides.

Monitoring & Verification: Facilities monitor the effectiveness of preventive measures through routine facility GMP inspections and monitor the effectiveness of Contractors through annual internal auditing or local verification procedures e.g.: paper mouse or business card.

Service Report & Annual Assessment Corrective Actions: Service reports indicating activity in GMP areas, PCO hygiene recommendations, and annual assessments are subject to local corrective action procedures based on severity. Managers signing service reports are responsible for corrective action oversight.

5.4.2.3 **Pest Issues and Hold Procedures**: Facilities promptly address events of pest evidence or infestation and take appropriate measures to hold affected packaging or product in accordance with Policy 7.3 Product Hold and Release.

5.4.2.4 **Training**: Facilities include a pest control overview in new hire and annual training. This training instructs employees not to disturb pest control devices and to report damaged bait stations where chemical poison is exposed. In addition, training includes instruction for preventive measure and reporting activity.

5.4.3 Responsibility

Quality Assurance Team: Responsible for interpretation of FDA law, Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), certification standards, and their application to Company policies.

Program Manager(s): The program manager may be either a warehouse manager, general manager, facility quality assurance, or any combination thereof. Responsible for general oversight of the program, pesticide approval, reviewing service reports, assigning corrective actions, overseeing local storage and use of pesticides (if applicable), reviewing trending, and coordinating training.

5.4.4 Forms & Documents

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

5.5 Equipment Calibration: Food Safety

5.5.1 Purpose

The purpose of this policy is to define the calibration program for equipment relating to food safety and Partner Facilities' Hazard Analysis and Critical Control Point (HACCP) programs. Related items include metal detectors, magnets, and temperature probes for wash bays. This policy does not apply to filters for liquid sucrose.

5.5.2 Policy

The Company and Partner Facilities install and maintain devices for food safety that include metal detectors and magnets. To ensure these devices are effective, Partner Facilities include calibration as a prerequisite program and periodically verify the effectiveness.

5.5.2.1 **Metal Detectors**: Metal detectors are calibrated to ensure their effectiveness when classified as a preventive control-critical control point (CCP). Activities include annual verification, utilization of traceable standards, and protection from unauthorized adjustment.

Annual Verification: Partner Facilities schedule annual metal detector performance assessments by trained contractors. This requirement applies to all metal detectors classified as CCPs. Partner facilities also request certification/training prior to contracting services and maintain documentation in records.

Certified Test Standards: Facilities monitor metal detectors for routine CCP monitoring employ NIST or equivalent traceable metal detector standards. Partner facilities maintain certification documentation and replace expired standards. The Company-recommended standards and sizes are as follows:

- Ferrous: 1.5 mm
- Non-ferrous: 1.8 mm
- Stainless Steel: 2.0 mm (Facilities select 308 or 316 based on equipment)
- Aluminum: 2.0

Not all metal detectors can meet the recommended standard sizes for various reasons, e.g., aperture sizing, manufacturer, product composition, etc. In these cases, a documented risk assessment is maintained by the Partner Facility.

Password Protection: Partner facilities ensure that metal detectors are protected from unauthorized adjustment by maintaining password protection. Personnel with supervisory duties are granted authorization for adjustment.

5.5.2.2 **Magnets**: Partner facilities install magnets at various points to monitor equipment and products. Magnet installations may include rare earth and/or ceramic magnets. Preference is given to rare earth but preexisting ceramic magnet installations are acceptable for use after metal detection.

Annual Pull Testing: The effectiveness of magnets does not typically fluctuate but can diminish with rough handling and/or impact. Partner facilities conduct pull tests to ensure magnets are effective once per calendar year. Pull testing includes testing each bar, plate, or roller magnet in two separate places and averaging the values. Facilities replace individual bars or magnets when testing reveals a loss of strength and/or pull strength drops below recommended ranges. In addition, facilities utilize pull strength data to trend magnet pull strength if required.

Recommendations for Replacement: The Company has developed replacement standards for magnets. When ceramic magnets drop below the recommended strengths, Partner Facilities replace them with rare earth magnets.

- **Rare Earth**: replace when pull testing is below six pounds.
- **Ceramic**: replace with rare earth when pull testing is below two pounds.

5.5.2.3 **Temperature Probes**: Temperature probes for use in tanker wash facilities are required to be calibrated within +/- 2˚ F verified by an NIST-certified thermometer. Facilities conduct verification weekly and maintain NIST certificates on file. Mercury and glass thermometers are not suitable for use in GMP-areas.

5.5.3 Responsibility

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

Warehouse Managers and General Managers**:** Individuals given authority over warehouses are responsible for meeting calibration requirements.

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

5.5.4 Forms & Documents

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

5.6 Facility & Equipment Maintenance

5.6.1 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.

5.6.2 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.

5.6.2.1 **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 5.2 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.

5.6.2.2 **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.

5.6.2.3 **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:

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.

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.

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.

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.

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.

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

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.

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

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.

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.

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:

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.

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.

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.

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

5.6.2.4 **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.

5.6.2.5 **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.

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

5.6.2.7 **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.

5.6.2.8 **Grounds & Facility**: In addition to the external requirements relating to harborage abatement outlined in Policy 5.4 Integrated Pest Management, facilities facing dust issues suppress dust during the dry months by employing water tankers to target unsealed roadways.

5.6.2.9 **Lubricants**: Facilities ensure that all lubricants utilized in GMP-designated areas are of food grade status and allergen free. Lubricants are subject to Policy 5.17 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.

5.6.2.10 **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.

5.6.2.11 **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.

5.6.3 Responsibility

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.

5.6.4 Forms & Documents

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

5.7 Cleaning, Sanitation, & Waste Management

5.7.1 Purpose

The purpose of this policy is to define cleaning, sanitization, and waste management requirements for Partner facilities to protect the value of our products, meet FDA regulations, and ensure customer satisfaction.

5.7.2 Policy

The Company and Partner Facilities operate in a hygienic manner by designing, implementing, and documenting cleaning and sanitation programs. These programs are based on product risk and include documented SOPs/WIs, MSS, and verification practices. Facilities implement the following requirements where applicable:

5.7.2.1 **Non-GMP Area Cleaning**: Facilities containing non-GMP areas such as factory beet ends, flat storage warehouses, staff amenities, grounds, etc. maintain these areas in a hygienic manner to the extent possible to prevent cross contamination with GMP areas, risks to product or packaging, or risks to personnel that might work in GMP areas. MSS are required for staff amenities, but all other non-GMP areas do not require master sanitation schedules unless the need is determined by the Facility. Cleaning of these areas is verified through routine inspection.

5.7.2.2 **Dry Cleaning**: Moisture sensitive environments such as sugar warehouses or granulated sugar handling areas employ dry cleaning techniques to limit microbial proliferation. Dry cleaning involves a top-down approach and includes vacuuming, sweeping, and other means to keep floors, walls, and equipment surfaces clean.

5.7.2.3 **Liquid Sugar and Medium Invert**: Facilities equipped with processing equipment employed for liquid sugar, medium invert, and coating syrup routinely clean tanks, piping, gaskets, and fittings to minimize the presence of microbiological spoilage organisms.

Clean in Place (CIP) Systems: Facilities flush systems with water and sanitize them employing hot water treatment. Effective sanitization occurs when the effluent water is monitored and maintained above 180˚ F for a minimum of 15 minutes. Facilities restart cycles when temperatures drop below 180˚ F. CIP frequencies are determined by the Facility based on microbiological reporting. Facilities strive to meet National Food Processors Association (NFPA) Canners Standards and National Soft Drink Association (NSDA) Bottlers Standards. In addition, facilities sanitize tanks before initial use, after any maintenance, and after any periods greater than 24 hours without use. Facilities sanitize couplers, fittings, gaskets, reducers, and caps during the CIP process by using chlorine sanitizing solutions or clean out of place (COP) washers. Where applicable, facilities also ensure spray balls are functioning during CIP to ensure adequate coverage.

Sanitizing Solutions: Facilities electing to use sanitizing solutions for couplers, fittings, gaskets, reducers, caps, etc. use chlorine solutions between 100-200 ppm. Solutions used on food contact surfaces exceeding 200 ppm is against federal regulations; therefore, Facilities verify concentration using chlorine test strips and include results in records. Solutions older than 24 hours or solutions found outside of the 100-200 ppm range are discarded. Facilities choosing this route should implement a work instruction and training for mixing solutions.

5.7.2.4 **Preoperational Cleaning**: Facility areas taken down for extended periods such as maintenance and repair (M&R) are cleaned prior to resuming production. Equipment that is non-operational for a period of seven days or greater is not required to receive continual cleaning. Opened equipment is inspected and cleaned prior to recommission. Juice systems are either flushed with water in a phase known as "test out" and granulated sugar handling equipment is scoured with sugar. Facilities maintain preoperational cleaning documentation.

5.7.2.5 **Silo Cleaning**: There are no established frequencies for cleaning silos and Facilities determine the need for silo cleaning. Silos with distributors and/or reclaimer scrolls that require maintenance and entry are subject to the same standards as routine cleaning. Locations maintain a detailed silo entry procedure. Company quality requirements for silo entry include employee hygiene, the use of booties and drop cloths when working over sugar, food-contact equivalent tools for use in silos, and the generation of a tool/part entry and removal list to ensure that everything brought in is removed. There are significant safety hazards involved with silo cleaning and Safety Department consultation should occur for each entry.

5.7.2.6 **Cleaning Documentation**: Cleaning documentation is required by Company standards, federal regulations, and customer requirements. Facility develop and implement master sanitation schedules and local procedures or work instructions for cleaning practices. In some cases, MSS can function as a work instruction for simple tasks. Documentation should include item to be cleaned, responsibility, frequency, methods, and verification.

Master Sanitation Schedules (MSS): Facilities generate MSS for GMP areas. MSS ensure that employees clean areas at a predetermined frequency. Frequencies are determined locally and include, at a minimum, daily and weekly. Employees complete MSS in accordance with record completion requirements. Employees also complete all blanks or indicate reasons why they have missed areas on the MSS forms. MSS forms require document verifications.

Cleaning Standard Operating Procedures (SOPs) and Work Instructions (WIs): Facilities maintain cleaning SOPs or instructions locally and write them based on equipment and needs of the Facility. SOPs/WIs ensure that cleaning duties are carried out properly and always in the same manner.

5.7.2.7 **Food Contact Utensil Cleaning & Sanitization**: The Company does not require routine sanitizing of food contact utensils used for granulated sugar products. When cleaning is necessary, personnel clean utensils away from manufacturing operations. This minimizes the potential for contaminating food, packaging materials, and food contact surfaces in moisture sensitive areas. Employees allow utensils to dry prior to returning them to service.

5.7.2.8 **Cleaning Tools**: Facilities practice good housekeeping and store all cleaning tools such as vacuum hoses, attachments, brooms, shovels, etc. in designated storage areas or racks when not in use.

5.7.2.9 **Cleaning Chemicals**: Facilities store cleaning chemicals in designated, secured locations and follow all chemical control requirements as outlined in Policy 5.17 Chemical Control, including disposal of empty containers. Chlorine sanitizing chemicals, if utilized, are compliant with 21 CFR 178.1010. Facilities ensure only trained employees handle cleaning chemicals.

5.7.2.10 **Waste Management**: Facilities control and monitor waste to ensure waste is conveyed, stored, and discarded in such a way to minimize the development of odor, pest attractant, harborage, and to protect against contamination of product, product contact surfaces, water supplies, and ground surfaces. Facilities implement the following to ensure that waste does not affect product quality or safety:

5.7.2.11 **Waste Receptacles**: Waste bins are only used for their intended purpose. Facilities ensure that waste bins are made of impermeable material and that they are covered and labeled. Facilities do not require covers for outside containers 10 cubic yards or larger provided waste is contained in tied liners to prevent harborage. The Company prohibits the use of packaging material for waste containment or storage unless the Facility defaces the packaging to where there is no possibility for inadvertent use for finished product e.g.: marking a tote with the word “trash” and removing the liner.

Waste Sugar: Facilities dispose of sugar found to be unfit for reprocessing as standard waste, e.g., landfill.

Waste Liquid: Facilities handle liquid waste according to local state and federal requirements by either disposing via drains or having environmental staff oversee disposal.

Recycling: Where possible, Facilities recycle waste materials and/or packaging and ensure these activities and do not present risks for inadvertent use.

Waste Removal Documentation: Facilities incorporate waste removal into local MSS. Contractors removing waste are subject to Facilities’ Supplier Approval program to ensure that contractors meet local regulations for disposal.

Waste Monitoring: Facilities include waste removal into facility inspections and/or daily hygiene inspections.

5.7.3 Responsibility

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

Program Manager: The program manager may be either a warehouse manager, general manager, or facility quality assurance. Responsible for general oversight of this program.

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

5.7.4 Forms & Documents

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

5.8 Water & Air Monitoring

5.8.1 Purpose

The purpose of this policy is to define water and air monitoring requirements to ensure utilities do not present food safety or food quality risks.

5.8.2 Policy

The Company and Partner Facilities take reasonable precautions to ensure that utilities, including water, ambient air, and compressed air are pure and suitable for use with food. To achieve this, Facilities implement water and air monitoring programs that meet the following requirements:

5.8.2.1 **Water Program**: Partner Facilities source water from various sources based on operation capabilities: condensate, well, municipal, etc. Facilities follow Company recommendations based on use, equipment, location etc. Where possible, facilities conduct backflow testing at least annually.

5.8.2.2 **Centrifugal Wash Water**: Condensate used in the centrifugal washing step is sourced from condensing the vapors of evaporator systems. Condensate is pure water and applicable Partner Facilities submit monitoring samples to third party labs annually. Facilities collect samples near point of use and monitor for total coliform only. Centrifugal wash water must be filtered to 10 microns.

5.8.2.3 **Liquid Sugar and Medium Invert Water**: Water employed as an ingredient may originate from municipal water or well water. Purification requirements are outlined in 5.6.2.3 Facility and Equipment Maintenance. Facilities additionally monitor ingredient water by submitting samples to third party facilities accredited to environmental monitoring under the Safe Drinking Water Act for microbiological analysis or ISO 17025 certification. Monitoring requirements include at a minimum:

Analysis	Method	Notes
Total Coliform	SM9223B or SM9221B	Or equivalent if allowed by local regulation.
Nitrate / Nitrite	EPA Method 300.0	
Chlorine Residual	DPD Colorimetric Method	Required for water treated with chlorine.
Total Trihalomethanes (TTHM)	EPA Method 524.2	Required for water treated with chlorine.
Haloacetic Acids HAA5)	EPA Method 552.2	Required for water treated with chlorine.

5.8.2.4 **Staff Amenity & Sanitation Water**: Water that facilities utilize for beet end cleaning and supplying staff amenities may be either condensate, well water, municipal water, or a combination. Water source may change depending on location and season. Monitoring recommendations are based on risk and outlined below:

Well Water: Wells are typically classified as public water sources and are subject to Department of Environmental Quality or equivalent oversight/regulation. Facilities maintain mandated monitoring records and no additional monitoring is recommended. If wells are not under regulatory oversight e.g., wash station, then annual testing as outlined in 5.0 is recommended.

Municipal Water: All municipal authorities are subject to federal drinking water standards. Facilities maintain annual consumer confidence reports (CCRs) on file. No additional monitoring is recommended.

Condensate: Based on the nature of condensate. Centrifugal wash water analyses are considered appropriate for all uses of condensate e.g., beet end cleaning water.

5.8.2.5 **Air Program**: Facilities may utilize air for use in granulators, conditioning, pressurizing railcars, tote filling, and blowing out liquid lines. Air requirements are also outlined in 5.6 Facility and Equipment Maintenance. All new equipment meeting these criteria shall have the air analyzed.

Air systems interacting with product or food contact surfaces that have had previous testing completed are not required to be tested annually based on a documented risk assessment. Revalidation testing is required if there were equipment modifications that would require testing determined locally by Quality Assurance. Monitoring is based on risk and may include annual analysis for the following parameters:

Analysis	Recommendation
Particulate Solids (filter size)	0.5 microns
Dew Point ˚F	<32
Oil (mg/m^3)	0.1 (ISO Quality Class 2)
Microorganisms	No defined limit.

5.8.3 Responsibility

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

Partner Quality Assurance: Responsible for overseeing utility monitoring and verification through internal auditing and prerequisite program verification.

5.8.4 Forms & Documents

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

5.9 Physical Contaminant Control

5.9.1 Purpose

The purpose of this policy is to define programs, practices, and equipment employed to ensure finished products are free of foreign matter.

5.9.2 Policy

The Company and Partner Facilities' physical contaminant control program minimizes risks of foreign matter contamination to ensure that final products are free from extraneous material. This program contains methods for prevention, monitoring/control, and instruction for reporting potential contamination incidents. This program functions in conjunction with Facilities' hazard analysis and critical control point (HACCP) plans.

5.9.2.1 **Prevention**: Partner Facilities' prerequisite programs aid in preventing foreign matter contamination, including programs such as facility and equipment maintenance, cleaning and sanitation, integrated pest management, and sanitary transport. Additional methods specifically targeting prevention for foreign matter include:

Glass, Brittle Plastic, and Ceramic: Glass, brittle plastic, and ceramic is virtually undetectable in non-liquid products. To mitigate risk of glass contamination, facilities implement exclusion, monitoring, and reaction techniques listed below:

Exclusion: Facilities take reasonable precautions to exclude glass from sensitive, GMP areas, including lab glassware, glass containers, glass equipment gauges, thermometers, etc. Exceptions may include glass associated with transport vehicles (bulk trucks, switching locomotives, etc.).

Light Shielding and Overhead Lights: All lighting is either constructed of non-glass material, e.g., LED or shielded, including dock lighting, forklift lighting, and insect light trap bulbs. Facilities discard replaced overhead light bulbs in trash receptacles located outside of GMP areas.

Glass Register/ Master List: Glass, brittle plastic, and ceramic items are listed in a glass and brittle plastic register/master list. The glass and brittle plastic register contain locations of these items and the Facility ensures that the register is current.

Inspection: Facilities inspect and document all items on the register monthly unless facilities employ zoning techniques. Zoning techniques include monthly inspection of all items within 20 feet of potential open-product areas and all other items included in less frequent inspections. Personnel elected to perform inspections generate work orders for damaged or missing items. Inspectors notify quality assurance of all missing or broken items noted during inspections.

Breakage Procedure: Facilities document a breakage procedure in a local work instruction and train personnel on reporting and cleanup requirements. The work instruction includes supervisor notification, incident documentation, area segregation, product hold for products within 20 feet of breakage, use of disposable shoe coverings during cleanup, and cleanup inspection and verification. After cleanup, facilities discard all tools and items used to clean up glass.

Wood: Facilities limit wood in GMP areas with exceptions for key items such as pallets, storage rack material, facility construction, etc.

Knives: Facilities prohibit the use of cutting instruments in GMP areas with disposable blades. Where applicable, warehouses require the use of scissors or non-disposable blade cutting instruments. In cases where this is not possible, utility knives may be used provided they are attached to equipment by cables and are monitored. Employees maintain cutting instruments in a sanitary manner.

Loose Objects: Facilities take precautions by removing or attaching loose objects found on equipment or overhead structures.

5.9.2.2 **Engineered Monitoring Devices**: Foreign matter detection is an integral part of the Company's HACCP programs for physical contaminant protection. All facilities, except flat storage warehouses, maintain some form of foreign matter detection. Controls include but are not limited to magnets, metal detectors, screens, and filters. These devices are appropriately calibrated per Policy 5.5 Equipment Calibration: Food Safety.

Magnets: Magnets are installed and inspected to monitor sugar handling equipment. Facilities generate monitoring schedules with a minimum frequency of daily while in use. Monitoring includes documenting date, time, findings, person monitoring, and reporting abnormal findings to supervisory personnel. Based on findings, supervisory personnel may implement product hold procedures. The Company recommends the following magnet installations at a minimum:

- Rare earth magnets on sugar streams entering silos to permit rapid response to equipment failures and to protect sugar stores.
- Rare earth magnets prior to loading or packaging and additional magnets on bulk loading spouts if a metal detector is not immediately present.
- Ceramic or rare earth installation on packaged product conversion stations.

