

Packaged Ice Quality Control Standards

The PIQCS Manual



Revised September 2012

European Packaged Ice Association

Calle Alamos, N°42 - Planta 2
29012 MALAGA- (MALAGA) SPAIN

Tel. 00 33 6 16 22 55 88

www.europeice.com

Acknowledgements

This PIQCS Manual has been developed by the European Packaged Ice Association Standards Committee comprised of industry stakeholders, packaged ice representatives and food safety consultants. The EPIA acknowledges the committee members for their outstanding contribution to the EPIA PIQCS Manual project.

We extend our appreciation and gratitude to the International Packaged Ice Association (IPIA) for their support of this project and to NSF International (NSF) for providing the core document from which this Manual was adopted.

We extend our appreciation to the following individuals and to their organizations for their contributions and sharing of knowledge, expertise and valuable time:

| | |
|-------------------|--|
| Jane McEwen | International Packaged Ice Association |
| Chris Dunn | NSF International |
| Myla Estacio | NSF International |
| Ulrich Kreuter | NSF International |
| Bill Bentley | Ice World Journal |
| Giuseppe Olivetti | Polo Nord Ice Srl. |
| Stan Williams | QB Ice |
| Markus Schweitzer | CRIO Ice |
| Mark Barter | Vogt Ice |
| Maryse Prior | EPIA |

Thank you!

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Contact information for requests for permission to reproduce or distribute this material is listed below:

European Packaged Ice Association

Attention: Maryse Prior
Calle Alamos, N°42 - Planta 2
29012 MALAGA- (MALAGA) SPAIN
Tel. 00 33 6 16 22 55 88
Email: maryse.prior@gmail.com
REG N° G93203651- VAT N°

NSF International

Attention: Ulrich Kreuter
Kleine Kloosterstraat 6
1932 Zaventem
Belgium
Tel: +49 (6128) 859.45.36
Email: Ulrich.Kreuter@nsf-cmi.com



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Preface

There are many hundreds of packaged ice manufacturers in Europe; from large commercial producers to small convenience stores and campgrounds. Tradition has been that packaged ice is used as a refrigerant to keep food cold and safe. Today that view is only partially true. More and more packaged ice is used as an ingredient in food manufacture or put into beverages to keep them cold. Because some packaged ice is consumed, all manufacturers, no matter their size, are producing a food product that we must assume is 100% consumed. The European Packaged Ice Association's (EPIA) members are committed to producing only high quality, food quality safe ice.

The EPIA calls for all manufacturers of packaged ice to be held to safe food quality standards with adequate regulatory oversight. In 1998, because no uniform manufacturing standards existed in the United States, the International Packaged Ice Association (IPIA) developed and adopted the Packaged Ice Quality Control Standards (PIQCS) Program. PIQCS is based on the US Food and Drug Administration Good Manufacturing Practices (GMP's) for food products and is tailored specifically to packaged ice. In 2012 the EPIA adopted the US trade association's PIQCS program, with editing to insure it complied with EU regulations and the European marketplace.

Note: Members may also demonstrate compliance to EPIA membership requirements for the authority to display the EPIA logo on their product, websites, and participate in EPIA sanctioned distribution programs by having obtained a Global Food Safety Initiative Certification (BRC, IFS, FSSC 22000, SQF), NSF Packaged Ice Product Certification or other Certification approved by the association.

Please contact the association with any comments, ideas or questions.

Thank you.

After all, “ALL Ice should be this Good!”



EPIA PIQCS Manual



EPIA-NSF International PIQCS Audit Manual

The auditing year begins on January 1st and ends on December 31st for all EPIA member companies.

All current EPIA member companies must demonstrate compliance with EPIA standards by successfully passing any one of the following schemes in order to display the EPIA logo on products, advertisements, and to participate in EPIA sanctioned distribution programs:

1. PIQCS Audit
2. GFSI recognized (FSSC 22000, BRC, IFS, SQF)
3. NSF Product Certification for Packaged Ice
4. Other Audit scheme as shall be approved by the EPIA Board.

For food manufacturers a HACCP certification is mandatory under European legislation however there are differences in interpretation at the local, municipal, and national levels.

The PIQCS Audit

- Review this manual thoroughly, focusing on the Audit questions and examples. This will give you a good overview of the audit. The questions are the ones the NSF auditor uses to inspect your plant(s).
- The objective of this Guide is help you understand what is expected under the PIQCS program to insure you pass your audit. Please reach out to EPIA or NSF with any questions.
- You may request a “mentor” be assigned to you prior to your first audit. This person, assigned by EPIA, will help explain the requirements and what the auditor will be looking for when you are inspected to qualify as an accredited member of EPIA.
- When you are ready for your PIQCS audit, contact the EPIA office or NSF International to schedule the audit conducted exclusively by NSF.
- All **Corrective Actions** must be submitted to NSF for review and approval for the PIQCS Audit to be deemed complete and meet the requisite membership requirements.
- **Blackout Dates** (No audits shall be scheduled during the following time periods unless explicitly agreed to by the plant and NSF):
 - Week of the EPIA Annual Convention
 - Other national holidays recognized within the European Union
 - Other dates designated by EPIA in advance of the start of each calendar year
- **Audits Frequency** must be at least once during each calendar year.
- **Audit Scheduling:**
 - NSF will schedule the audit directly with the ice plant.
 - Once the ice plant has agreed to the date, NSF will send a confirmation email.