Metal Detectors: Operating facilities ensure that all non-liquid products pass through a functioning metal detector incorporated the Facility's Food Safety/HACCP plan. Metal detectors are equipped with reject mechanisms, unless the Facility seeks variance and alternate controls to ensure product is metal free (see 2.2.5). Facilities routinely challenge detectors and reject mechanisms as part of HACCP monitoring. Facilities ensure that metal detectors are monitored, and pass metal detector checks prior to permitting product's entrance into interstate commerce.

Installation: Facilities install metal detectors at the terminal end of the process or as close to the terminal end as reasonably possible. When this cannot be achieved, loadout magnets are installed and monitored.

Training Requirements: Facilities ensure that employees conducting metal detector monitoring activities have documented, in-house HACCP training. Facilities also instruct employees to report all metal detector failures such as a failure to detect the standard and/or a failure to reject the standard.

Metal Detector Alarm: Facilities investigate product isolated by metal detector reject mechanisms. Employees notify quality assurance and warehouse management when reject finding metal is larger than two (2) mm.

Metal Detector Monitoring Failure: When routine monitoring indicates that the metal detector has failed, all product since the last successful monitoring is placed on hold per HACCP procedures with disposition determined by the PCQI.

Lack of Reject Mechanism: If metal detectors for tote systems do not have reject mechanisms, Facilities ensure that the tote being filled when detector alarms is quarantined and designated as remelt or not for human consumption.

Screens: Screening is an important mechanism for bulk sugar handling for quality and food safety. Screens are employed to remove product lumps and monitor systems for foreign material contamination.

Lump Removal Screens: Where applicable, Facilities handling bulk sugar with silo capacities operate lump removal screens. Standards for lump screening are 10 to 11 US mesh. Lump screeners typically have two or more screens and at least one screen should be 10 to 11 US mesh. Lump removal screens are required to be constructed of magnetic stainless steel.

Classification Screens: Classification screen sizes vary based on granulation specifications. Classification screens are required to be constructed of magnetic stainless steel.

Terminal Screens for Granulated Products: Facilities install terminal screens on granulated product lines. These screens are installed to monitor scroll bearing failure, scroll housing sealing material, and elevator components. The Company-recommended screen sizes are no larger than ¾" by ¾" internal diameter (ID) opening. Facilities implement inspection procedures or work instructions to monitor these screens prior to releasing shipments into interstate commerce.

Packaged Product Conversion Screens: Facilities with capabilities of converting packaged product to bulk trucks utilize lump removal screens of 10 to 11 US mesh to ensure foreign contaminants are not introduced during this process. These screens are required to be constructed of magnetic stainless steel with a magnet installation after screening.

Liquid Filters: Facilities with liquid capabilities install and maintain final filters with openings no larger than 100 microns. Final filters can be sock-type or stainless steel. Filters that are sock-type are replaced weekly, when damaged, or when flow is impeded.

5.9.2.3 **Incident Reporting**: Facilities train employees to report foreign matter contamination or potential foreign matter contamination to supervisory and quality personnel. All cases of potential foreign matter are documented in a food safety and quality incident report or similar mechanism. HACCP deviations are separate and documented in HACCP deviation reports.

5.9.3 Responsibility

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

Warehouse Managers and General Managers: Individuals given authority over warehouses are responsible for sourcing equipment that meets company standards and overseeing preventive practices.

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

5.9.4 Forms & Documents

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

5.10 Product Storage & Warehousing

5.10.1 Purpose

The purpose of this policy is to define the requirements for ambient warehouse storage facilities employed to house packaged product. Many facilities utilize alternate warehousing facilities and precautions must be taken to protect product and packaging from contamination. This policy summarizes storage elements from other policies and may be utilized as a quality guide for flat storage warehouses.

5.10.2 Policy

The Company ensures that packaged product is protected from all sources of contamination during storage and warehousing. Outlined below are the key requirements for achieving this goal:

5.10.2.1 **FDA Registration**: Facilities that are contracted to house products are required to register with the FDA and provide registration numbers if these facilities are contractors.

5.10.2.2 **Protection from Elements and Moisture Control**: Warehouses maintain an effective barrier to protect the product from weather and pest entry. Truck docks are effectively sealed, and all doors are fitted with sweeps, brushes, or rubber seals. Products are to be stored in a dry, non-refrigerated environment.

5.10.2.3 **Integrated Pest Control**: Storage warehouses maintain an integrated pest control program according to 5.1.03 Integrated Pest Management by installing and monitoring exterior bait stations, tin cat traps, and insect light traps (ILT). Facilities install tin cats on either side of personnel doors and roll up doors and each end of a bank of loading dock doors. Product is stored at a minimum of 18 inches from the wall for pest control purposes. Warehouses contract crack and crevice services along floor to wall junctions at least annually. Weeds around the exterior are kept to an absolute minimum to prevent pest harborage areas.

5.10.2.4 **Segregation**: Sugar products are stored only with like products and in an odor-free environment. The Company prohibits the storage of sugar products with allergens, chemicals, or other hazardous substances. Facilities also segregate remelt and reconditioned products away from saleable products and label them as such. Contracted warehouses storing other food items do not comingle those items with sugar.

5.10.2.5 **Damaged Product**: Product handling may result in damaged product e.g., bag punctures. Warehouses segregate damaged product for return to factories or to be sold as not-for-human consumption. Damaged product may be taped to prevent sugar spillage, but it must be labeled, segregated, and returned to factories and not shipped to customers. Palletized product may be restacked and stretch wrapped only for customers willing to accept short pallets. In these cases, accurate quantities must be documented and verified with customer service prior to shipment.

5.10.2.6 **Pallets**: Warehouses inspect incoming pallets for damage and contamination and reject pallets unsuitable for food use. Warehouses store received pallets in designated areas and inspect all pallets that have been stored outside before being brought into the facility for use. Pallets must remain in dry condition throughout receipt, storage, and use.

5.10.2.7 **Tote/Supersack Storage**: Warehouses employing high density stacking or pallet transfers, e.g., wood to plastic, ensure that the bottom of the tote does not contact the bare ground. The bottom of the tote is considered a food contact surface. Clean cardboard must always be used when placing a tote on the ground without a pallet.

5.10.2.8 **Facility Inspection Program**: Facilities' internal inspection programs should cover any alternate warehousing under their control. These programs should comply with the facility inspection portion of 1.6 Internal Auditing & Internal Facility Inspections. Contracted facilities are subject to Company inspection and GMP audits.

5.10.2.9 **Good Manufacturing Practices (GMPs)**: Flat storage facilities without any processing or open product handling are not subject to some personnel related GMPs including hair restraints, protective clothing, and jewelry. Warehouses with transfer capabilities implement GMP practices in the immediate vicinity of transfer equipment.

5.10.2.10 **Glass Protection**: Facilities shield all glass bulbs and fixtures to prevent and/or minimize glass breakage. Facilities shall reject any inbound conveyance where the presence of glass is observed. Glass items are included on a list with an accompanying inspection conducted no less than annually. Facilities should also maintain a glass breakage procedure that includes product holds.

5.10.2.11 **Food Defense**: Facilities incorporate product warehousing into food defense plans and security requirements. Those requirements are determined locally by the appointed food defense coordinator. At a minimum, secondary warehousing should contain secured storage area, visitor handling, and lighted exterior.

5.10.2.12 **Food Safety Plan**: Flat storage warehouses are only required to maintain a food safety plan when product transfer capabilities are utilized. Warehouses involved solely in the storage of unexposed, packaged products are not required to maintain a food safety plan.

5.10.2.13 **Contracted Facility Third Party Audits**: Contracted warehouses must maintain an annual third-party audit. The Company does not require the third-party audits to be GFSI and will accept third party audits from AIB.

5.10.3 Responsibility

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

5.10.4 Forms & Documents

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

5.11 Bulk Sugar Railcars

5.11.1 Purpose

The purpose of this policy is to define the quality-specific requirements relating to the transportation of granulated sugar via bulk rail. Adherence to these requirements mitigate food safety and quality assurance risks.

5.11.2 Policy

The Company transports granulated sugar via bulk rail by utilizing gravity pneumatic hopper railcars and pressure differential (PD) railcars. Partner facilities ensure that loading facilities, railcars, loading equipment, and loading practices do not cause product contamination or degradation by meeting the following requirements:

5.11.2.1 **Documented Procedures and Work Instructions**: Partner Facilities maintain work instructions for specific, facility-related tasks. Partner facilities ensure that local instructions meet quality requirements outlined in this policy.

5.11.2.2 **Dedicated Fleet**: The Company maintains a fleet dedicated to sugar for rail transportation. Railcars are washed when cars enter sugar service, undergo maintenance, or any other time when facilities cannot adequately clean the cars onsite. Railcars are not permitted to have fiberglass components.

5.11.2.3 **Railcar Loading**: Production factories ship granulated sugar via rail and ensure that shipping practices do not present risks to product safety and quality. Facilities document all inspection and loading activities. Partner Facilities incorporate the requirements below to ensure sanitary transportation of granulated sugar:

Bulk Loading Facilities: To protect bulk products during the loading phase, facilities maintain and clean bulk loading areas and do not use areas to store equipment or supplies. Facilities install toe kicks and catch pans on catwalks that extend over the tops of cars. Catwalks are maintained free of debris and/or tools. Facilities also ensure that loading areas are free from peeling paint. Tools employed for bulk cleaning and loading such as push rods or scrapers are food contact surfaces. Facilities provide racks and cabinets for storing these tools and personnel handle them in a manner that protects them from becoming a source of contamination.

Returning Car Seal Verification: Employees inspect returning railcars to ensure compartments are closed and tamper-evident seals have been applied to openings. Employees report missing seals to supervisory personnel. Receiving facilities reject railcars and notify NSM Transportation when cars arrive with open access points or when tamper-evident seal combinations cannot guarantee that the compartments were protected in transit. In instances where all seals were not applied, but compartments were protected, facilities inspect the cars and evaluate the risks prior to rejection. An example would be a gravity pneumatic car with a sealed sanitary (top) gate but an unsealed bottom gate. In this case, the compartment of the car is protected, and facility inspection and cleaning procedures could mitigate potential risks associated with the unsealed bottom gate.

Inspection and Car Suitability: Facilities assess railcar suitability while residual sugar is removed. Inspections include at a minimum an odor evaluation, moisture assessment (water spots/body cracks), gasket condition, air cap condition, and free of foreign material, e.g., insects, chipped epoxy lining, grain, etc. Gravity pneumatic hopper cars arriving with material on the outside gates are cleaned by facility personnel and rejected for washing if the material cannot be adequately cleaned/removed. In addition, personnel also inspect gates for the presence of abrasive blasting media, common in recently lined or shopped railcars. Pressure differential railcars should be pressure tested to at least 1.5 PSI and lose no more than one (1) PSI over five (5) minutes once valves are closed. This ensures that sugar can be unloaded at the customer or alternate facility.

Car Cleaning: Car cleaning refers to the removal of residual sugar. Facilities remove sugar and account for quantities. Personnel also clean encrusted sugar from gates and hatches. When finished, personnel ensure and document the removal of all cleaning/inspection tools.

Car Loading Requirements: Facilities cover hatches with shroud materials or plates throughout the entire loading process to prevent foreign material from entering the car while loading. Facilities that utilize push rods ensure that they are clean and sanitary and that they are handled appropriately. Employees are trained to report missing tools, seals, shrouds, etc. during the loading process or any other occurrences where there has been a possibility for foreign material contamination. Employees ensure hatches seat properly when closed and verify gasket integrity prior to applying seals.

Product Sampling: Loading personnel collect samples in a sanitary manner for laboratory analysis and factory labs generate split samples for retains. Refer to Policy 6.2 Product Sampling and Retain Requirements for more information.

Tamper-Evident Seals: Employees seal all conveyance access points with wire cable seals according to Policy 9.1 Food Defense. Seal application must be conducted by Company employees. Seal placement and numbers are either scanned or legibly documented in records. Facilities store seals securely and issue correct amounts of seals for a given car type and gate configuration.

Food Safety Control and Quality Checks: Facilities ensure that all food safety and quality controls/checks have been conducted, documented, and passed prior to releasing cars to the railroad. Food safety controls include metal detector, magnet, and screen monitoring. Quality controls include passing laboratory analysis.

5.11.2.4 **Railcar Receiving**: Facilities receiving bulk rail from production factories perform inspections and verification checks prior to unloading cars. Personnel unload cars in a sanitary manner and apply return seals and appropriate documentation. Sampling incoming railcars is typically not required.

Incoming Inspections: Receiving employees match the railcar number and seals to the bill of lading and review the accompanying COA. Seals must be intact. Employees also inspect all sanitary surfaces, gates, discharge tubes, etc. to ensure contamination does not occur during the unloading process. These areas are cleaned, if necessary, to ensure contaminants are not introduced during unloading. Employees do not unload cars with inspection or documentation discrepancies and notify supervisory personnel. Supervisory personnel coordinate issues with NSM Quality Assurance and NSM Logistics.

5.11.2.5 **Car Unloading**: Facilities ensure that unloading areas are free of debris and that unloading hoppers, if applicable, are covered when not in use. Hoses that are employed for PD car unloading are maintained in a sanitary condition, capped when not in use, and are kept off the ground. Employees report contamination or unusual occurrences noted during unloading or transfer, including missing tools, equipment, gaskets, PPE, etc.

5.11.2.6 **Empty Car Sealing and Return Documentation**: Facilities close all entry points and apply return seals to all areas accessed during the unloading step according to procedure 10.9.1-08 Receiving Facility Return Seal Requirements. This includes the completion and submission of form 10.9.1-08 Receiving Facility Return Seal Diagram. Consult SOP for more information.

5.11.3 Responsibility

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

Warehouse Managers and General Managers: Individuals given authority over warehouses are typically responsible for overseeing personnel conducting these activities and ensure that requirements are consistently met.

Partner Quality Management: Responsible for verifying the implementation of this policy through facility inspection, internal auditing, and prerequisite program verification. Quality personnel are also responsible for conducting annual training relating to this policy.

5.11.4 Forms & Documents

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

5.12 Bulk Sugar Trucks/Trailers

5.12.1 Purpose

The purpose of this policy is to define the food safety and quality-specific requirements relating to the transportation of granulated sugar via bulk truck trailers. Adherence to these requirements mitigate food safety and quality assurance risks.

5.12.2 Policy

The Company transports granulated sugar via bulk truck trailers. Bulk truck trailers are food grade vessels and include food grade gaskets, and hoses. Partner facilities utilizing bulk trucks ensure that loading facilities, trailers, loading equipment, and loading practices do not cause product contamination or degradation by meeting the following requirements:

5.12.2.1 **Documented Procedures and Work Instructions**: Partner Facilities maintain work instructions for specific, facility-related tasks. Partner facilities ensure that local instructions meet quality requirements outlined in this policy.

5.12.2.2 **Dedicated Fleet**: The Company maintains a fleet of food grade bulk trailers dedicated to sugar service. Bulk truck trailers receive conversion washes prior to entering services. Trailers must not have hauled hazardous material. Loading and transfer facilities continually monitor the fleet by meeting the following requirements:

Bulk Trailer Wash Tickets: Carriers provide wash certificates for dry bulk trailers and have been instructed to perform a food-grade, detergent-free wash at least every 90 days. Washing facilities must be sourced from approved facilities as outlined on the NSM Approved Wash Station List located in the Appendix. Those facilities must meet the requirements of 10.9.1-07 Dry Bulk Wash Station Requirements. Locations not listed with Juice Processors Association (JPA) certification shall be considered as approved. Loading facilities verify wash ticket documentation prior to inspecting and loading trailers. The Carrier should be contacted for discrepancies and trailers are rejected for washing when requirements cannot be met.

Prior Load Documentation: In addition to wash certificates, carriers provide documented prior commodities. Documentation contains at a minimum, the identity of the prior two loads and their respective BoL numbers. Partner Facilities ensure that the prior two loads were granulated sugar. Trailers that have hauled products other than granulated sugar must be conversion washed with appropriate wash certificate. Prior loads and conversion washes are only accepted for prior loads consisting of authorized prior commodities.

Authorized Prior Commodities: Bulk trailers may only have back hauled products from the approved prior commodity list below in conjunction with a conversion wash.

Barley	Corn (including whole, bran, germ, grits, flour, meal, and starch)
Crystallized Fructose	Dextrose
Dry Malt Products	Flour
Malt	Oats & Dry Oat Products
Potato Flakes & Potato Products	Rice
Salt (Food Grade Only)	Soybeans & Dry Soy Products
Starch	

Conversion Wash: Partner Facilities ensure that trailers hauling approved prior commodities other than granulated sugar arrive with conversion wash documentation. Conversion wash documentation must include information regarding the removal and cleaning of the product discharge line, valves, aerators, and gaskets. Conversion wash information is included in 10.9.1-07 Dry Bulk Wash Station Requirements.

5.12.2.3 **Bulk Truck Loading**: Partner facilities take precautions to ensure that arriving bulk trailers are loaded in a manner that protects product from contamination. Bulk trailers are either loaded through the top hatches or pneumatic pipes. All loading activities must be documented and loading requirements will differ based on method of loading.

Hatch Loading: Production factories loading bulk truck trailers through hatches meet the following requirements:

Loading Facilities: To protect bulk products during the loading phase, facilities maintain and clean bulk loading areas and do not use areas to store equipment or supplies. Facilities install toe kicks and catch pans on catwalks that extend over the tops of trucks. Catwalks are maintained free of debris and/or tools. Facilities also ensure that loading areas are free from peeling paint.

Inspection and Trailer Suitability: Partner Facilities perform incoming inspections after prior load and wash ticket verification checks. Inspections include at a minimum an odor evaluation, moisture assessment (water spots/body cracks, residual water), hatch/gasket condition, food grade air hose, and free of insects or foreign material.

Trailer Loading: Facilities cover hatches with shroud material or plates throughout the entire loading process to prevent foreign material from entering the truck while loading. Shrouds, if used, are made of durable, food-safe material, and are attached to loading spouts. Employees are trained to report missing tools, seals, shrouds, etc. during the loading process or any other occurrences where there has been a possibility for foreign material contamination. Employees ensure hatches seat properly when closed and verify gasket integrity prior to applying seals.

Product Sampling: Loading personnel collect samples in a sanitary manner for laboratory analysis and factory or warehouse labs generate split samples for retains. Refer to Policy 6.2 Product Sampling and Retain Requirements for more information.

Tamper-Evident Seals: Employees seal all conveyance access points with wire cable seals according to Policy 9.1 Food Defense. Seal application must be conducted by Company employees. Seal placement and numbers are either scanned or legibly documented in records. Facilities store seals securely and issue correct amounts of seals for trailer type.

Food Safety Control & Quality Checks: Facilities ensure that all food safety checks have been conducted, documented, and passed prior to releasing the truck for delivery. Food safety controls include metal detector and screen monitoring. Quality controls such as passing laboratory analysis must be conducted prior to release.

5.12.2.4 **Pneumatic Loading/Transfer**: Pneumatic loading consists of direct silo to truck loading, bulk rail to bulk truck loading, or packaged product to bulk truck loading.

Transfer Location: Transfer/loading locations need to be of suitable construction to prevent contamination during loading/transfer. These areas must be effectively sealed with concrete or asphalt and free of debris. Hose stands should be present to keep hose ends off grounds as well as a clean, labeled container for housing caps, gaskets, etc. during the loading process.

Inspection and Loading: Pneumatic loading inspections include incoming seal verification, inspecting the condition of the hose, i.e., food grade and in good condition, and ensuring cleanliness of product discharge tube.

Product Transfer CoAs: The need for product sampling and analysis on pneumatic loading varies per facility based on several factors e.g., lab capabilities, silo storage, etc. Facilities performing packaged product to bulk conversion and bulk rail to bulk trailer conversion ascribe values from the rail or packaged product CoAs to the bulk truck CoA.

Driver Seals: Facilities may provide drivers with temporary seals or carrier provides temporary seals to be applied by the driver after unloading. Inscribed seal numbers are not required to be monitored or maintained for seals used in this application.

Blower Seal: Partner Facilities typically are not required to apply blower seals due to drop-trailer practices and a resultant discrepancy with BoL seal information. Some customers may request a blower seal, and, in these cases, a padlock or seal should be applied, and the information communicated to the carrier to avoid trailer drops for the particular load.

5.12.2.5 **Returning Product**: Bulk trucks occasionally arrive with residual or returned sugar. The following requirements are in place for those circumstances:

Top Loading: Top loading to the same customer is permitted provided that the truck returns sealed. There must be an open order to that customer to prohibit incurring detention charges.

Bulk Truck Residual: In cases where bulk trucks return with residual that exceeds an estimated 600 lbs. and top loading to the same customer is not an option. The contents of the truck will be emptied and the customer couldn't take the entire load should not be credited and may be billed for additional costs.

5.12.3 Responsibility

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

Warehouse Managers and General Managers: Individuals given authority over warehouses are typically responsible for overseeing personnel conducting these activities and ensure that requirements are consistently met.

Partner Quality Management: Responsible for verifying the implementation of this policy through facility inspection, internal auditing, and prerequisite program verification. Quality personnel are also responsible for conducting annual training relating to this policy.

5.12.4 Forms & Documents

Doc. No.:	Doc. Title:	Description:
10.9.1-07	Dry Bulk Wash Station Requirements	This document outlines NSM's expectations for dry bulk trailer washing and wash facilities.

5.13 Dry Van Trailers & Container Standards

5.13.1 Purpose

The purpose of this policy is to define the food safety and quality-specific requirements relating to the transportation of granulated sugar via dry van trailers and intermodal containers. Adherence to these requirements mitigate food safety and quality assurance risks.

5.13.2 Policy

The Company transports sugar products via dry van trailers and containers. These are either shipped directly or piggyback transportation. Partner Facilities ensure that warehouse docks, equipment, and receiving/loading practices do not cause product contamination or degradation by meeting the following requirements:

5.13.2.1 **Warehouse Dock & Loading Facilities**: Warehouse personnel ensure that truck docks and loading areas are clean and do not present dangers to packaged products or incoming materials. Warehouses fit truck docks with tight-fitting dock pads/seals and monitor their wear. High intensity lighting should be available to improve trailer inspections and must be polycarbonate or equivalent and protected against breakage. Dock areas are equipped with insect light traps (ILTs) to monitor flying insect activity. ILTs should be positioned so that their placement is not directly visible from the outside. Dock facilities supply clean cardboard for trailer lining.

5.13.2.2 **Loading Equipment**: Warehouses maintain forklifts in a manner that will not contaminate product or packaging during loading and receiving. Forklift lighting is constructed of polycarbonate and forklifts are included in routine inspection and cleaning programs.

5.13.2.3 **Dry Van Trailer & Container Loading**: Shipping warehouses ensure shipping practices do not present risks to product safety and quality. Loading personnel document all inspection and loading activities. Partner Facilities incorporate the requirements below to ensure sanitary transportation of packaged sugar:

Inspection: Warehouse employees inspect incoming trailers/containers and document their inspections on either work orders or in local records. Dry van trailers and containers are not dedicated to food, so enhanced inspections are needed to ensure prior cargoes do not affect product safety or quality. Inspecting personnel should utilize flashlights or dock lights when visibility is poor. Inspections must include the following:

Odor Evaluation: free of odors such as coffee, rubber, fertilizer, etc.

Free of Foreign Material: oil, grease, chemical spills, hay, glass, insects, etc.

Protection from Weather: Floors, walls, and ceilings free from holes or evidence of leakage.

Protrusion Removal: inspection and removal of potential protrusions (staples and nails) that could damage product.

Trailers or containers that do not meet the requirements above are rejected according to local rejection procedures.

Cleaning & Lining: Trailers and containers should be clean prior to loading. If trailers need to be swept, drivers are responsible for sweeping trailers and disposing of contents in trash receptacles. If drivers cannot meet GMP requirements, trailers must be swept away from loading dock areas. All wooden-walled trailers are lined with cardboard to prevent splinters from damaging product.

Loading: Warehouse employees review work orders for special instructions prior to loading trailers or containers. Pallets and product should be free from sugar dust and free from damage. Employees accurately document pallets and lot numbers on work orders or local records during the loading process. Facilities employ additional dunnage when work orders indicate product will be shipped as piggyback.

Damaged Product: If product is damaged during loading, employees remove damaged pallets, clean spilled product, and select new, undamaged pallet as a replacement. Care should be taken to ensure replacement product is the same lot number as damaged product. If this is not possible, employees notify management to correct shipping documentation.

Lots per Shipment: Shipping personnel fill work orders with no more than two (2) lots per dry van for granulated products and no more than four (4) lots per dry van for baker's special or powdered sugar based on production capabilities. When warehouses cannot meet lot restriction requirements, customers must be contacted for variance prior to releasing shipments.

Tamper-Evident Seals: Employees seal all conveyance access points with wire cable seals according to Policy 9.1 Food Defense. Seal application must be conducted by company employees. Seal placement and numbers are either scanned or legibly documented in records.

Food Safety Control & Quality Checks: Facilities ensure that all food safety checks have been conducted, documented, and passed prior to releasing the truck and trailer for delivery. Food safety controls include metal detector monitoring and quality controls include laboratory analysis and passing CoA. Trailers and containers are not loaded until these checks have been made and found passing.

Shipment Documentation: Shipping warehouses provide drivers with copies of the Bill of Lading (BoL) and Certificate of Analysis (CoA) to accompany the shipment. In addition, most customers require electronic submission of BoLs and CoAs via email. Customer CoA distribution information, if applicable, is documented on work orders.

5.13.2.4 **Dry Van Trailer Receiving**: Receiving warehouses ensure that product was not compromised during transit and that unloading practices do not present risks to product safety and quality by adhering to the following requirements:

Paperwork/ Seal Verification: Warehouse employees verify that seal numbers on trailers and product being received match the accompanying BoL. Management is notified of any discrepancies and product is not received until discrepancies can be resolved.

Incoming Inspections: Once seals and paperwork are verified; the trailer and product should be inspected for potential contaminants before and during the unloading process. Employees should ensure that product is free of foreign material (oil grease, insects, etc.), objectionable odors (coffee, rubber, fertilizer, etc.), and that the trailer is in adequate condition to have protected product in transit. Trailers or product found to be questionable should not be received until management notification and investigation occurs.

Unloading: Personnel unload product in a sanitary and careful manner. If product is damaged while unloading, it should be set aside. Leakers should be designated as re-melt and acceptable product from a damaged pallet should be restacked and wrapped. Receiving facilities communicate damages and additional labor needed as part of the company complaint program.

5.13.2.5 **Container and Piggyback Shipments**: Container shipments are ISO containers or trailers that are transferred from dry van to rail without opening the container/trailer. To ensure that product is not damaged during transit additional measures should be taken to secure the load appropriately. Additional dunnage and straps should be used to secure loads in anticipation for jostling associated with container transfers.

5.13.2.6 **Customer Transport, Mixed Loads and Less Than Loads (LTLs)**: Some Partner Facilities permit LTL loading and customer pickups to meet customer needs. Shipping personnel ensure these vehicles meet company standards for food grade trailers. Shipping personnel and shipping clerks obtain customer-signed letters of liability for LTL shipments and for customer-arranged pickups that might not fully meet company standards for quality. Trailers with food safety concerns such as glass or hazardous chemical cargoes or contamination must never be loaded. Non-company products arriving on LTLs must also never be moved or handled by company employees.

5.13.3 Responsibility

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

Warehouse Managers and General Managers: Individuals given authority over warehouses are typically responsible for overseeing personnel conducting these activities and ensure that requirements are consistently met.

Partner Quality Management: Responsible for verifying the implementation of this policy through facility inspection, internal auditing, and prerequisite program verification. Quality personnel are also responsible for conducting annual training relating to this policy.

5.13.4 Forms & Documents

Doc. No.:	Doc. Title:	Description:
5.1.12-R01	Waiver of Liability: Customer Agreement Regarding Liability for Customer Transport, Mixed Loads, and LTL Shipments	A document required for customer-assigned transportation that cannot be adequately inspected or does not align to company standards.

5.14 Boxcars

5.14.1 Purpose

The purpose of this policy is to define the food safety and quality-specific requirements relating to the transportation of granulated sugar via boxcars. Adherence to these requirements mitigate food safety and quality assurance risks.

5.14.2 Policy

The Company transports sugar products via boxcars. Partner Facilities ensure that warehouse rail docks, equipment, and receiving/loading practices do not cause product contamination or degradation by meeting the following requirements:

5.14.2.1 **Boxcar Loading Facilities**: Partner facilities utilize bulk loading areas or exterior access docks to load boxcars. Warehouse personnel ensure loading areas are clean and do not present dangers to packaged products or incoming materials. Facilities ensure that all dock doors employed for boxcar loading seal tight and do not present pest control dangers while not in use. Facilities that utilize exterior rail docks install pest-proof devices such as air curtains or inflatable dock seals to limit outside exposure while loading. Facilities supply clean cardboard for boxcar lining. They also ensure that they keep dunnage and air bags in stock to help secure loads.

5.14.2.2 **Loading Equipment**: Warehouses maintain forklifts in a manner that will not contaminate product or packaging during loading and receiving. Forklift lighting is constructed of polycarbonate and forklifts are included in routine inspection and cleaning programs.

5.14.2.3 **Boxcar Loading**: Shipping warehouses ensure shipping practices do not present risks to product safety and quality. Loading personnel document all inspection and loading activities. Partner Facilities incorporate the requirements below to ensure sanitary transportation of packaged sugar:

Inspection: Warehouse employees inspect incoming boxcars and document them on either work orders or in local records. Boxcars are not dedicated to food, so enhanced inspections are needed to ensure prior cargoes do not affect product safety or quality. Inspections must include the following:

- Odor Evaluation: free of objectionable odors such as coffee, rubber, fertilizer, etc.
- Free of Foreign Material: oil, grease, chemical spills, hay, glass, insects/pests, rice, etc.
- Protection from Weather: free from holes or evidence of leakage
- Mechanical Suitability: if boxcar has bulkheads, they should be in proper working condition and ensure that doors can latch properly

- Protrusion Removal: A full boxcar inspection and removal of any and all potential protrusions (staples, nails, any sharp edges, rough boards, or wooden splinters) that could damage product packaging, including non-wood lined boxcars.

Boxcars that do not meet the requirements above are either repaired (MWCX) or rejected according to local rejection procedures.

5.14.2.4 **Cleaning & Lining**: Boxcars should be swept before loading and employees dispose of contents in trash receptacles. Any protrusions such as splinters, staples, and nails, that could potentially damage product packaging should be removed from the walls. Boxcars with wooden walls are then lined with cardboard to prevent splinters from damaging product. Metal-walled boxcars do not need lining.

5.14.2.5 **Loading**: Warehouse employees load boxcars according to local loading patterns. Pallets and product should be free from sugar dust and free from damage. If loading totes, employees should ensure slip sheets are placed under them to protect them. Employees should also ensure that forklift masts do not damage or deface totes during the loading process. Employees accurately document lot numbers on work orders or local records during the loading process. Employees must secure product with dunnage, cardboard, strapping, etc. to anticipate rough handling by the railroad.

Damaged Product: If product is damaged during loading, employees remove damaged pallets, clean spilled product, and select new, undamaged pallet as a replacement. Care should be taken to ensure replacement product is the same lot number as damaged product. If this is not possible, employees notify management to correct shipping documentation. Leakers should be designated as remelt and acceptable product should be restacked and wrapped.

Lots per Shipment: Shipping personnel attempt to fill orders using product of the same lot number. In cases where this is not possible there should be no more than (3) lots per boxcar of standard product and no more than (5) lots of baker's special or powdered. When warehouses cannot meet lot restriction requirements, secondary warehouses must be contacted to determine if they can accept the inventory and still meet dry van shipment lot limits.

Securing Load & Bulkheads: Employees ensure that an adequate amount of dunnage or air bags are used to secure load. Locations that elect to use straps ensure that there is a barrier between straps and product to prevent damage to product. Bulk heads, where applicable, should be locked into position to secure them properly, and, when necessary, 2x4s are permitted to properly seat bulkhead doors to prevent them from unlatching during transit.

Shipping Documentation: Facilities complete paperwork and place a copy of the BOL and CoA in a place that can easily be accessed after opening. In addition, most customers require electronic submission of BoLs and CoAs. Customer BoL and CoA distribution information, if applicable, is documented on work orders.

Tamper-Evident Seals: Employees close and latch doors and seal all boxcar access points with wire cable seals according to Policy 9.1 Food Defense. Seal placement and numbers are either scanned or legibly documented in records.

Food Safety Control & Quality Checks: Facilities ensure that all food safety checks have been conducted, documented, and passed prior to releasing the boxcar for shipment. Food safety controls include metal detector monitoring and quality controls include laboratory analysis and passing CoA.

5.14.2.6 **Boxcar Receiving**: Receiving warehouses ensure that product was not compromised during transit and that unloading practices do not present risks to product safety and quality by adhering to the following requirements:

Paperwork/ Seal Verification: Warehouse employees verify that seal numbers on boxcars and product being received match the accompanying BoL. Management is notified of any discrepancies and product is not received until discrepancies can be resolved. Boxcars must not be opened and left unsecured in railyards.

Incoming Inspections: Once seals and paperwork are verified; the boxcar and product should be inspected for potential contaminants before and during the unloading process. Employees should ensure that product is free of foreign material (oil grease, insects, etc.), objectionable odors (coffee, rubber, fertilizer, etc.), and that the boxcar is in adequate condition to have protected product in transit. Boxcars found to be questionable should not be received until management notification and investigation occurs.

Unloading: Personnel unload product in a sanitary and careful manner. If product is damaged while unloading, it should be set aside. Leakers should be designated as re-melt and acceptable product from a damaged pallet should be restacked and wrapped. Receiving facilities communicate damages and additional labor needed as part of the company complaint program.

5.14.3 Responsibility

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

Warehouse Managers and General Managers: Individuals given authority over warehouses are typically responsible for overseeing personnel conducting these activities and ensure that requirements are consistently met.

Partner Quality Management: Responsible for verifying the implementation of this policy through facility inspection, internal auditing, and prerequisite program verification. Quality personnel are also responsible for conducting annual training relating to this policy.

5.14.4 Forms & Documents

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

5.15 Liquid Tankers & containers

5.15.1 Purpose

The purpose of this policy is to define the food safety and quality-specific requirements relating to the transportation of liquid sucrose and medium invert via liquid tankers. Adherence to these requirements mitigate food safety and quality assurance risks.

5.15.2 Policy

The Company transports liquid sucrose and medium invert products via bulk tanker trucks or containers. Liquid tankers and containers are food grade vessels and include food grade accessories such as hoses and gaskets. Partner facilities utilizing liquid tankers and liquid containers ensure that loading facilities, tankers/containers, loading equipment, and loading practices do not cause product contamination or degradation by meeting the following requirements:

5.15.2.1 **Tanker/Container Requirements**: Liquid tankers and liquid containers are food-grade vessels that are not dedicated to sucrose or medium invert but are typically dedicated to kosher approved commodities. All camlock fittings, couplers, valves, and caps are constructed of stainless steel and gaskets, and hoses are constructed of food-grade materials.

Kosher Status: Liquid tankers and containers maintain kosher status by hauling kosher-approved commodities and through routine kosher maintenance washes. Vessels entering service after losing kosher status require a kosher upgrade wash. Facilities shipping liquid sucrose and medium invert products maintain kosher documentation including trailer certifications and kosher maintenance wash certificates.

Authorized Prior Commodities: Liquid tankers and containers may only have back hauled products from the approved prior commodity list below as outlined by ISBT:

Clear, Non-Flavored Beverage Alcohol	Liquid Sucrose/HFS/Glucose Syrup Blends
Citric Acid	Mannitol
Glucose Syrup	Sorbitol
High Fructose Syrup	Potable Water
Medium Invert/ Invert Sugars	Phosphoric Acid
Liquid Sucrose	Liquid Dextrose
Liquid Maltodextrins	Hydrogenated Glucose Syrups
Lactic Acid	Cane Molasses and Thick Juice

5.15.2.2 **Tanker/Container Wash**: All shipments require a valid, kosher maintenance wash certificate from an approved wash station as outlined on the NSM Approved Wash Stations List. Wash certificates are generated when a vessel is washed with 180˚ F water for 15 minutes without the use of caustic/detergents. The Company prohibits the use of caustic/detergents unless stations are conducting kosher upgrade washes. Vessels must be loaded within 24 hours of the time indicated on the wash certificate. When this cannot be met, facilities contract or conduct an additional wash before loading. Multiple shipments are permitted to the same customer with the same product on a single wash certificate provided they are within the 24-hour timeline.

Tanker Wash Station Requirements: Facilities with wash station capabilities ensure that washes effectively sanitize the vessels, dome lids, air vents, hoses, caps & gaskets, pump box/pump, fittings, and adapters. Facilities are responsible for maintaining documented work instructions for washing vessels. Sanitization is achieved via clean out of place (COP) washers (lobster pots) utilized for the duration of the wash or by placing fittings, gaskets, caps, etc. in a verified sodium hypochlorite solution of 100 to 200 ppm. Facilities monitor temperature at the effluent of the vessel and generate wash certificates. Facilities ensure that hose ends, fittings, caps, etc. do not contact the ground and are handled in a sanitary manner. All wash hoses are maintained in a sanitary manner and are capped and stored appropriately when not in use.

5.15.2.3 **Tanker/Container Inspection and Loading**: Facilities ensure liquid sucrose and medium invert products are loaded into clean vessels in a manner that protects products from contamination. Vessels are either loaded through top hatches or product pipes. All inspection and loading activities must be documented.

Facility Requirements: To protect liquid products during the loading phase, facilities maintain and clean loading areas and do not use those areas to store equipment or supplies. Loading areas are equipped with hose racks, sanitization equipment, and devices to keep hoses off the ground.

Vessel Inspection: Vessel inspections include confirming all incoming documentation is correct and that the vessel is appropriately sealed. Physical vessel inspections include confirming the exterior of the vessel is clean, the trailer is equipped with food grade hoses and gaskets, the interior is free of odors or foreign contaminants, the hatch gasket is clean and intact, and that the vent assembly was sealed correctly and is in good condition.

Loading Practices: Facilities maintain hoses and top-loading hatch covers in a sanitary manner and cap and store hoses appropriately when not in use. Facilities monitor loading temperatures and target product temperatures between 90˚F - 110˚F for liquid sucrose and between 100˚F - 130˚F for medium invert. Employees are trained to report missing tools, seals, ladles, etc. noted during the loading process or any other occurrences where there has been a possibility for foreign material contamination. After loading, tankers must deliver within 72 hours of the time on the wash ticket. This practice accommodates weekend shipments and drop trailer loading.

Product Sampling: If a customer requests a sample, facilities collect samples in a sanitary manner according to frequencies outlined in Policy 6.2 Product Sampling and Retain Requirements. Samples designated for micro analysis or provided to customers via drivers are collected in sterile containers unless otherwise noted in writing by the customer. Samples may be gathered by loading line petcock valves or by employing a stainless-steel ladle to collect a sample from the top of the vessel. Facilities retain samples.

Tamper-Evident Seals: Employees seal all conveyance access points with wire cable seals according to Policy 9.1 Food Defense. Seal application must be conducted by Company employees. Seal placement and numbers are either scanned or legibly documented in records. Facilities store seals securely and issue correct amounts of seals for vessel type.

Food Safety Control & Quality Checks: Facilities ensure that all food safety checks have been conducted, documented, and passed before releasing the truck for delivery. Food safety controls include filter monitoring. Quality controls include passing laboratory analyses.

Shipment Documentation: Shipping warehouses provide drivers with copies of the Bill of Lading (BoL), Certificate of Analysis (CoA), wash certificate, weight ticket and customer samples to accompany the shipment. Also, most customers require electronic submission of documents via email. Customer CoA distribution information, if applicable, is documented on work orders.

Returned Product (Heel): Facilities without remelt capabilities do not accept returning trailers with excessive heel (>50 gallons) from a customer due to customer load scheduling issues and customer storage tank capacity. Trailers returning to shipping facilities with product should be designated as remelt or not be accepted, and facilities should instead contact carriers to remove remaining heel at customer's expense. This requirement is in place because top loading to the same customer presents additional risks such as the potential inability for the customer to take the second trailer due to production issues at the customer site, wash certificate expiration, etc. and jeopardizing additional product.

Rejected Product: Product rejected from customer facilities will be dispositioned according to Quality Assurance based on information relating to the rejection. Shipping facilities should request that rejecting customers reseal tankers before leaving customer premises. Product dispositioned as animal feed must be protected from degradation, feed safety hazards, and documentation must contain "Not for Human Consumption."

Customer Vessels: If customers arrange pickups or supply containers, these vessels must meet company requirements outlined in this policy.

5.15.3 Responsibility

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

Warehouse Managers and General Managers: Individuals given authority over warehouses are typically responsible for overseeing personnel conducting these activities and ensure that requirements are consistently met.

Partner Quality Assurance: Responsible for verifying the implementation of this policy through facility inspection, internal auditing, and prerequisite program verification. Quality personnel are also responsible for conducting annual training relating to this policy.

5.15.4 Forms & Documents

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

5.16 Allergens & Sensitizing Agents

5.16.1 Purpose

The purpose of this policy is to define the Company's allergen exclusion and awareness program. This program also includes sensitizing agent monitoring and control.

5.16.2 Policy

The Company ensures that all sugar products distributed to customers are compliant with the Food Allergen Labeling and Consumer Protection Act. Products are free of known allergens and contain sulfur dioxide levels less than labeling requirements. Partner facilities employ the following methods for allergen and sensitizing agent control:

5.16.2.1 **Food Safety Plan and HACCP**: Partner facilities evaluate potential allergen contamination during the hazard analysis step of HACCP. Allergens and sensitizing agents are considered under chemical hazards. All new process inputs undergo hazard analysis to ensure new packaging, lubricants, and process aids are evaluated and allergens are considered prior to use. Based on products and absence of allergens, there are no identified allergen preventive controls required for sugar manufacturing.

5.16.2.2 **Allergen Exclusion**: Partner facilities do not process or handle known allergens. Partner facilities implement the following requirements to ensure that allergen cross contact does not occur:

Designated Eating & Drinking Areas: Eating and drinking substances other than water or electrolyte replacement is prohibited in GMP areas per Policy 5.3 Personnel Practices. Employees are provided with amenities separate from GMP areas that are designated for these purposes and employees wash their hands after eating and before entering GMP areas. This practice safeguards product from allergen cross contact from employee lunches.

Packaging: Partners ensure that packaging undergoes a thorough inspection and is free of contaminants before receiving. Packaging is considered a food contact surface and should be stored accordingly. No packaging should be stored in such a manner that could lead to contamination from allergens.

Lubricants: Lubricants that have the potential to contact food products are required to be food grade and allergen free per Policy 5.6 Facility & Equipment Maintenance. Documentation confirming that lubricants meet these standards are maintained.

5.16.2.3 **Sensitizing Agent Sulfur Dioxide**: Sugar products contain trace amounts of sulfur dioxide (SO2). SO2 levels are required to remain below 10 ppm: the minimum mandated by the FDA for inclusion in ingredient statements. Production factories test finished product for SO2 at least once in a 24-hour period. Target levels for SO2 in final product are from 2 to 5 ppm to reduce color formation during processing and storage.

5.16.2.4 **Awareness Training**: Employees receive annual training on allergen awareness per Policy 5.2 Employee Food Safety & Quality Training. During training, employees are instructed on designated eating and drinking areas and to wash hands after eating and prior to entering GMP areas.

5.16.2.5 **Allergen Holds**: Despite facilities not processing allergens, allergens may be present onsite through lunches and vending. In a case where allergenic contamination is suspected through unintended introduction from suppliers, employees, or visitors, standard product hold processes will be implemented.

5.16.3 Responsibility

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

Warehouse Managers and General Managers: Individuals given authority over warehouses are responsible for sourcing equipment that meets company standards and overseeing preventive practices.

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

5.16.4 Forms & Documents

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

5.17 Chemical Control & Approval

5.17.1 Purpose

The purpose of this policy is to outline chemical-related requirements to meet regulation and certification standard compliance, and to ensure that chemical handling does not adversely affect finished product quality or safety.

5.17.2 Policy

Partner Facilities approve, purchase, and use chemicals in accordance with chemical labeling recommendations, intended usage, and all applicable regulatory requirements, including but not limited to State, EPA, FDA, and OSHA. Partner Facilities ensure that all chemicals stored and utilized onsite do not present food safety and quality risks to products, packaging, or food contact surfaces. Requirements in place to ensure this is met include:

5.17.2.1 **Chemical Approval**: Partner Facilities' Management, Purchasing, and Quality Assurance approve chemicals prior to purchase and use. Approval varies per chemical type and usage location. Approval requires gathering pertinent documentation, ensuring regulatory compliance, and documenting/recording the approval of a chemical. The approval process, for larger factories, may include multiple parties as determined by the factory.

Process Aids: Processing aids are not present in final product in significant amounts; thus, ingredient labeling is not required. Processing aids are approved in consideration of the requirements outlined in Policy 6.1 Specification Management to ensure regulatory compliance. In addition, the following documentation must be available for the approval process:

- Technical Data Sheet
- Safety Data Sheet
- Food Grade Statement/Letter of Guarantee or CFR Citation
- Allergen Status Letter
- Kosher Certification (Standard or Lot-Specific), if applicable.

GMP Area Equipment Chemicals: Chemicals utilized in GMP areas include but are not limited to grease (lubricant), silicone, mineral oil, etc. The following documentation must be available for the approval process:

- Technical Data Sheet
- Safety Data Sheet
- Food Grade Statement, CFR Citation, or Food Grade Labeling Printed on Container
- Allergen Status Letter

General Chemicals: General, non-process aid chemicals utilized throughout the factory in non-GMP areas require safety data sheets only.

5.17.2.2 **Prohibited Chemicals**: Partner Facilities do not purchase or use chemicals banned by the FDA as outlined in 21 CFR 189.

5.17.2.3 **Chemical Register & Inventory**: Partner Facilities maintain a list of approved chemicals purchased, stored, and used on their premises. Chemical inventories for point-of-use chemicals and point-of-use storage areas are not required.

5.17.2.4 **Chemical Labels & Secondary Containers**: Chemicals are stored in their original containers with original labeling. Exceptions include bulk chemicals and chemicals requiring secondary containers for use e.g., grease guns, spray bottles, and pails. Secondary containers are legibly labeled to prevent cross contact between food grade and non-food grade chemicals. Where applicable and according to Safety requirements, containers are labeled with National Fire Protection Association (NFPA) diamond or GHS labeling practices in addition to the common name.

5.17.2.5 **Chemical Storage**: Facility Management ensures that chemicals are stored properly based on chemical type. Chemical storage areas in GMP-rated areas are secured and restrict unauthorized access. All chemicals are stored away from packaging, ingredients, and finished products. Storage based on chemical type include the following elements:

Food Grade: Food grade chemicals are stored in designated, labeled areas. Food grade chemical storage is segregated from non-food grade chemical storage. Food grade and non-food grade chemicals may be stored in the same cabinet provided there is physical separation and protection from cross contact e.g., top shelf or interior compartments.

Non-Food Grade: Non-food grade chemicals are required to be stored in designated, labeled areas.

Hazardous: Chemicals that are classified as hazardous meet all non-food grade requirements and all additional requirements outlined below:

- Hazardous chemicals are stored securely as not to present dangers to personnel, packaging, and product
- Hazardous chemical storage areas are labeled appropriately to inform and protect personnel
- Employees handling hazardous chemicals receive adequate training
- Storage areas require written chemical handling procedures or current SDS
- Storage and handling areas, if necessary, are equipped with protective clothing
- Storage areas require containment devices
- Storage areas are equipped with spill kits

5.17.2.6 **Chemical Release/Spills**: Partner Facilities instruct employees to report chemical spills or releases as these may become regulatory affairs e.g., Departments of Environmental Quality or Environmental Protection Agency. In addition, employees also report incidents involving chemical contamination of food contact surfaces, packaging, ingredients, and/or product. Affected products or materials are subject to hold requirements outlined in Policy 7.3 Product Hold & Release.

5.17.3 Responsibility

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

Partner Quality Assurance & Purchasing Departments: Responsible for chemical approval and obtaining required documentation prior to purchasing. Quality is responsible verifying chemical control programs.

General Manager/Warehouse Manager: Responsible for overseeing chemical needs, chemical storage, and chemical use in GMP-areas or facility terminals.

5.17.4 Forms & Documents

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

5.18 Supplier Approval

5.18.1 Purpose

The purpose of this policy is to define the requirements for supplier approval programs relating to sugar products, ingredients, processing aids (final product), packaging, equipment, and contract services. These requirements ensure that incoming materials and contracted services are of appropriate quality and conform to agreed specifications.

5.18.2 Policy

The Company ensures facilities maintain supplier approval programs for sugar, sugar products, ingredients, processing aids, packaging materials, equipment, contract manufactures, and contract service providers. These programs mitigate food safety and quality risks that might be carried from suppliers or, in some cases, sister facilities.

5.18.2.1 **Evaluation & Approval**: The Quality Assurance Team and Partner Facilities are responsible for evaluating and approving suppliers that influence finished product safety and quality. More specifically, the Quality Assurance Team is given responsibility for evaluating sugar providers and for evaluating contract manufacturers. Partner Facilities and their purchasing managers are responsible for ingredient, packaging, processing aid, equipment, and contract service suppliers. In general, all ingredients and process aids employed for use in final product require a documented risk assessment with consideration to FDA warning letters and/or supplier recalls and may not be sourced from China.

Risk Assessments: Each manufacturing input undergoes a hazard analysis as part of the Company's HACCP program. In addition, ingredient and final product processing aids undergo a more detailed risk assessment that includes additional information such as food fraud vulnerability. Based on the risk assessments, raw materials do not require food fraud mitigation plans. Risk assessment updates are emailed and/or posted to Basicsafe software.

5.18.2.2 **FDA Supply-Chain Requirements for Granulated Sugar**: The Company has identified granulated sugar as the only raw material requiring a supply-chain-applied-control wherein the supplier must effectively control metal contamination. Facilities receiving sugar products for processing e.g., liquid, granulated transfer, etc. must include a supply-chain program in their food safety plans. Supply chain programs require the Quality Assurance Team and Partner Facilities to verify that suppliers are appropriately controlling metal hazards. Verification activities include:

Onsite Audit & Metal Control: Sugar suppliers provide a third-party audit report at a frequency based on their certification standard e.g., SQF, BRCGS, FSSC 22000. The audit verifies the facility's controls for metal detection and removal. In an event where these requirements cannot be met, temporary approval may be granted through a second-party audit from a company-affiliated PCQI. Onsite audits must cover all elements of 21 CFR 117.

Qualified Auditor: According to the FDA, a qualified auditor is a qualified individual (QI) with appropriate experience and knowledge. Third-party auditors or company affiliated PCQIs will meet these requirements and are used to conduct onsite audits.

FDA-Required Records: Facilities with FDA-required supply-chain-programs must have access to the following documentation/records for incoming sugar within 24 hours of request from regulatory inspectors:

FDA-Requirement	Company Document
Written supply chain program	Included in the facility's food safety plan
Documentation of the approval of a supplier	Supplier evaluation form
Written procedures for receiving products	Food safety plan / local procedures
Documentation demonstrating use of written receiving procedures	Local incoming material inspections
Copy of supplier's onsite audit report	Uploaded to a shared file
Documentation that a qualified auditor conducted the onsite audit	Auditor is included in GFSI audit report

5.18.2.3 **Supplier Monitoring and Approval Documentation**: Approval requires securing the appropriate documentation for evaluation. Suppliers are also required to notify facilities when they change product composition or include allergens; this may be outlined in PO language or specified in contract. Outlined below is a table of required documentation for approved suppliers. Documentation and supplier performance are reviewed and updated annually.

Item	Documentation Requirements
Sugar or Sugar Products: Sugar products used as ingredients Sugar products supplied to customers	GFSI Audit Report GFSI Certificate Specification/Technical Data Sheet Allergen Statement Kosher Certification Letter of Guarantee CoA w/ Each Shipment
Raw Materials: Sugar Beets	There are no required documents from a finished product food safety and quality viewpoint.
Ingredients: Corn Starch Cane Molasses	GFSI Audit Report GFSI Certificate Specification/Technical Data Sheet Allergen Statement Kosher Certification Letter of Guarantee CoA w/ Each Shipment Identity Preserved Documentation (Starch Only)
Processing Aids: FG Hydrochloric Acid FG Sodium Hydroxide FG Sodium Bicarbonate FG Antioxidants	See requirements outlined in Policy 5.17 Chemical Control & Approval.
Packaging Material: Poly Bags Kraft Bags Tote Bags Liquid Totes	Third Party Audit Report Third Party Certificate Specification Letter of Guarantee
Contract Manufacturer: Liquid Sugar	GFSI Audit Report or NSM Audit GFSI Certificate or NSM Audit Allergen Statement Letter of Guarantee CoA w/ Each Shipment to Customer
Food Contact Equipment/Utensils:	Documented Food Grade Status e.g., product data sheet.
Contract Service Provider (examples include): Pest Control Waste Management Laboratory Analysis Calibration Maintenance Transportation Laundry Services Security Certification Bodies Metal Detector Testing	Contract or Purchase Order Accreditation (Labs only) Other documentation as needed e.g. pest control documentation outlined in Policy 5.4 Integrated Pest Management.

5.18.2.4 **Approved Supplier Registers**: NSM Quality Assurance maintains an approved supplier documentation for sugar suppliers and posts information in a shared file. Partner Facilities maintain local registers for all other items outlined in this policy. Local registers are updated as needed and made available locally through methods of Partner Facility's choosing. Registers reference the level of risk applied to the supplier.

5.18.2.5 **Receiving Facility Responsibilities**: Managers of receiving facilities are responsible for only accepting product, ingredients, and packaging from approved suppliers. Regulations and the Company do not permit receiving goods from non-approved suppliers without additional actions.

Acknowledgment and Review of Supply-Chain Program: Receiving facilities acknowledge approved suppliers during the supply-chain management portion of the annual food safety plan review. This review is indicated by a signature on the food safety plan.

Documented Receiving Procedures: Receiving facilities inspect incoming materials in accordance with local procedures or those outlined in their respective food safety plan. Procedures require facilities to ensure incoming materials arrived with tamper-evident seals, inspect them for suitability, and that they are sourced from approved suppliers. Receiving facilities communicate food safety and quality issues associated with incoming sugar to NSM Quality Assurance for complaint tracking/trending.

Corrective Actions: Receiving facilities initiate corrective actions and product holds for cases where they determine that suppliers have provided substandard product, materials, or services. Corrective actions implemented will be commensurate with the seriousness of the nonconformance and may result in loss of approved status.

Emergency Receipt from Non-Approved Suppliers: Receiving products supplied from unapproved suppliers is only permitted during emergency situations provided facilities notify quality assurance and obtain and review current, third-party audits. Additional analyses may be requested depending on the incoming product. Facilities will request all remaining documentation to add suppliers to the approved register in a timely manner.

5.18.3 Responsibility

Quality Assurance Team: Responsible for interpretation of FDA law, certification standards, and their application to Company policies. Responsible for approving quality-related requirements for sugar suppliers, documenting their approval, and maintaining the register of approved sugar suppliers.

Partner Quality Assurance: Responsible for local oversight of the supplier approval program. Responsible for ensuring approval documentation is current and available. Responsible for maintaining local supplier approval registers.

General Manager/ Warehouse Managers: Responsible for packaging, equipment, processing aids, and contract services, including obtaining appropriate documentation.

5.18.4 Forms & Documents

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

5.19 Visitors

5.19.1 Purpose

The purpose of this policy is to define requirements for onsite visitors. These requirements ensure that visitors are tracked, informed, and monitored to ensure their protection and to safeguard our products.

5.19.2 Policy

The Company ensures that the actions of visitors do not present dangers to themselves or to our products. Facilities implement visitor handling practices outlined below:

5.19.2.1 **Visitor Log**: Facilities develop a visitor log for all visitors and ensure visitor information is captured upon entering and exiting facility premises. These logs track non-personnel access to the facility for food defense purposes and aid in the event of an evacuation.

5.19.2.2 **Hygiene Training & Acknowledgement**: Facilities develop and implement a hygiene acknowledgement form or sticker for non-company visitors and contractors entering GMP-designated areas or ensure that visitors are always escorted by personnel trained in GMP procedures. Facility personnel review the acknowledgement form with the visitor and request visitor signature prior to granting access to the facility. Additional training material is optional. The information covered must include hygiene-related requirements outlined in Policy 5.3 Personnel Practices. Requirements may vary per facility but include at a minimum:

- Appropriate attire
- Appropriate personal protective equipment
- Hair restraints
- Jewelry removal
- Removal of items in pockets above the waist
- Smock use, where applicable

5.19.2.3 **Visitor Escort**: Facilities prohibit visitors from wandering freely and assign escorts for non-company visitors. The designated escort visually screens the visitor(s) for signs of foodborne illness, open sores, and cuts to the hands. If cuts or sores are present, the escort provides adequate metal strip Band-Aids or bandages. Designated escorts ensure that visitors that appear to have communicable illness do not enter GMP areas.

5.19.2.4 **Contractors**: Facilities provide a form of contractor orientation/training for all contractors prior to the commencement of work. Contractor access and requirements are determined locally; however, contractors entering GMP areas must review and sign a hygiene acknowledgement form or sticker. Contractors are restricted to their assigned service areas and designated personnel oversee their work. Overseeing personnel ensure services do not pose risks to food and that contractors follow hygiene practices when in GMP areas.

5.19.3 Responsibility

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

General/Warehouse/Facility Managers: Responsible for approving and granting permissions for visitors and contractors. Responsible for overseeing contractors.

Designated Escort: Responsible for ensuring visitors only access approved areas and that visitors follow all requirements outlined by Good Manufacturing Practices and company policy.

5.19.4 Forms & Documents

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

5.20 Product Transfer Requirements

5.20.1 Purpose

The purpose of this policy is to define requirements for product transfers from direct rail to bulk trucks to ensure that transfer processes are conducted in a hygienic manner and do not present risks to product quality and safety.

5.20.2 Policy

The Company utilizes product transfers to facilitate supply chain optionality. Facilities implement practices outlined below:

5.20.2.1 **Facility & Equipment Requirements**: The following items are required at bulk transfer facilities:

Security: Transfers must occur in designated areas that are secured and accessible by authorized personnel only. Outdoor lighting must be provided.

Transfer Area: Transfer areas must occur in areas that are effectively sealed with concrete or asphalt. The area must be kept free from potential pest harborage areas, including vegetation.

Hygienic Handling of Fittings/Connectors: All fittings, gaskets, and connectors are required to be of appropriate food-grade construction and handled in a sanitary manner. NSM recommends the use of a clean container to house any applicable equipment during the transfer process.

5.20.2.2 **Railcar Inspection**: Facilities verify and document seal placement for all incoming railcars against manufacturing facility BoLs. In cases of discrepancy, facilities notify NSM Quality and Transportation departments for instruction relating to disposition.

5.20.2.3 **Railcar Venting (Grav-Pneumatic Railcars)**: In cases where vacuum trucks are used with grav-pneumatic railcars, personnel must ensure that hatches are protected against contamination during venting.

5.20.2.4 **Truck Inspections**: Transfer employees ensure that bulk truck conveyances are appropriate for food use via cursory inspections of prior commodity documentation, wash tickets, and trailer suitability. These are explained in more detail below:

Prior Commodities: Bulk trucks must be dedicated to sugar service. Trucks entering service are required to have hauled approved commodities and undergo a conversion wash, wherein gaskets and valves are dismantled and changed. Allowable prior commodities with a conversion wash include: Barley, Crystallized Fructose, Dry Malt Products, Malt, Potato Flakes and Potato Products, Salt (Food Grade), Starch, Corn (Including whole, bran, germ, grits, flour meal, and starch), Dextrose, Oats and Dry Oat Product, Rice, and Soybeans & Dry Soy Products.

Wash Ticket Requirements: Transfer facilities are required to include a wash ticket inspection to determine the validity of wash tickets before the transfer process. Wash tickets are valid for ninety (90) days. Trailers with wash tickets that exceed this timeframe must be rejected. A copy of the wash ticket must be provided with the BoL and CoA. Washes must be conducted at NSM-approved wash stations. A list of approved wash stations can be viewed from the NSM website or by emailing quality@natsugar.com.

Truck/Trailer Inspections: Trailer inspections include verifying that the bulk truck is empty and loaded in a dry condition. Personnel performing the inspections must ensure the following:

- Hatches work properly, do not have damaged gaskets, and can be appropriately sealed.
- There are no trailer cracks visible via cursory inspection.
- The truck hose is food grade, clean with suitable gaskets, and capped.
- The product discharge tube is free of moisture, and the discharge cap gaskets are suitable.

5.20.2.5 **Sampling Requirements**: Each bulk truck is required to be sampled with a clean sampling scoop. Two samples should be collected for each shipment: a retain and a sample to accompany the shipment. Samples are to be placed in a clean, plastic bag and consist of no less than one pound of sugar each. Samples should be labeled with the railcar lot number, the shipper's name, product name, and date. Samples are to be retained for 60 days in ambient storage.

5.20.2.6 **Certificate of Analysis**: Transfer facilities submit CoAs for all shipments. CoA expectations are outlined below:

CoA Source: The transfer facility copies railcar CoAs from which the sugar was drawn to accompany each bulk truck. In cases where split loads are utilized, the CoA associated with the majority of the contents will be submitted with the shipment.

Email Requirements: Customers may require CoAs to be emailed and requirements are printed with the comments on the incoming work orders.

Hard Copy Requirements: Hard copies of CoAs must accompany all shipments regardless of email requirements.

5.20.2.7 **Seal Requirements**: Transfer facilities must use numbered, tamper-evident seals for all shipments. Tamper-evident seals must be stored securely when not in use and must be applied to the railcar and truck. Recommended seals include 3/16" metal cable lock seals.

Railcar: Railcars are required to be sealed after each transfer (plastic seals are permissible in secured yards) and upon return to manufacturing facilities (cable seals required). All empty cars must be completely sealed prior to release and the document 10.9.1-08 Receiving Facility Return Diagram must be completed and emailed to NSMsealreporting@natsugar.com .

Bulk Trucks: Facilities seal all access points to bulk trucks with numbered, 3/16" metal cable lock seals. Personnel document seal numbers on the shipment Bill of Lading.

5.20.3 Responsibility

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

General/Warehouse/Facility Managers: Responsible for ensuring personnel follow the NSM requirements outlined in this policy and for overseeing the submission of all associated documentation, including CoAs, BoLs, Wash Tickets, and Return Seal Diagrams.

5.20.4 Forms & Documents

Doc. No.:	Doc. Title:	Description:
10.9.1-08	Receiving Facility Return Diagram	This document is required to be completed and emailed to NSMsealreporting@natsugar.com after unloading each railcar.

5.21 Food Safety Plan

5.21.1 Purpose

The purpose of this policy is to define the requirements for all operating facilities' food safety plans. These plans are based on regulations and the hazard analysis and critical control point (HACCP) methodology. Regarding terminology, the Company recognizes the food safety plan and HACCP plan as interchangeable.

5.21.2 Policy

All operating facilities maintain an active food safety plan based on the guidelines provided by the National Advisory Committee for the Microbiological Criteria for Foods (NACMCF), the Codex Alimentarius Commission (CAC), and FDA regulations (21 CFR 117.126). Food Safety Plans are specific to each location but might share hazard analyses conducted by the Preventive Control Qualified Individual (PCQI) team. The PCQI Team prepares and oversees all company-operated food safety plans. Facilities solely engaged in handling packaged products, such as warehouses without transfer capabilities, are not required to develop and maintain a food safety plan per 21 CFR 117.7(a).

5.21.2.1 **Program Management & Food Safety Teams**: The Company has established two, distinct teams to manage the duties for maintenance of the food safety plans; a team consisting of Partner Preventive Control Qualified Individuals (PCQI), and site-specific teams under the direction of local coordinators. Duties are outlined below:

PCQI Team: The PCQI team includes PCQI-certified members of all Partners under the direction of the Director of Quality Assurance. Duties of the PCQI team include hazard assessment, internal auditing, critical control point selection, critical limit selection, and annual validation.

Local Coordinators: Facilities are assigned local coordinators to oversee the day-to-day maintenance of the plan. Duties include employee training, individual plan management review, flowchart verification, local CCP oversight, verification activities, and record review. Local coordinators are onsite quality personnel or general managers.

5.21.2.2 **Hazard Analysis**: The PCQI Team conducts hazard analyses for each process input, processing step, transport input, or product conveying input. Hazard analyses evaluate biological hazards, chemical hazards, including radiological hazards, physical hazards, and food fraud hazards.

Hazard Identification and Classification: Hazards are identified based on the PCQI Team's experience with sugar products handling equipment. The team classifies identified hazards as serious hazards requiring a preventive control when there is a moderate likelihood of occurrence, a risk to the general public, and there is documented evidence of the existence of the hazards. Such evidence may include previous industry recalls, FDA recommendations/guidance, peer reviewed medical journals, and technical committee consensus.

5.21.2.3 **Verification of Preventive Controls & Critical Limits**: The Company has identified physical hazards as the only hazards requiring a preventive control based on the hazard analysis and the Codex CCP Decision Tree. Facilities will not implement allergen or sanitation preventive controls based on characteristics of products marketed by NSM. Preventive controls, except for supply chain controls, are required to have a measurable critical limit. Facilities ensure that only qualified individuals with appropriate training monitor preventive controls/CCPs. Calibration and other information applicable to CCPs is outlined in Policy 5.5 Equipment Calibration: Food Safety and Policy 5.9 Physical Contaminant Prevention and Control. Information specific to selected preventive controls is as follows:

CCP Metal Detection: CCP metal detectors are monitored with test standards of defined sizes. Critical limits are the successful detection and rejection of certified 1.5 Fe, 1.8 NF, 2.0 SS, and 2.0 Al standards, unless noted by a variance.

CCP Magnet: CCP magnets are monitored visually, and critical limits are no findings larger than 2.0 mm.

CCP Liquid Filter: CCP Liquid filters are monitored between shipments and critical limits are a filter with porosity equal to or less than 100 μm in place and intact during loading. Monitoring includes visual inspection to ensure the filter remained in place and intact throughout loading.

Supply Chain Control: Facilities receiving sugar implement supply-chain-controls for metal contamination. Facilities with supply-chain-controls only receive sugar from suppliers that have undergone a second or third-party audit that verifies the supplier's metal detection capabilities. The Quality Assurance Team ensures these reports are made available to receiving facilities. Receiving facilities only accept shipments from approved suppliers.

Justification for Products without Preventive Controls: Not all product lines are required to have preventive controls. These cases are based on a facility's hazard analysis. Some examples are as follows:

Bulk Rail to Bulk Truck Transfer: Facilities participating in bulk rail to bulk truck transfers will not have CCP capabilities. Granulated sugar in railcars has already undergone CCP metal detection (supply-chain-applied-control) and the Quality Assurance Team has determined that the transfer equipment will not introduce hazards requiring a preventive control under normal operating conditions.

Specialty Liquid Operations: Some liquid operations, such as corn syrup, edible oils, and some cases for liquid sugar will not require CCPs. The rationale for these cases is outlined through risk assessment, customer preference e.g., ADM, or equipment capabilities such as filter pressure monitoring.

5.21.2.4 **PCQI Oversight**: All food safety plans are developed by PCQI-certified staff or by the PCQI Team. Plan oversight is outlined below:

Facility/Plan	Oversight
Bensenville: Granulated Sugar	NSM PCQI
Brawley: Granulated Sugar	Spreckels Sugar PCQI
Brighton: Granulated Sugar	Boise PCQI
Chino: Granulated Sugar	NSM PCQI
D&S: Granulated, Liquid, Medium Invert Sugar, Corn Syrups, and Edible Oils	NSM PCQI
Eaton: Granulated Sugar	Boise PCQI
Grand Prairie: Granulated Sugar	NSM PCQI
Loveland: Granulated Sugar	Boise PCQI
Mini-Cassia: Granulated Sugar	Mini-Cassia PCQI
Nampa: Granulated Sugar, Powdered Sugar, and Liquid Products	Nampa PCQI
Nyssa: Granulated Sugar, Brown Sugar Products	Nampa PCQI
Ogden: Liquid Sugar	Boise PCQI
Ovid: Granulated Sugar	Boise PCQI
Portland: Granulated Sugar, Liquid Sugar Products	Boise PCQI
Renville: Granulated Sugar, Liquid Sugar	SMBSC PCQI
Twin Falls: Granulated Sugar	Twin Falls PCQI
Windsor: Granulated Sugar	Boise PCQI

5.21.2.5 **CCP Documentation**: Facilities must ensure that CCP monitoring is documented accurately, legibly, and concurrently with the monitoring as outlined in Policy 2.2 Records: Completion & Retention. In addition, metal detector monitoring records should include downtime/non-scheduled line operation notations during scheduled monitoring so that periods of time where lines are not running is documented. This provides justification for facilities not conducting testing during those times, and accurately records the activities of the production day.

5.21.2.6 **Deviations**: Facilities that experience deviations during routine CCP monitoring take immediate action to ensure that products are prevented from entering commerce. Deviation handling is outlined in developed procedures. Facilities perform the following corrective action procedures for all deviations:

- Actions are taken to correct the problem
- Corrective/preventive actions are taken, if applicable, to reduce the likelihood of reoccurrence
- Affected food is evaluated for food safety and reconditioned
- Affected food is prevented from entering commerce (hold procedures)

5.21.2.7 **Validation**: Partner facilities ensure that food safety plans are appropriately validated to ensure their effectiveness. Validation actions include a combination of the following:

Research: Peer reviewed journals, technical documentation, and government publications are employed for hazard determination or guidance and referenced in facilities' food safety plans.

Empirical Evidence/Customer Complaints: Evaluation of industry outbreaks and customer complaints are employed to validate the effectiveness of food safety plans. This review is incorporated into annual plan reassessments, CCPs selections, and CL selections.

Plan Reassessment/Review: Food safety plans are reviewed and reassessed at least annually by local food safety teams. Plans are also reanalyzed during times of plan failures, the emergence of new information regarding hazards, and significant facility changes or equipment modifications. Changes to food safety plans are conducted according to Policy 1.2 Change Management.

CCP Selection Validation: The determination for CCP selection is developed by the PCQI Team and is reviewed annually.

CL Selection Validation: The determination for CL selection is developed by the PCQI Team and is reviewed annually.

5.21.3 Responsibility

Director of Quality Assurance: Responsible for PCQI Team oversight.

PCQI Team: Members of the Quality Assurance Team with PCQI certification. The PCQI Team is responsible for food safety plan development and maintenance, including hazard assessment, internal auditing, critical control point selection, critical limit selection, and annual validation.

Partner Quality Assurance/Local Coordinators: Responsible for facility insight, overseeing the implementation of these requirements, employee training for CCP monitoring, deviation handling, corrective actions, and food safety plan reviews.

5.21.4 Forms & Documents

Doc. No.:	Doc. Title:	Description:
8.1-01	Validation	A document that outlines our processes for validating critical control point and critical limit selection.

5.22 Risk Analysis

5.22.1 Purpose

Certification standards and emerging regulations require facilities to consider additional information to standard biological, chemical, and physical hazards during traditional Hazard Analysis & Critical Control Point (HACCP) hazard analysis. The purpose of this policy is to outline risk analysis techniques employed by the Company to capture additional information for general processes, finished products, and raw materials. The goal of risk assessments are to evaluate potential food safety and quality risks to process inputs and general processes.

5.22.2 Policy

The Company's food safety and quality program requires the use of risk analysis for food safety controls and general decisions that may deviate from certification standards. Risk assessment and validation techniques are based on publications by the National Advisory Committee on Microbiological Criteria for Foods (NACMCF), British Retail Consortium (BRCGS), and the Codex Alimentarius Commission (CAC). The Quality Assurance Team performs this process annually and when significant changes prompt the need for reanalysis. This process includes examination of regulatory requirements, customer needs/expectations, peer reviewed literature, and empirical data. Outlined below are specific requirements as they relate to risk analysis:

5.22.2.1 **Risk Assessments**: The Company employs risk assessments as a mechanism for evaluating and documenting risks associated with food safety or quality controls, ingredient/raw material use, and finished products. Risk assessments function as foundational tools for communicating relevant risk and determining validation practices. The NSM Director of Quality Assurance oversees standardized risk assessments and Partner Quality Assurance oversees local risk assessments. Risk assessments include food safety risks, food quality risks, regulatory risks, and food fraud risks. Types of risk assessments that the Company employs are as follows:

General Risk Assessments: Generalized risk assessments are performed to evaluate the risk associated with a process or procedure that may deviate from certification standard requirements (SQF 2.3.4.2).

Local Risk Assessments: Facilities may be required to generate site-specific risk assessments based on certification standards and/or local equipment/processes. These may include but are not limited to risk analyses for ducting and water piping systems.

Packaging: Risks associated with packaging materials are reviewed and documented.

Processing Aids: Risks associated with processing aids added after the crystallization process are evaluated and documented.

Raw Materials: Raw materials include items utilized as ingredients and may include items such as cane molasses, coating syrup, corn starch, oil additives, sugar, reconditioned sugar, and water.

Finished Products: A risk analysis conducted on final products, including all established control measures.

5.22.3 Responsibility

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

Director of Quality Assurance: Responsible for conducting standardized risk assessments and for performing and documenting validation activities for standardized critical control points and critical limits.

Partner Quality Assurance: Responsible for performing facility-specific risk assessments and food safety plan validations and prerequisite program validation.

5.22.4 Forms & Documents

Doc. No.:	Doc. Title:	Description:
5.22-01	Risk/Vulnerability Assessment: General	A risk assessment tool for evaluating and documenting general risk assessments.
5.22-02	Risk/Vulnerability Assessment: Input/Product	A risk assessment tool for evaluating process inputs (raw material, process aid, packaging) and final products.

5.23 Tanker Wash Station Requirements

5.23.1 Purpose

The purpose of this policy is to document and outline the Company's expectations for bulk trailer washes. This procedure includes requirements for wash station layout, system and equipment requirements, and procedural requirements for washing trailers.

5.23.2 Policy

Wash stations employed for NSM-contracted conveyance equipment are required to meet NSM policy for layout, cleanliness, and processes. General requirements for contracted wash stations are outlined below:

5.23.2.1 **Approval Process**: Carrier contracted wash stations are approved by NSM Quality personnel and documented on the NSM Approved Truck Wash Station register. Approval generally consists of a documented audit. Juice Processor Association certification is acceptable as approval in emergency situations. Once approved, there is no reaudit frequency developed, and stations remain approved unless performance warrants disqualification. Customers contracting their own freight are responsible for the approvals and suitability of the wash stations their Carriers utilize. Facilities filling trailers that are customer pickups are not required to verify the approval status of the wash station. Variance can be granted for the sourcing on non-regional trucks washed at facilities owned and operated by our primary carriers.

5.23.2.2 **Facility Construction**: Wash stations must be constructed and maintained in a manner that facilitates easy cleaning and prevents standing water and microbial growth. There must be dedicated food-grade bays and drainage should ensure that non-food grade bay drainage crosses over into food grade bays. All lighting must be shatterproof or protected against breakage. All overhead structures must be free from bird nesting or excessive webbing. Ventilation systems must be adequate to prevent accumulation of condensation over washing areas.

5.23.2.3 **Equipment**: All equipment employed at a wash station must follow general FDA GMP guidelines for its selection, handling, and use.

Hand Washing Station: The wash bay area must have adequate hand wash station(s), which include warm water, antibacterial hand soap and a means of drying hands. Hand washing signs must be posted at hand wash station(s).

Equipment Storage: Wash bays should be equipped with adequate racks and storage for food contact materials and equipment. There must be no comingling of food contact with non-food contact equipment.

Hoses: Hoses employed during the wash should be handled in a hygienic manner and kept off the ground. When not in use, hoses must be capped and stored on a rack off the ground. Hoses must be sealed when they are stored in an unsecured area. Hoses should be inspected for integrity and discarded or repaired if damaged.

Fittings Wash System: Facilities either employ clean out of place (COP) tanks or standalone sodium hypochlorite bins for sanitation of fittings and gaskets. If NaOCl is employed, the solution must be made up daily and verified with chlorine test strips.

Water System Requirements: All wash water employed must be potable and appropriately filtered with filtration porosity no greater than 25 microns. Bag-type filters must be constructed of food-grade materials. All piping must be stainless steel after an in-line filter and up to and including the spinner or spray ball. Annual, documented verification that the water meets local drinking water standards must be maintained by the facility. Water systems must be equipped with appropriate backflow prevention devices to prevent contamination of the water supply. Backflow devices must be tested, and findings documented on an annual basis. The water should be softened when calcium precipitate is seen on equipment after washing or if the water hardness exceeds 300 ppm CaCO3. The hot water system shall deliver enough pressure and flow to the spinner or spray ball to wash all the interior surfaces of the vessel. There must be enough impingement to adequately remove any residual material from all sides of the vessel.

Boilers: Any boiler chemicals must be approved for use in food grade facilities and applicable documentation must be available. Boiler chemicals must be kosher certified.

Spinner/Spray Ball Nozzles: The proper operation and pressure of the spinner or spray ball should be verified against the manufacturer's specifications on a prescribed frequency. The spinner spray nozzles or spray balls should be inspected on a weekly basis for wear, mineral deposits or other debris blocking the nozzles. These inspections should be documented. The use of a cone or cover plate above the spinner or spray ball is required.

Temperature Monitoring: Wash stations must employ resistance temperature detectors at the effluent line for wash certificate generation for the length of wash time. The system must be capable of recording temperature throughout the rinse and wash cycle. It should also be capable of producing a printed wash ticket. While preference is given to digital recording and chart generation, analog chart recorders may be used, but they must be appropriately documented, and the charts retained. The calibration of the temperature sensor and chart recorder must be verified weekly at the operating temperature of the wash to ensure proper accuracy. This must be done with a NIST traceable thermometer with a current certificate. Temperature readings must be recorded and the temperatures must be + / - 2°F (1°C).

Drying: If a vessel air-drying system is used after sanitizing, the air must be filtered to at least 0.5 microns resulting in clean, dry, oil-free air. The system must be well maintained, including inspections and changing of air filters. The inspections and changes should be documented.

5.23.2.4 **Cleaning Protocol**: Sucrose and dry bulk sugar washes should not include degreasers or detergents, unless specifically requested. Dry bulk washes cannot achieve temperatures of liquid tanker washes. Standard 140F washes for dry bulk are considered adequate.

Documented Procedure: Wash stations must have adequate, written procedures for performing washes and make these available upon request.

Dry Bulk Conversion Wash: A conversion wash is a documented wash that utilizes USDA compliant food grade cleaners appropriate for the effective removal of previous products. Conversion washing must also include dismantling and washing valves and the product pipe. Following a conversion wash, trailers must be washed and dried with a standard wash and should be pressure tested. The applicable items that must be washed for a conversion wash are as follows:

Bottom Aerators	Top Aerator Tube	Air Supply Inlet
Front Product Supply Line Cap	Side Aerator Tube	Customer Air Supply Cap
All Gaskets	All Hose Caps	Dome Lid Gaskets
Rear Product Discharge Line Cap	Air Supply Gasket	Product Pipe
Product Hoses		

5.23.3 Responsibility

NSM Quality Assurance: Responsible for approving contracted wash stations and maintaining the NMS Approved Truck Wash Station register.

Partner Quality Assurance: Responsible for working with local operating staff to ensure that personnel are appropriately training to inspect wash tickets and ensure proper wash frequencies are met.

5.23.4 Forms & Documents

Doc. No.:	Doc. Title:	Description:
5.23-01	NSM Approved Truck Wash Stations	A list of approved wash stations posted to the NSM website.

6.0 Food Quality

6.1 Specification Management

6.1.1 Purpose

The purpose of this policy is to define and communicate the responsibilities and methods for specification management. Specifications include final product specifications, customer-specific specifications, ingredient/process aid specifications, packaging specifications, contract manufacturers' specifications/agreements, and specifications for contract services relating to food safety and quality assurance or conducted in GMP areas.

6.1.2 Policy

The Company ensures that specifications for products, packaging, ingredients/process aids, contracted service providers, and contract manufacturers are documented and current. Specifications define products or services and ensure they do not negatively impact product safety or quality and are approved by relevant parties prior to implementation.

6.1.2.1 **General Product Specifications**: Company specifications are standardized specifications for a given type of product. Products are marketed and sold under these specifications unless customers request their own specifications. General product specifications are developed by the Director of Quality Assurance and agreed upon by Partner Members prior to implementation. General product specifications are documented in Product Data Sheets (PDS) and distributed to customers. Product data sheets are reviewed and updated annually. Product data sheets are made available electronically and include:

Product	Code of Federal Regulations	Product	Code of Federal Regulations
Industrial Coarse Sugar	21 CFR 184.1854	Liquid Sucrose Beet 66.5	21 CFR 184.1854
Fine Granulated Sugar	21 CFR 184.1854	Liquid Sucrose Cane 66.5	21 CFR 184.1854
Extra Fine Granulated Sugar	21 CFR 184.1854	Liquid Sucrose Beet 67.5	21 CFR 184.1854
Gel Gran Sugar	21 CFR 184.1854	Liquid Sucrose Cane 67.5	21 CFR 184.1854
Baker's Special Sugar	21 CFR 184.1854	Medium Invert Sugar 77.0	21 CFR 184.1859
Omnibus Granulated Sugar	21 CFR 184.1854	High Fructose Corn Syrup 42	21 CFR 184.1866[1]
Powdered Sugar 10X	21 CFR 184.1854	Corn Syrup: 36/43, 62/43, and 62/44 CSU	21 CFR 184.1865[2]
Powdered Sugar 12X	21 CFR 184.1854		
Brown Sugar	21 CFR 184.1854	Refined, Bleached, and Deodorized Oils (Corn, Soy, Rapeseed)	21 CFR 184.1400[3]
Brown Sugar, Dark	21 CFR 184.1854		

[1] Specification maintained by ADM Corn Business Unit.
[2] Specification maintained by ADM Corn Business Unit.
[3] Specifications maintained by ADM Oils Division

6.1.2.2 **Customer-Specific Specifications**: Customers occasionally request alterations to general product specifications to better meet their needs. In these cases, the Director of Quality Assurance, in coordination with partner quality management, determine the ability to meet customer-specific specifications and approve or deny requests. Once accepted, partner quality managers incorporate the specification into their software for the requesting customer. Customer-specific specifications are maintained electronically and are not documented in PDS. Customers are responsible for reviewing and maintaining their own specifications, and for notifying NSM when their specification needs change.

6.1.2.3 **Ingredient & Process Aid Specifications**: Ingredient and process aid specifications are typically generated by suppliers. If necessary, Partner Facilities generate ingredient and/or process aid specifications to suit their needs. In these cases, Partner Facilities review specifications annually. Ingredients and process aid specifications must ensure suitability for food production, include country of origin, include kosher certification, include CoAs (ingredients only), and meet the following FDA requirements:

Ingredient/Process Aid	Type	Code of Federal Regulations
Process Aid (Factory)	Defoamers	21 CFR 173.340
Process Aid (Factory)	Flocculent	21 CFR 173.10 21 CFR 173.50
Process Aid (Factory)	Scale Inhibitor	21 CFR 173.73 21 CFR 173.45
Process Aid (Factory)	Isopropyl Alcohol	21 CFR 173.240
Process Aid (Factory)	Biocide	21 CFR 173.320 21 CFR 172.560
Process Aid (Medium Invert)	FG Hydrochloric Acid	21 CFR 182.1057
Process Aid (Medium Invert, Liquid Sucrose)	FG Sodium Hydroxide	21 CFR 184.1763
Process Aid (Medium Invert)	Sodium Bicarbonate	21 CFR 184.1736
Ingredient (CoA Required)	Sugar	21 CFR 184.1854
Ingredient (CoA Required)	Molasses	21 CFR 184.1854
Ingredient (CoA Required)	Corn Starch	21 CFR 172.892

6.1.2.4 **Packaging Specifications**: Partner Facility quality management in coordination with warehouse and purchasing managers develop and maintain packaging specifications. Based on the level of risk, Partner Facilities accept letters of guarantee as sufficient means to validate packaging suppliers and their specifications. Partner Quality Management ensures packaging materials are suitable for food products and meet the following FDA requirements:

Packaging Type	Code of Federal Regulations
Polyethylene	21 CFR 177.1620
Polypropylene	21 CFR 177.1520
Kraft Paper Products	21 CFR 176.180
Adhesives	21 CFR 175.105

6.1.2.5 **Contract Manufacturer Specifications**: NSM periodically contracts manufacturing for product packaging and for liquid sugar manufacturing. Contract manufacturers' quality requirements are approved by the Director of Quality Assurance. Contract manufacturers are required to meet general product specifications and/or customer-specific specifications as determined by NSM. Contract manufacturers must maintain GFSI certification and meet the requirements of the NSM contractor expectation manual. Specifications are typically outlined in agreements between parties.

6.1.2.6 **Contract Service Providers**: Partner Facility Management (general managers or warehouse managers) is responsible for selecting and approving contract service providers and maintaining specifications. Contract service provider specifications are outlined in either purchase orders or agreements. Contract service providers working in GMP areas are required to be listed in a register. GMP training, local or contracted, must be included in their specification/agreement and Partner Facilities should retain training documentation.

6.1.2.7 **Product Development**: The Company does not participate in product development or commercial realization.

6.1.3 Responsibility

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

Director of Quality Assurance: Responsible for oversight and review of general product specifications, customer-specific specifications, and contract manufacturer quality specifications.

Partner Quality Assurance: Responsible for oversight and review of ingredient/process aid specifications and packaging specifications.

General Manager/ Warehouse Manager: Responsible for oversight and review or contract service specifications and/or local agreements.

6.1.4 Forms & Documents

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

6.2 Product Sampling & Retain Requirements

6.2.1 Purpose

The purpose of this policy is to define the requirements for collecting samples for laboratory analysis and outline retain sample holding requirements. This policy ensures that shipped products are sampled in a hygienic manner, analyzed to agreed specifications, and that retains are available if reanalysis is deemed necessary.

6.2.2 Policy

Facilities manufacturing sugar products or transferring bulk products collect samples for in a sanitary manner, using labeled, facility-defined sample containers. Employees collecting samples ensure that the collected samples represent the product being shipped and that labs complete analyses before releasing product for shipment. Facilities also hold retain samples for lots shipped. Facilities meet the following requirements to ensure that shipped products meet agreed specifications:

6.2.2.1 **Product Sample Frequencies**: Sample frequencies vary based on facility, product type, and conveyance. Partner-agreed sampling protocols include fine granulated sugar only. All other sugar product sampling and analysis is left to the discretion of the Partner. Outlined below are the standardized sampling/analysis frequencies:

Fine Granulated Sugar: Fine granulated sugar is sampled at point of use a minimum of the following:

Moisture, SO2, and Sediment: Facilities analyze these items once per shift.

Color, Ash, Visual Specks, and Granulation: At a minimum, sampled/analyzed every 2,000 cwt for bulk and every four hours for bagged product.

6.2.2.2 **Product Sampling Techniques**: Employees collect samples in a sanitary manner concurrently with the product being packaged or loaded. Appropriate sample container labeling includes at a minimum, the date, lot, and product. Techniques vary based on product type:

Dry Product Sampling: Dry product sugar samples must be collected from a sample port or by using a clean, food-contact designated utensil. The sample utensil must be handled and stored in a sanitary manner.

Liquid Product Sampling: Liquid products must be sampled from sample ports (petcock valve) or by directly sampling the tanker via ladle. Employees collecting samples to accompany the shipment, must ensure the samples are collected aseptically in sterile containers unless otherwise noted in writing by the customer.

Ladle Sampling: Ladles must be sanitized before use and employees take care to only handle ladles by handles. Ladles can be stored in sodium hypochlorite solution containers if they are rinsed between use and solution concentrations remain between 100 to 200 ppm.

Petcock Valve Sampling: Petcocks should be sanitized and must be opened and allowed to run approximately one (1) gallon of the product before collecting samples to clear microbiological growth in the valve. Discard product should be held in labeled containers. Petcock valves should be positioned as close to the tanker loading hose as possible and should follow hygienic design, e.g., limitations of dead space.

Central Lab Microbiology Samples: The Company requires micro analyses to be conducted on a 2,000 CWT dry-weight basis for liquid sucrose and medium invert. NSM utilizes trending of these samples for customer inquiries, complaints, etc. Facilities ship liquid samples in sterile containers overnight to Central Lab between Mondays and Thursdays. Also, facilities complete the form **Liquid Sugar Request for Chemical Analysis** to accompany the sample shipment. Facilities ship samples to:

Central Laboratory
2351 Orchard Dr. East
Twin Falls, ID 83301

6.2.2.3 **National Formulary (NF) and US Pharmacopeia (USP) Sampling**: Facilities packaging or shipping product to customers requiring NF/USP testing collect additional, split samples from routine samples for NF/USP analysis. Facilities submitting samples for NF/USP testing completed the form **Factory Request for Chemical Analysis**. Additional requirements include:

- Granulated samples must include at least 500 grams for all analyses
- Powdered sugar samples must include at least 200 grams for all analyses
- Samples must be labeled with the lot number and NF/USP testing indication

6.2.2.4 **Sample Retain Requirements**: Facilities are only required to maintain retains on outgoing shipments. Facilities receiving product for silos storage or further processing are not required to collect samples on incoming product. Retains should consist of at least one pound for granulated and brown, 250 ml for liquid, and 200 grams for powdered sugar. A daily retain is sufficient.

Granulated: Retains for granulated sugar are collected as one per daily lot number at a minimum. Facilities packaging Baker's Special will also collect a separate retain. Granulated retains are held for the shelf life of the product.

Liquid Sucrose and Medium Invert: Facilities hold liquid sucrose retains for 30 days and medium invert retains for six months.

Powdered Sugar & Brown Sugar: Facilities hold powdered and brown retains (one sample per lot) for shelf life of product.

6.2.3 Responsibility

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

Partner Quality Assurance & Warehouse Management: Responsible for ensuring sampling frequencies, techniques, and retain requirements are met.

Amalgamated Sugar Central Lab: Responsible for conducting NF testing and distributing results.

6.2.4 Forms & Documents

Doc. No.:	Doc. Title:	Description:
F-080	Factory Request for Chemical Analysis	A form required by Central Lab to identify samples submitted for analysis. Required for all NF/USP testing.
N/A	Liquid Sugar Request for Chemical Analysis	A form required by Central Lab to identify samples submitted for microbiological analysis.

6.3 Certificates of Analysis (CoA)

6.3.1 Purpose

The purpose of this policy is to outline the methods and responsibilities for generating certificates of analysis (CoA).

6.3.2 Policy

Facilities analyze all product shipments and generate CoAs for all shipments. CoAs are legal documents attesting to the composition and quality of the shipment. CoAs are generated based on analyses of samples collected according to Policy 6.2 Product Sampling and Retain Requirements. CoA requirements are:

6.3.2.1 **Creation**: Partner Quality Departments issue CoAs for each shipment of product. CoAs may be software generated or generated using fillable forms, based on the facilities capabilities. Fillable form CoAs must be finalized and physically signed or digitally signed using software security capabilities. Employees involved in entering values into software or generating CoAs ensure that values are accurate for the samples analyzed or applicable test results.

NF/USP CoAs: NF/USP sugar (granulated and powdered) is sugar that has been tested and certified to meet quality standards established by the current edition of the National Formulary or United States Pharmacopeia. Central Laboratory issues all NF/USP CoAs. Products requiring NF/USP analyses may be shipped to internal facilities, but not to customers until Central Lab issues CoAs. Note, lead time on NF testing is up to ten days based on analyses requested.

6.3.2.2 **Submission**: Facilities do not ship product until the CoA is generated, reviewed, and electronically signed by responsible parties. Facilities email electronic copies to contacts listed on the work order and provide hard copies with the driver's paperwork packet, e.g., bill of lading, for all shipments. Account Support updates the CoA contact information on standard order forms and attempts to limit emails to a maximum of three emails per shipping location. NSM requires contract manufacturers to submit CoAs to NSMCoA@natsugar.com for all shipments in addition to the standard distribution list indicated on work orders.

6.3.3 Responsibility

Quality Assurance Team: Responsible for interpretation of FDA law, certification standards, and their application to Company policies. Responsible for communicating CoA distribution updates to Account Support for standard order form updates.

Account Support: Responsible for updating standard order forms to include customer-defined CoA distribution emails.

Central Laboratory: Responsible for conducting required NF/USP analyses and issuing NF/USP CoAs.

Partner Quality Assurance: Responsible for the accuracy of CoA data and submission to customers. Responsible for ensuring CoAs are emailed to appropriate customer contacts.

6.3.4 Forms & Documents

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

6.4 Product Shelf Life & FIFO stock Rotation

6.4.1 Purpose

The purpose of this policy is to define the Company's shelf-life program. The shelf-life program includes evaluation and definition of shelf life, the establishment of maximum warehousing times, and first-in-first-out (FIFO) inventory management.

6.4.2 Policy

The Company and Partner Facilities implement shelf-life programs to ensure that products are shipped to customers within predefined warehousing limits. Shelf-life determinations are made assuming products are stored in environments without excessive temperature and humidity as outlined in Policy 5.10 Product Storage and Warehousing. The following elements ensure that shelf-life determinations are reviewed, communicated, and maintained:

6.4.2.1 **Shelf-Life Statement**: NSM Quality Assurance prepares a shelf-life statement for distribution to customers. The statement includes a company-defined shelf life.

6.4.2.2 **Customer-defined Shelf Life**: Customers may establish their own shelf life during NSM quality/specification agreements. If agreed, NSM includes the shelf-life information into the standard order form (SOF) and communicates requirements to warehouses via the written work order. Account Support alters the SOF to include shelf-life information.

6.4.2.3 **Maximum Warehousing Time**: The Quality Assurance Team develops and maintains required maximum warehousing times to ensure that warehouses ship packaged product with a reasonable amount of shelf life remaining. Maximum warehouse time includes factory storage time and any subsequent distribution warehousing time.

Packaged Products and Warehousing Guidelines				
Type of Sugar:	Packaging Type:	Maximum Warehouse Time (MWT)*:	Total Expected Shelf Life:	Notes:
Industrial Coarse Sugar	Totes & Bags (50)	15 months	5 years	Granulated sugar bags stacked in warehouses should be evaluated for suitability after the one-year mark and variance requests should be made when approaching the MWT.
Fine Granulated Sugar	Totes	15 months	5 years	
Extra Fine Granulated Sugar	Bags (50)	1 year	2 years	
Extra Fine Granulated Sugar	Totes	15 months	5 years	
Non-sensitive Granulated Sugar (Retail)	Bags (4, 10, 25, 50)	15 months	5 years	
Baker's Special	Totes & Bags (50)	1 year	3 years	Due to increased crystal surface area for baker's special, flowability may be affected due to bound moisture. Thus, baker's is given reduced shelf life. Baker's Special product will compact if stacked more than two pallets high.
Brown Sugar including Retail	Bags (2, 25, 50)	9 months	18 months	
Powdered Sugar including Retail	Totes & Bags (2, 50)	1 year	2 years	

Variances to Maximum Warehousing Time: Variances to maximum warehousing times are permitted provided customers supply written approval for variance. Typically, these requests are submitted by Account Support.

First-in-First-out (FIFO) Inventory Management: Warehouses ship packaged product by using FIFO methodology to ensure that stored product do not exceed the established maximum warehousing times. Aging for sugar products is based on lot number and not the date of arrival.

Exceptions to FIFO: Strict adherence to FIFO is not always achievable. Permissible exceptions are as follows:

Alternate Warehousing: FIFO programs are not managed between multiple warehouses supplying a customer.

Customer Approval: Factory-direct shipments may be requested by NSM Quality Assurance when customers experience clumping issues.

High Density Stacking: High density stacking may impede the ability to ship product adhering strictly to FIFO. In these cases, efforts should be made to stage groups of lots for individual orders.

NF/USP Testing: The additional analysis time associated with NF/USP testing may impede the ability to adhere to FIFO shipments to intercompany facilities; however, direct shipments to customer should follow FIFO methodology.

6.4.3 Responsibility

Quality Assurance Team: Responsible for interpretation of FDA law, certification standards, and their application to Company policies. Responsible for communicating shelf-life expectations to customers and scheduling shelf-life reevaluation.

Warehouse Managers and General Managers: Responsible for ensuring that outgoing packaged products are shipped using FIFO methodology and that products are within the Company-defined Maximum Warehouse Times.

Account Support: Responsible for requesting customer variances for maximum warehousing times and for updating standard order forms with customer-defined shelf-life information.

6.4.4 Forms & Documents

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

6.5 Annual Product Analysis

6.5.1 Purpose

The purpose of this policy is to define the requirements for additional testing conducted annually by third-party laboratories to verify claims.

6.5.2 Policy

The Company verifies quality and regulatory claims by annually submitting samples to third-party laboratories for non-routine analyses. These analyses are conducted to continually verify marketing claims and statements but are deem non-critical to daily analyses based on history and empirical evidence.

6.5.2.1 **Laboratory Requirements**: Outside laboratories conducting annual analyses maintain certification equivalent to ISO 17025. Facilities ensure that these laboratories are included in contract service provider portions of the supplier approval program as outlined in Policy 5.18 Supplier Approval.

6.5.2.2 **Annual Analyses**: Central Laboratory will be responsible for scheduling, sample receiving, and shipment for annual analyses for products from all partners. Annual analyses include the following:

Heavy Metal Analyses: Crystallized sucrose is analyzed annually for heavy metals using Atomic Absorption Spectroscopy or Inductively Coupled Plasma (ICP) Mass Spectrometry (arsenic and lead). The following analyses are conducted annually to verify marketing claims regarding heavy metals:

Copper (Cu)	< 1 mg/kg	Arsenic (As)	<0.01 mg/kg
Mercury (Hg)	< 0.1 mg/kg	Iron (Fe)	< 4 mg/kg
Lead (Pb)	< 0.1 mg/kg	Cadmium (Cd)	< 0.1 mg/kg

Multi Residue Analyses (Pesticide): Facilities submit samples for annual pesticide residue analysis. Sugar analyses should include pesticide groups including organohalogens, organonitrogens, organophosphates, and N-Methyl Carbamates. Product is free of pesticides and must be confirmed to meet <0.1 mg/kg of any given analyte.

Allergen Analysis: Factories submit granulated sugar samples for allergen analysis annually. The allergens analyzed should be the FDA-Identified allergens: milk, eggs, fish, crustacean shellfish, tree nuts, peanuts, wheat, sesame, and soybeans.

6.5.3 Responsibility

Quality Assurance Team: Responsible for interpretation of FDA law, certification standards, and their application to Company policies. Responsible for determining the need for non-routine sampling.

Partner Quality Assurance: Responsible for submitting annual samples for analysis and incorporating laboratories into the supplier approval programs.

6.5.4 Forms & Documents

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

6.6 Package Weights & Scale Licensing

6.6.1 Purpose

This policy outlines the requirements for calibrating and licensing weighing equipment in accordance with state regulations.

6.6.2 Policy

The Company places high importance on ensuring that customers receive accurate amounts of product and that facilities releasing product into commerce maintain compliance with state regulations. State regulations typically require licensing of any device used to weigh product for commercial purposes. Facilities routinely calibrate scales based on equipment, perform calibration checks and, if applicable, meet the following requirements:

6.6.2.1 **Scale Contractor Inspection/Verification**: Facilities contract scale inspections at least annually to meet state licensing requirements. Increased frequencies are established locally depending on state requirements or scale performance, e.g., history on not staying in calibration. Facilities include contractors in the contract service provider requirements of Policy 5.18 Supplier Approval.

6.6.2.2 **Scale Licensing**: Facilities conduct licensing of scales utilized for commercial purposes annually or as required by state regulations. Licensing typically involves third-party certification in coordination with state inspectors. Facilities post license information in plain sight of scales. If multiple scales are employed in the conveying and packaging process, a single scale must be licensed and count as the licensed scale, e.g., an inline scale for filling trucks and a licensed truck scale.

6.6.2.3 **Weighmaster Licensing**: Where applicable, state regulations require personnel operating commercial scales to maintain weighmaster licensing. Facilities determine the need for weighmaster licensing based on local state requirements.

6.6.2.4 **Package Weight Monitoring**: Facilities utilize 100% check weighing with reject/stop mechanisms for bagged product. In cases where this is not possible, statistical process control techniques may be utilized. Statistical process control must include weighing six consecutive bags every hour. SPC tolerances align with the established maximum allowable variances defined by the FDA. Deviations to SPC require facilities to hold affected products according to Policy 7.3 Product Hold and Release.

6.6.2.5 **Maximum Allowable Variance (MAV)**: Facilities package product according to regulatory requirements for weight control. The FDA has mandated the use of NIST 133 for weight control of packaged goods and the MAV is dependent on the package weight. For any packaged goods over 54.4 pounds, the MAV is two percent of the packaged weight. The following table outlines the MAV for various package weights:

Package Weight	M.A.V.
1 lb.	20 grams
2 lbs.	32 grams
4 lbs.	55 grams
5 lbs.	65 grams
8 lbs.	85 grams
10 lbs.	100 grams
25 lbs.	0.37 lb.
50 lbs.	0.50 lb.
100 lbs.	2 lbs.
1000 lbs.	20 lbs.
1800 lbs.	36 lbs.
2000 lbs.	40 lbs.
2500 lbs.	50 lbs.

6.6.3 Responsibility

Warehouse Managers / General Managers: Responsible for coordinating scale certification, scale licensing, and employee weighmaster licensing if applicable. Responsible for ensuring that calibration verification activities are occurring according to established frequencies.

Quality Assurance Team: Responsible for program verification through internal auditing.

6.6.4 Forms & Documents

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

6.7 Laboratory Proficiency Testing

6.7.1 Purpose

The purpose of this policy is to outline the Company's requirements for laboratory proficiency testing.

6.7.2 Policy

The Company ensures that laboratory personnel are trained to analyses and that laboratory data reported for final product analyses are accurate. Partner Facilities verify lab analyst performance through local proficiency testing. Annually, lab methods are compared and verified through inter-partner analysis.

6.7.2.1 **Interlaboratory Proficiency Testing**: Partner facilities ensure that all employees conducting analyses to generate certificates of analysis participate in inter-lab proficiency testing at least annually. Proficiency testing methodology is left to the discretion of the facility.

6.7.2.2 **Inter-Partner Analysis Verification**: Manufacturing factories participate in an inter-partner laboratory proficiency analysis annually. NSM Quality Assurance coordinates the testing and a specified sugar manufacturing facility submission of granulated sugar to Central Lab for splitting and redistribution. After facilities conduct and report analyses, NSM Quality Assurance prepares and distributes a comparative report outlining testing results.

- Granulating and liquid producing facilities will receive relevant samples and perform all specified analysis within the lab's capability.
- Any results that are outside of the specified deviation for reproducibility listed below, when compared to the group average or Central Lab's results, will be allowed to retest their samples.
    - Retest results that remain outside the allowable deviation will be required to provide corrective actions and a set of repeated analysis results that verify the issue has been corrected.

Analysis	Allowable Deviation	Source
Color	±7.0	ICUMSA Method
Turbidity	±5.0	ICUMSA Method
Ash	±0.002	Historical Data*
Moisture	±0.005	Historical Data*
Sediment- white	±1.0	Historical Data*
SO2	N/A**	
Granulation	N/A**	
Liquid Sugar Brix	0.3	ICUMSA Method
Liquid Sugar pH	0.5**	Equipment Margin of Error

*NSM Lab Proficiency data from 2017 to 2022
**Tolerances may be set or adjusted as more data is available

6.7.3 Responsibility

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

Partner Quality Assurance: Responsible for developing internal proficiency testing routines and for participating in annual inter-partner lab verification.

6.7.4 Forms & Documents

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

6.8 Kosher

6.8.1 Purpose

The purpose of this policy is to outline the Company's Kosher program and requirements.

6.8.2 Policy

The Company ensures that all finished products manufactured, transferred, or stored at a partner facility will be approved by the current Kosher certifying body. All partner facilities will ensure that their processes follow Kosher guidelines.

6.8.2.1 **Letter of Certification**: NSM will utilize a single certifying body to approve all products produced by partner facilities under a single Letter of Certification for NSM.

6.8.2.2 **Schedule A**: Partner Quality Assurance will maintain a list of all ingredients, processing aids, and food contact chemicals. For granulated manufacturing facilities, Kosher certified processing aids and food contact chemicals will be required from beet receiving through shipping.

6.8.2.3 **Kosher Approved Carriers**: Kosher certified carriers should be used for all bulk products. The carriers will be responsible for maintaining Kosher approval and ensuring that prior commodities do not affect certification.

6.8.2.4 **Kosher Wash for Liquid Tankers**: Kosher wash requirements are listed in Policy 5.15.2.1 and 5.15.2.2.

6.8.2.5 **OU Trademark**: The OU logo is a registered trademark of the Orthodox Union and should not be used without approval. New packaging containing the trademark must be approved and added to the certification. Private label retail products and kosher certification is at the discretion of the label owner.

6.8.3 Responsibility

Director of Quality Assurance: Responsible for maintaining Kosher certification for all product distributed by NSM.

Partner Quality Assurance: Responsible for developing and maintaining Schedule A.

6.8.4 Forms & Documents

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

7.0 Nonconforming Product: Incidents & Corrections

7.1 Food Safety & Quality Incidents

7.1.1 Purpose

The purpose of this policy is to communicate and standardize the way that food safety and quality incidents are reported to upper management and how these incidents are documented/trended to drive root cause analysis and continual improvement.

7.1.2 Policy

Partner facilities ensure that incidents that potenitally affect the safety and quality of final product are reported and documented. Incident reporting functions as a first-pass quality mechanism to document information surrounding incidents, product holds, product disposition, corrections, and information relating to corrective actions. Quality assurance personnel overseeing facilities maintain incident documentation and utilize information for continual improvement measures.

7.1.2.1 **Reporting:** Facilities train employees to report occurrences that affect product's safety and quality to supervisory personnel. Facilities grant employees the authority to stop packaging or loading and place product on hold if required. Facilities urge employees to contact quality assurance after hours via phone depending on the magnitude of the issue.

Product Holds: Employees are given the authority to initiate product holds. Product holds are handled according to Policy 7.3 Product Hold and Release.

NSM Reporting: Incidents that affect customer shipments or have the potential to require product withdrawal require prompt notice to NSM. Parties that facilities must contact are Account Support (cs@natsugar.com), Logistics (logistics@natsugar.com), and Quality Assurance (quality@natsugar.com). Reporting is necessary to source alternate supplies of sugar when necessary to avoid customer production delays.

NSM Emergency Contacts for After Hours: NSM Maintains a list of emergency contacts for after-hour, emergency contact. This list is published on NSM website.

Anonymous Reporting: Employees with food safety or quality assurance concerns are given an anonymous mechanism for reporting food safety and quality problems.

7.1.2.2 **Documentation**: Supervisory personnel (foremen/leadmen) are trained to document incidents on a food safety and quality incident report, Basicsafe action tool, or other formalized method based on the facility's preference. Documentation includes key information surrounding the event such as date and time of the incident, description, amount of affected product, and actions taken to correct the incident. Employees documenting incidents submit notice to facility quality assurance and warehouse/supervisor management within 24 hours of occurence.

7.1.2.3 **Incident Reviews**: Food safety and quality incidents are reviewed within 72 hours of occurrence by quality assurance and warehouse/supervisor management. During this period, reviewing parties determine product disposition and determine if corrective actions are required. Local Quality Assurance tracks incident occurrence for trend analysis as part of the food safety objectives outlined in Policy 1.3 Continual Improvement Measures & Food Safety Objectives. Significant incidents should be communicated on the monthly NSM Quality Assurance call as outlined in the monthly call portion of the Policy 1.5 Food Safety & Quality System Review.

7.1.3 Responsibility

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

Partner Quality Assurance: Responsible for training employees to report and document food safety and quality incidents, for reviewing incidents with supervisory personnel, for determining disposition, and for tracking incident occurrence.

7.1.4 Forms & Documents

Doc. No.:	Doc. Title:	Description:
7.4-01	Food Safety and Quality Incident Report	A type of form utilized to document incidents and product holds.
N/A	Basicsafe Action Tool	An electronic mechanism for documenting incidents.

7.2 Nonconforming Product & Materials

7.2.1 Purpose

The purpose of this policy is to outline the methods and responsibilities for handling nonconforming products or materials.

7.2.2 Policy

The Company has established methods for identifying and handling nonconforming product and materials to prevent inadvertent use or distribution.

7.2.2.1 **Nonconforming Products**: Include products that are not suitable for direct sale without further processing or reclassification. These products are considered downgraded products but should not be allowed to be further contaminated with the intent of removal.

Remelt Sugar (Resource 800,000[4]): This product consists of sugar that does not meet quality specifications or contains contamination that factories remove by dissolving, thermal processing, filtering, and recrystallizing. Factories are the only facilities that can process remelt sugar. Facilities segregate and identify remelt sugar with an "R" or "Remelt" on tote bags and pallets. Examples of remelt sugar may include:

- Reject sugar from bulk, bags, or totes
- Sugar that was produced outside of quality specifications, e.g., yellowstrike
- Overs from lump screening
- Product vacuumed from clean surfaces
- Brown and powdered sugar
- Sugar that has been outside of the Company's control
- Sugar from bulk car cleaning
- Any sugar that can be handled as Liquid Only can also be remelted

[4] SMBSC facilities do not utilize resource codes.

Sugar Requiring Further Processing: Sugar requiring further processing is granulated sugar that requires additional processing for distribution due to a quality or food safety reason. Facilities employing resources further classify this category into quality (850,000) or food safety (890,000) designations for trending purposes and to notify the receiving facilities on proper handling. The two possible categories include:

Work in Process (WIP) Sugar (Resource 850,000): Work in process sugar is unadulterated sugar which may be considered partially finished product and not suitable for sale without additional processing or filtration into a product besides granulated sugar (liquid or brown). This resource change requires notification of the quality assurance department. WIP sugar must meet one of the following conditions:

- Product out-of-specification due to granulation, ash, sediment, or specks
- Overweight or underweight bags or totes
- Hard and lumpy sugar
- Sugar missing lot codes on packaging
- Sugar in obsolete or discontinued packaging
- Leaking bags
- Product vacuumed from clean surfaces and overs/unders from lump/classification screening (SMBSC only)
- Any final product generated from WIP resources must meet intended product specifications.

Reconditioned Sugar (Resource 890,000): This classification includes granulated sugar that may contain foreign material which may effectively be removed by liquification and filtration. Brown and powdered sugar are not classified as reconditioned. This resource change requires quality assurance submission and written approval from corporate quality. Product thus designated must include the reason for classification entered into the order comments.

7.2.2.2 **Returned Sugar**: Where possible, the Company directs all returned sugar to processing factories or NSM sells returned sugar as non-food remelt (800,000). Factories classify returned sugar as remelt unless Partner Corporate Quality Assurance provides a documented variance via Return Authorization form.

7.2.2.3 **Non-Food**: Not for Human Consumption: Facilities without reprocessing capabilities and located where it is not economically feasible to ship downgraded product as remelt market sugar as not for human consumption. The Company requires that facilities isolate and handle this type of sugar in accordance with policy 3.4 Non-food Sugar Sales.

7.2.2.4 **Nonconforming Materials/Equipment**: Materials include ingredients or packaging that does not meet quality and food safety standards and equipment that may affect food safety or quality. Nonconforming materials may be subject to hold and release procedures outlined in Policy 7.3 Product Hold and Release.

Ingredients and Packaging: Following supplier approval practices, facilities inspect incoming materials and reject materials that do not meet specifications. Facilities should request formal corrective actions from supplying locations. Facilities isolate, recycle, or destroy any materials found damaged during storage through hold procedures.

Equipment: Facilities repair inoperative equipment in a manner that protects food safety and quality. Facilities follow lockout tagout procedures to address failed equipment. Maintenance personnel tag or tape off equipment that management anticipates as being out of service for prolonged periods.

7.2.3 Responsibility

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

Warehouse/General Managers: Responsible for determining nonconforming product identification and ensuring that warehouses label and segregate non-conforming products.

Facility Employees: Responsible for identifying and reporting nonconforming products and materials.

7.2.4 Forms & Documents

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

7.3 Product Hold & Release

7.3.1 Purpose

The purpose of this policy is to outline the methods and responsibilities for holds relating to products, ingredients, packaging material, and equipment.

7.3.2 Policy

Partner facilities implement and maintain hold programs that include positive release mechanisms and incident-driven hold procedures. Positive release ensures that defined testing and monitoring passes acceptance criteria before releasing product to commerce and incident-driven holds evaluate risk before determining disposition.

7.3.2.1 **Positive Release**: Facilities consider all packaged or loaded production to be on quality hold until appropriate monitoring and analyses occur. Appropriate monitoring includes commencement and documentation of quality testing per Policy 6.2 Product Sampling and Retain Requirements and HACCP monitoring per Policy 5.21 Food Safety Plan.

7.3.2.2 **Incident-Driven Product Holds**: Product that has been held during the incident process, outlined in Policy 7.1 Food Safety and Quality Incidents, are required to be placed on hold until further investigation. Examples of incident-driven holds may include failed metal detector testing, multiple metal detector hits, torn packaging, mislabeled pallet, product exposed to moisture, etc.

Identification: Product, ingredients, or packaging that has been placed on hold is required to be tagged and segregated from saleable, packaged product. Facilities with electronic hold capabilities utilize those in addition to physically marking product.

Investigation: Suspect product will be investigated by persons knowledgeable about the incident and by authorized managerial personnel, e.g., local quality assurance, warehouse manager, and chemist.

Corrective Action Process: Some holds will require facilities to complete root cause analysis and corrective action processes. These processes are documented in Policy 1.4 Corrective Actions & Root Cause Analysis.

Disposition: Affected product's disposition is to be determined by both the warehouse manager or designate and Partner Quality Assurance. Operations may not release product independently from Partner Quality Assurance. Disputes between parties shall be communicated to the NSM Director of Quality Assurance for disposition. Options include release or downgrading options outlined in Policy 7.2 Nonconforming Product and Materials.

Records: Facilities typically document product holds on an incident form or Basicsafe Action Items. Quality Assurance personnel are given the responsibility for maintaining product hold logs.

7.3.3 Responsibility

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

Partner Quality Assurance: Responsible for overseeing local hold and release programs, including positive release, incident-driven hold resolution, root cause analysis and corrective action procedures, and maintaining the product hold logs.

7.3.4 Forms & Documents

Doc. No.:	Doc. Title:	Description:
	Basicsafe Action Tool	An electronic mechanism for documenting incidents.

7.4 Rejected & Returned Products

7.4.1 Purpose

The purpose of this policy is to outline the processes for handling all rejected and returned products.

7.4.2 Policy

The Company ensures that rejected products and products returned from customer facilities meet company policy requirements for identification, investigation, segregation, and meet FDA food handling regulations. In many cases, the Company classifies rejected and returned products as customer complaints, which are subject to Policy 1.5 Customer Complaint Management. Due to varying circumstances surrounding rejections and returned product events, NSM and Partner Corporate Quality Assurance have the responsibility for determining disposition.

7.4.2.1 **Customer Expectations**: For all claims and credits, NSM requires customers to submit complete and accurate information surrounding the problem. Requirements may include but are not limited to a timely notification, evidence of the issue, and itemized distribution of charges for which they are requesting recompense.

Communication: NSM requires customers rejecting product to immediately contact Account Support to discuss options, e.g., product destruction or product return. Customers requesting to return a product must notify NSM within 15 calendar days of receipt for all visible defects that would not be identified during unloading. Latent defects, such as product clumping or foreign material claims, are not subject to the 15-day requirement.

Evidence: NSM requires customers to provide photographic evidence of issues for investigative purposes. Photographs are required for all claims relating to damage, contamination, product condition, etc.

Credit Information: In cases where direct payment or credit memo is issued, customers are required to submit an itemized breakdown of requested charges.

Product Security: NSM requires customers to reseal rejected conveyances or seal conveyances scheduled to return products. Acceptable seals are numbered, metal seals applied to ensure product integrity and prevent the product from being further downgraded. NSM requests that Customers communicate seal information for the returned product.

Short Pay: NSM does not permit customers to short pay and requests that customers follow standard credit protocols.

7.4.2.2 **Rejected Product**: NSM classifies rejected product as a product that customers have not received into inventory and warehouses. While rejected product is typically not removed from the conveyance, rejected product may include pallets that the customer removes from the conveyance and immediately returns after the discovery of an event resulting in rejection, e.g., trailer suitability, wrong product. Return authorizations are generated on a case-by-case basis for rejected product.

7.4.2.3 **Returned Product**: NSM classifies returned product as a product that customers have received into their inventory and warehouses. NSM requires return authorization processes for all returned products and does not authorize returned products to be redistributed to customers in the product's current state.

7.4.2.4 **Return Authorization**: A return authorization is a written authorization to return a product to an NSM/Partner-controlled warehouse or factory. The return authorization process ensures that returned products are received, inspected, accounted and that NSM grants applicable credit to the customer. Returns for customer inventory issues will follow a separate, inventory process where limited credit will be granted if at all.

Issuance: Account Support generates and issues return authorization forms by emailing information to the Receiving Warehouse/Factory Contacts, Facility QA, Orders@natsugar.com, Quality@natsugar.com, and Transportation@natsugar.com.

Receipt Verification: Facilities involved in receiving the returned product, perform inspections, document receipt, verify seal placement, and verify return quantities. After receipt and documentation, Receiving Warehouses email completed portions of the form to all included on the original email correspondence.

Disposition: NSM Quality Assurance in coordination with Partner Quality Assurance determine the suitability of the returned product and provides disposition based on the inspection information provided by the receiving facility. Quality Assurance submits R.A. form to all included on the original email and adds Inventory by adding Inventory@natsugar.com.

Inventory Adjustments: Inventory Department adjusts inventories at the receiving facility, and this process triggers customer credits. Upon completion, Inventory submits finalized forms to all on the email correspondence.

7.4.2.5 **Residual Bulk Product**: In cases where the customer cannot receive the total balance of a bulk vessel due to inventory failures, Account Support notifies the customer that product cannot be returned as sellable product. NSM does not discount the returned amount and may bill the customer additional handling/disposal charges. If the customer can receive the remainder of the balance or a top-loaded reshipment within 24 hours and agrees to the detention charges and return freight if applicable, facilities may hold trailer and return or top load to the same customer.

7.4.2.6 **Product Disposition**: Due to varying circumstances surrounding rejections and returned product events, Partner and NSM Quality Assurance have the responsibility for determining disposition.

7.4.3 Responsibility

Account Support: Responsibilities include customer communication regarding rejections and returned products and issuance of return authorizations.

Quality Assurance Team: Responsibilities include determining the disposition of returned and rejected product by completing disposition portions of return authorizations and for the determination of customer credit for amounts that exceed USD 500.00.

NSM Vice President of Logistics: Responsibilities include the determination of customer credit for amounts that exceed USD 500.00.

NSM Inventory Team: Responsibilities include generating credit orders and correction orders for all return authorizations and completing the inventory portion of return authorizations.

7.4.4 Forms & Documents

Doc. No.:	Doc. Title:	Description:
7.4-01	Return Authorization	A documented authorization to return the product to an NSM/Partner controlled warehouse. Return authorizations verify products, quantities, and authorize inventory adjustments.

8.0 Validation & Verification

8.1 Validation

8.1.1 Purpose

The purpose of this policy is to outline the validation program applicable to critical control points, critical limits, and prerequisite programs.

8.1.2 Policy

The Company's food safety and quality program utilize validation techniques for food safety controls. Validation techniques are based on publications by the National Advisory Committee on Microbiological Criteria for Foods (NACMCF) and the Codex Alimentarius Commission (CAC). The Quality Assurance Team under the direction of the Quality Assurance Specialist performs this process annually and when significant changes prompt the need for validation. This process includes an examination of regulatory requirements, customer needs/expectations, peer-reviewed literature, and empirical data. Outlined below are specific requirements as they relate to risk analysis and validation:

8.1.2.1 **Food Safety Plan Validation**: Facilities' Food Safety Plans are reviewed and validated annually. Validations are documented and made available to relevant staff. The director of quality assurance validates standardized portions of the food safety plans and local quality assurance validates facility-specific portions.

Critical Control Point Validation: The Quality Assurance Team has only identified critical control point (CCP) process preventive controls for Partner food safety plans. The Quality Assurance Specialist annually validates critical control points and distributes relevant documentation electronically.

Metal Detector: The Company recognizes metal detectors in combination with reject mechanisms as CCPs to reduce metal contamination to an acceptable level. The use of the Codex Alimentarius CCP decision tree was utilized in our CCP determination. Also, metal detectors have been an internationally recognized method for reducing metal contamination to an acceptable level for many years (regulatory & historical experience). It is a direct and deliberate intervention step designed to control various metal hazards which have been previously identified as potential hazards. In addition to historical experience, customer complaints are examined annually for metal complaints.

Magnet: Magnets can be suitable critical control points if metal detector installation is not an option. The use of magnets will be validated initially and verified by pull testing annually. The use of the Codex Alimentarius CCP decision tree was utilized in our CCP determination. Methods to validate the use of a magnet will include a review of metal related customer complaints and review of all pull testing to ensure pull capabilities. The use of magnets is an accepted industry control device and the lack of non-magnetic metals in the system.

Final Filtration: Filters are used as critical control points for liquid sugar processing. The use of filters will be validated initially and reviewed annually. The use of the Codex Alimentarius CCP decision tree was utilized in our CCP determination. Filters are an adequate and recognized method for removing physical contaminants. Also, customer complaints are an adequate way of measuring the effectiveness of filters in liquid sugar processing.

Critical Limit Validation: Critical limits are assigned to critical control points to assess when the CCP has lost control. Validation is required before the initial implementation of CCP and any time that it is determined that a critical limit needs to be changed. Critical limits will be reviewed annually to determine if changes need to be made. The determination of what constitutes a significant hazard has been based on three elements: FDA regulation (7-25mm), maximum capability of metal detectors in combination with standard aperture sizes, and meeting customer's specifications.

Prerequisite Program Validation: Facilities conduct and document prerequisite program validation locally.

8.1.3 Responsibility

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

Director of Quality Assurance: Responsible for conducting standardized risk assessments and for performing and documenting validation activities for standardized critical control points and critical limits.

Partner Quality Assurance: Responsible for performing facility-specific risk assessments and food safety plan validations and prerequisite program validation.

8.1.4 Forms & Documents

Doc. No.:	Doc. Title:	Description:
8.1-01	Validation for Food Safety Plans	A document utilized to record validation processes and results relating to food safety plans, e.g., critical control points, critical limits, and significant changes.

8.2 Verification

8.2.1 Purpose

The purpose of this policy is to outline and define verification items of the Company's Verification Program. Verification is segmented into corporate and facility verification activities to ensure that personnel and facilities follow programs according to policies and certification standards.

8.2.2 Policy

The Quality Assurance Team performs food safety and quality verifications in addition to the verifications outlined in a facility's HACCP plan. Verifications take the form of visual observations, record reviews, facility inspections, and internal auditing.

8.2.2.1 **Inter-Partner, Corporate Verification**: Inter-Partner verification utilizes the support of manufacturing Partners through participation in internal audits. This function is primarily outlined in sections of Policy 8.3 Internal Auditing & Facility Inspections. Internal audits will cover adherence to corporate policy and certification standards. Key items verified during internal audits include:

- Food Safety Plans
- Critical Control Points
- Critical Limits
- Prerequisite Programs
- Traceability/Recall
- Customer Complaints
- Document Control

8.2.2.2 **Local Verification & the Verification Schedule**: Facilities conduct verification activities according to the verification schedule as outlined below:

Item	Description	Frequency	Responsibility	Records
Food Safety Plan Verification	Evaluation of a facility's food safety plan	Annually	Partner Quality Assurance & Plant Manager (Management Team)	Meeting minutes/ HACCP plan reassessment
CCP Monitoring	Verification of CCP monitoring activities	Within 7 days of monitoring	Qualified Individual or Preventive Control Qualified Individual	CCP monitoring records
HACCP Deviation	Verification of HACCP Deviation Records	Within 7 days of deviation	Qualified Individual or Preventive Control Qualified Individual	CCP monitoring records/ HACCP Deviation Records
Incidents/ Corrections	Verification of incidents and/or product holds	Within 7 days of occurrence	Partner Quality Assurance & Warehouse Management	Incident report/ Basicsafe action tool, etc.
Corrective/ Preventive Actions	CAPA documents are reviewed/verified with senior site management.	Upon completion or quarterly based on facility preference	Partner Quality Assurance & Plant Manager	Corrective & preventive action report/ Basicsafe action tool
Crisis Management Plan	Testing and verification of the Crisis Management Plan as it relates to product safety and quality.	Annually	Quality Assurance & Plant Manager (Management Team)	Meeting minutes/ summary
Facility GMPs/ Prerequisite Programs	Facility inspections and targeted prerequisite program verifications	Monthly for inspections and annually for all prerequisite programs.	Quality Assurance & Warehouse Management	Inspection report/ verification checklist

8.2.2.3 **Verification Records**: Verification records can take the form of an audit report, checklist, documented summary/report, or meeting minutes. Records will vary based on the verification item.

8.2.2.4 **Corrective Actions**: When verification checks reveal deficiencies to standards or quality assurance policies, identified items are subject to corrective action procedures as outlined in Policy 1.4 Corrective Actions & Root Cause Analysis.

8.2.3 Responsibility

Quality Assurance Team: Responsible for interpretation of FDA law, certification standards, and their application to Company policies. Responsible for participating in inter-partner corporate verifications, including internal auditing.

Partner Quality Assurance: Responsible for overseeing facility-specific verifications and coordinating multi-department verifications.

Plant Manager/ Plant Management Team: Responsible for participating in verification activities including but not limited to crisis management plan testing/review and corrective and preventive actions.

Warehouse Management: Responsible for participating in incident/correction verification.

8.2.4 Forms & Documents

Doc. No.:	Doc. Title:	Description:
		There are no standardized forms or documents associate with this procedure.

8.3 Internal Auditing & Facility Inspections

8.3.1 Purpose

The purpose of this policy is to outline the Company's internal auditing program. Internal auditing consists of both corporate internal audits among Partners and local facility internal inspections.

8.3.2 Policy

The Company conducts inter-partner internal audits and local facility inspections to ensure food safety, and quality programs are implemented, monitored, and verified. This program verifies compliance with regulatory requirements, company standards, and certification standards.

8.3.2.1 **Internal Audits & Inspection Team**: Internal audits are scheduled and conducted by personnel independent from the operation being audited. Internal audits are planned audits covering elements of a particular standard (SQF/BRCGS/AIB) or the NSM inspection template. Personnel conducting internal auditing must receive formal training in internal auditing.

Audit Types & Content: Internal audit types and frequencies align to the size of the facility and the facility's certification standard. Factories utilize the support of multi-partner teams and terminals are audited by managing Partners. Outlined below are the types of internal audits performed:

Factory System Internal Audits: Members of the Quality Assurance Team audit factories annually in a system audit. Audit teams evaluate company policy and the entire SQF standard.

Terminal Internal Audits: Partners managing terminals are responsible for scheduling and conducting audits using the BRCGS standard quarterly. The BRCGS standard is divided into segments so that all applicable portions are audited at least annually.

AIB Warehouse Internal Audits: AIB-certifying warehouses are audited at least annually by Partner Quality Assurance. Partners managing these warehouses are responsible for scheduling and conducting audits using an internal template.

Contracted Warehouses and Terminals: Partners contracting warehouses and terminals schedule and perform second-party audits to ensure facilities align with company quality standards. Criteria is outlined in contract agreements and contractor expectation manuals.

Audit Protocol and Observations: The auditor or audit teams document all nonconformances. Findings may be categorized into major and minor observations based on a team decision. Violations noted during internal audit require corrections or corrective actions. Facilities review audit conclusions with senior site management and implement corrections and corrective actions accordingly. Facilities submit corrective actions to the Quality Assurance Team within 30 days of audit closure. In cases where corrective actions are not feasible within the established timeframe, proposals for corrective actions are issued in lieu of completed corrective actions. Prior year audit corrective actions are also verified during the next audit cycle.

Audit Records: The audit team documents internal audits and facilities maintain records for future review and trending. Electronic software or standard audit templates are employed to document audit information, and audit records include the audit tool/checklist and a summary.

8.3.2.2 **Facility Inspections**: Facility inspections are inspections handled at the factory level and primarily deal with GMP-based observation. The established frequency is at least monthly; larger facilities may define quadrants provided the entire facility is inspected at least every three months. Larger facilities should implement a procedure or work instruction for conducting facility inspections. Facility inspections are managed by Partner Quality Assurance and the Local Food Safety Committee/Team. The team communicates inspection findings to Local Senior Management. Critical food safety findings must be reported to senior management during the inspection, and all other findings should be reported within 72 hours of the inspection. Facilities submit reports to the Local Food Safety Committee/Team.

8.3.3 Responsibility

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

Partner Quality Assurance: Responsible for conducting BRCGS internal audits, AIB internal audits, and facility inspections. Also responsible for generating corrective actions for observations noted during inter-partner system audits.

8.3.4 Forms & Documents

Doc. No.:	Doc. Title:	Description:
8.3-01	NSM Good Manufacturing Practices Audit Template	A standardized internal auditing template for use at warehouses not certifying to a GFSI-benchmarked standard.

8.4 Second- & Third-Party Audits

8.4.1 Purpose

The purpose of this policy is to outline how the Company schedules and conducts all second party (customer) and third party (contractor) audits.

8.4.2 Policy

NSM and Partner Quality Assurance jointly schedule second and third-party audits to meet customer approval and certification standard requirements. Facilities are open to inspection any time they are operating and are strongly encouraged to be always audit-ready. NSM has developed contracted volume audit thresholds for customer audits. These include at least 75,000 annual CWT total booked for virtual audits and at least 150,000 CWT total booked for onsite audits. These general guidelines may be bypassed for specialty products based on Sales Department determinations. Facilities also designate audit teams for handling audits and senior site management participates in all opening and closing meetings. All audit findings are subject to standard corrective action protocols.

8.4.2.1 **Audit Types**: Audits are primarily customer driven (second party) or contracted to meet certification standards (third-party).

Second-Party Audits: NSM Quality Assurance oversees and coordinates the second-party audit process and handles all customer-issued requests to audit facilities. In cases where customers contact facilities directly, Partner Quality Assurance forwards these requests to NSM. NSM evaluates potential business and the facilities needing approval and coordinates audits with the Partners. Customer-driven audits typically involve a customer's audit protocol and audit report.

Third-Party Audits: Partner Quality Assurance schedules and receives third-party audits annually for continued certification. The Quality Assurance Team selects certification bodies. Partner Quality Assurance ensures that certifications do not expire by scheduling audits within the window prescribed by the certification standard. Facilities employing AIBI Certification establish goals to achieve a score of 960 or higher.

8.4.2.2 **Audit Process**: Audit processes vary but typically include meetings, the issuance of a report, and the opportunity to submit corrective actions, if applicable. Outlined below are some requirements for each stage of the audit process:

Opening and Closing Meetings: Facilities designate teams for handling opening and closing meetings and accompanying the auditor during inspections. Site senior management or their designate must attend the opening and closing meetings.

Facility Inspections: Facilities should accommodate the inspector's needs and permit access to key areas.

Audit Report Issuance and Review: Audit reports are records of the audit or inspection. Partner Quality Assurance is responsible for reviewing reports with site management, issuing corrective actions, and communicating results and corrective actions with the Quality Assurance Team.

8.4.3 Responsibility

Quality Assurance Team: Responsible for jointly evaluating and selecting a certification body.

NSM Quality Assurance: Responsible for coordinating second-party audits with Partner Quality Assurance.

Partner Quality Assurance: responsible for scheduling third-party audits, developing local audit teams, reviewing audit findings with local management, and responding to all audit corrective action requests.

8.4.4 Forms & Documents

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

9.0 Food Defense & Food Fraud

9.1 Food Defense

9.1.1 Purpose

The purpose of this policy is to outline the methods in place to communicate the food defense program. This program ensures compliance with certification standards, customer expectations, and regulatory requirements outlined in 21 CFR 121: Mitigation Strategies to Protect Food Against Intentional Adulteration.

9.1.2 Policy

NSM and Partners ensure that all facilities housing product develop and maintain a comprehensive, FDA-compliant, food defense plan with the aim of mitigating food safety risks associated with intentional contamination. Many food defense requirements are included in separate prerequisite programs and referenced below.

9.1.2.1 **Training**: Facilities designate an individual to oversee the routine maintenance of the vulnerability assessments, mitigation strategies, and reanalysis. Personnel given authority over a facility's food defense plan receives formal training through the FDA Food Defense 101 program at a minimum. This training in combination with job experience meets FDA requirements for a Qualified Individual.

9.1.2.2 **Vulnerability Assessment**: Vulnerability assessments are conducted for all facilities as part of the FDA Food Defense Plan Builder or Key Activity Types. Areas deemed as potentially vulnerable are areas where final products are handled and stored and all cGMP areas.

9.1.2.3 **Food Defense Plan General Practices, Mitigation Strategies, and Monitoring**: Partner facilities employ a shared food defense plan template based on Key Activity Type methodology. Mitigation strategies include broad mitigation strategies and focused mitigation strategies.

Broad Mitigation Strategies: Broad Mitigation Strategies are measures that facilities may take to minimize the risk of intentional contamination.

Visitor Log & Identification: Facilities meet the requirements of Policy 5.19 Visitors by controlling visitor access, identifying, and documenting visitors. Visitor log monitoring is conducted according to scheduled internal audits.

Employee Training: Facilities train employees on food defense-related information per Policy 5.2 Employee Food Safety & Quality Training. Key elements include site security, visitor identification, keeping facility secure, and reporting suspicious activity. Employee training is monitored according to scheduled internal audits.

Surveillance Technology in Vulnerable Areas: Packaging or loading areas that are not protected by equipment guarding, e.g., tote filling station, bulk loading facilities, bulk unloading facilities, and silo access points are monitored by digital CCTV surveillance cameras. Facilities ensure that coverage is adequate and effective to monitor access points and equipment can retain data/images for a minimum of 30 days for distribution facilities and 90 days for packaging facilities. Facilities should also develop a map of surveillance locations. Surveillance coverage is monitored during scheduled internal audits.

Chemical Storage: Facilities store hazardous chemicals away from product handling or product storage areas and ensure those areas are secured or restricted according to Policy 5.17 Chemical Control and Approval. Chemical storage is monitored during routine facility inspections and scheduled internal audits.

Restricted Laboratory Access: Facilities with on-site labs ensure that labs are restricted to authorized personnel only.

Computer System Security: Computer systems access must be controlled to authorized personnel or password protected.

9.1.2.4 **Focused Mitigation Strategies**: Focused Mitigation Strategies are science-based procedures, practices, or processes that, when employed at specific process steps, may minimize the vulnerabilities identified during the vulnerability assessment. The following have been identified and should be implemented at applicable facilities:

Incoming Material Inspections: Facilities inspect each shipment incoming materials (packaging, processing aids, and food) to ensure that: first, materials are sourced from approved suppliers; second, materials arrive sealed and seal numbers match incoming documentation; third, incoming materials are inspected for contamination, damage, and tampering. These requirements and material types are outlined in Policy 5.18 Supplier Approval. Verification of incoming inspections is conducted according to scheduled internal audits.

Secured Access: Facilities control access to warehouses, bulk storage, and packaging areas by securing those areas via keyed entry, keypads, or keycards. Facilities monitor secured areas during routine facility inspections (monthly) and scheduled internal audits.

Bulk Tank/Storage Entry Points: Facilities secure bulk storage facilities with numbered seals or padlocks.

Keycards and Key Distribution: Facilities control and monitor distribution of keys and keycards.

Tamper-Evident Seals: Facilities apply tamper-evident seals for security measures. Only Company employees are permitted to apply seals. Facilities document seal numbers in records using written forms or scanners. Seal application and use is monitored during scheduled internal audits.

Tote Seals: Facilities producing totes employ numbered, plastic seals for each tote.

Conveyance Seals: Conveyances include bulk trucks, dry van trucks, bulk rail, containers, and boxcars and must be secured with numbered cable seals at least 1/8" or larger. In cases where customers require larger seals (3/16"), requirements are communicated in the notes of the work order. Seal numbers must be documented on or accompany the bill of lading.

9.1.2.5 **Mitigation Strategy Monitoring/Testing & Corrective Actions**: Mitigation strategies are monitored/tested during monthly facility inspections and internal audits at a minimum. At any time if a mitigation strategy is found deficient, facilities implement corrective actions in accordance with Policy 1.4 Corrective Action & Root Cause Analysis.

9.1.2.6 **Reanalysis**: Facilities perform reanalysis of food defense plans annually to meet the management review requirements outlined in Policy 1.5 Food Safety & Quality System Review or when the plan is found to be deficient. The Quality Assurance Team reviews the base requirements outlined in the policy annually.

9.1.3 Responsibility

Quality Assurance Team: Responsible for interpretation of FDA law, certification standards, and their application to Company policies. Responsible for the contents of this policy and for annually reviewing basic FDA compliance requirements.

Warehouse Managers / General Managers: Responsible for overseeing the local development of the food defense plan in the FDA food defense plan.

9.1.4 Forms & Documents

Doc. No.:	Doc. Title:	Description:

9.2 Food Fraud

9.2.1 Purpose

The purpose of this policy is to outline the Company's programs for evaluating, monitoring, and preventing food fraud or deliberate introduction of substances or hazards introduced for economic gain. The food fraud program builds on the principles of Hazard Analysis and Critical Control Point (HACCP). Food fraud programs demonstrate compliance with 21 CFR 117.130(a)(2)(iii). The Food Fraud Program covers the sale of unfit and potentially harmful food, deliberate mislabeling of products, and formulation substitution.

9.2.2 Policy

The Company does not engage in economically motivated adulteration. Such practices deprive the consumers of the products they intend to purchase and may have implications on consumer health. As such, the Company combats food fraud within our own organization and across our distribution network, using the following mechanisms:

9.2.2.1 **Vulnerability Assessment**: NSM and Partners conduct vulnerability assessments through two mechanisms to ensure marketable products, raw materials, and process inputs are evaluated and documented.

Finished Goods and Raw Materials Risk Assessments: NSM performs vulnerability assessments that consider economic adulteration for all products marketed and all raw materials that may negatively affect sellable products. Such evaluations include historical evidence, substitution factors, and applicable testing. Risk assessments of this nature evaluate food safety and food quality hazards.

HACCP Hazard Analysis: NSM and Partners evaluate process inputs and steps for economic hazards during the HACCP hazard analysis step.

9.2.2.2 **General Measures**: General measures are standard, policy-driven measures selected to decrease the vulnerability to a certain type of intentional adulteration. Mitigation measures are broadly applied to quality programs. Identified mitigation measures include:

Product Identification and Downgraded Products: The Company ensures that downgraded product is handled in a manner to prevent fraudulent distribution. Policies include 3.4 Nonfood Sugar Sales and 7.2 Nonconforming Product and Materials.

Substitution: Facilities handling beet and cane products implement measures for segregation and ensure that customers receive their intended products. NSM requests customer permission in writing before permitting any form of substitution, e.g., beet for cane or cane for beet. Both substitutions can present customer issues such as identity preserved issues or supply chain import requirements. Facilities with the potential for substitution also certify to the BRCGS Standard and substitution practices are verified during third-party audits.

9.2.2.3 **Mitigation Strategies**: Mitigation strategies are a selected set of mitigation measures aimed at eliminating a type of food fraud hazard in the supply chain. The Company has determined that there are no mitigation strategies for food fraud based on the outcome of the vulnerability assessments.

9.2.2.4 **Food Fraud Customer Statement**: NSM prepares and distributes a food fraud customer statement, outlining the results of the vulnerability assessments.

9.2.2.5 **Reviews**: The Company has developed the following review schedules for elements of the food fraud program. Review records can take the form of revising a review date or meeting minutes:

Item	Responsibility	Frequency
Vulnerability Assessments	NSM / Partners	Annually
Hazard Analysis	NSM / Partners	Every three years
Food Fraud Customer Statement	NSM	Annually

9.2.3 Responsibility

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

NSM Quality Assurance: Responsible for overseeing vulnerability assessments for raw materials and finished goods and for generating and distributing the food fraud customer statement.

Partner Quality Assurance: Responsible for performing facility hazard analysis reviews and supporting the annual vulnerability assessments.

9.2.4 Forms & Documents

Doc. No.:	Doc. Title:	Description:
8.1-01	Risk/Vulnerability Assessment: Ingredient/Raw Material	A standard template for performing a vulnerability assessment for hazards and food fraud risks for ingredients and finished products.