- Due to cost incurred in booking travel arrangements and auditor resources, any audits cancelled within three (3) weeks of a mutually agreed to date shall be billed the full audit fee.

• **Audit Schedule**

Questions regarding an audit to be performed by NSF at any given plant, please contact:

Ulrich Kreuter - Technical Manager – EMEA

Phone: +49 (6128) 859.45.36

Fax: +49 (6128) 859.45.37

Email: ulrich.kreuter@nsf-cmi.com

• **Scoring System:**

The EPIA PIQCS audit has a Pass/Fail scoring system instead of a point system. Each audit item is designated as “Major” or “Minor” and will receive a pass or fail instead of a point value. **Each plant must pass all of the Major and fail no more than 5 of the Minor items in order to receive an initial passing audit.**

The audit has a total of 46 “Major” items, 33 of which are related to Good Manufacturing Practices (GMPs) and 13 related to HACCP. There are 30 “Minor” items of which 28 are related to Good Manufacturing Practices and 2 related to HACCP.

• **Corrective Actions**

After completion of the audit, the report will be emailed or faxed to the plant contact(s)- with a copy to EPIA the next business day.

If non-conformances were found during the audit, the plant will receive a separate “Corrective Action” report listing any non-conformances

The Plant shall submit the Corrective Action Plan to NSF within 15 days of receipt of Corrective Action Report (CAR). Nonconformance’s should be corrected within 30 days. The intent is that non-conformances that can be corrected without major capital expense or physical construction should be completed within the time allotted. When corrections require a greater period of time (e.g. capital budget, equipment on backorder, construction, etc.), there should be an explanation that includes the nature of the delay and when the work will be completed to fix the non-conformance.

- The following information make up a ‘corrective action’ and must be submitted to NSF for review and acceptance:
 1. Root Cause
 2. Preventive Action
 3. Corrective Action
 4. Name of Person Responsible
 5. Expected Date of Completion
- Reaudits are not necessary to verify corrective actions.
- After all Corrective Actions have been reviewed and accepted by NSF, the ice plant will receive notification and a Certificate of Completion from NSF with a copy to EPIA confirming status.

Major Audit Items

It is noted above that all of the 'Major' items on the audit must be passed to become accredited. That is because failure to meet any of the 'Major' items provides a much greater risk of producing a compromised product. Many 'Major' items also require documentation for the auditor to review as this is the only method they can use to be assured that the task was completed.

There are 33 Major items related to GMPs and 13 Major items related to HACCP that must be passed in the PIQCS audit. The Major GMP items are listed below.

Audit Number

- 1 Are personnel with disease in communicable form excluded from work in any capacity where there is reasonable possibility of product contamination or transmittal to other individuals? Only authorized personnel are allowed in production, packaging area(s).
- 2 Are production employees receiving basic training sufficient to enable compliance with PIQCS/EPIA Standards? Is there updated and annual training given as needed? Are training records up to date? Is the PIQCS Manual or acceptable GMP manual, available and complete; available for review and access by employees? (*HACCP Prerequisite*)
- 3 Are facilities or areas provided for consumption of food; storage of employees' clothing, and personal belongings. Are the Personnel facilities or areas used as intended – no storage of packaging, chemicals or product related materials.
- 4 Proper personnel practices: clean outer garments worn; high degree of personal cleanliness exhibited; no jewelry worn in production and packaging areas other than a plain ring band; effective hair and beard restraints used in production and packaging area; tobacco not used in any form; no eating at work stations.
- 16 Is there effective screening or other protection provided against pests? Are there holes or gaps in walls, doors and openings that would allow pests to enter?
- 17 Only toxic materials that are necessary for maintaining sanitary conditions, plant and equipment, or for use in laboratory testing and processing operations are used or stored in plant. Are materials identified, held, stored and used as labeled?
- 18 Is there an adequate Pest Control Program as per PIQCS manual? (*HACCP Prerequisite*)
- 19 Are pests (birds, animals, and vermin) observed in the plant, near doorways or near sensitive areas of the grounds?
- 20 Are product water contact surfaces (utensils, pipes, equipment, etc.) clean? Is the frequency of cleaning adequate? Are product contact surfaces of cleanable construction?



- 21 Are cleaning and sanitizing operations conducted in a manner to preclude contamination of product and product contact surfaces? Are the cleaners and sanitizers used safe, adequate for the job intended?
- 25 For private water sources – Is the water supply from adequate, properly located and constructed private source; permit on file, and conforms at all times with applicable laws? Is there an annual chemical/physical testing to EU Directive 98/83 and local laws pertaining to drinking water regulations performed on individual sources and the finished product? Is there a Certificate of approval of the source, or permit available from local authority?
- 26 Municipal supply – Product water supply verification by water bill or other means. Any non-potable water (fire systems etc.) must have approval of local governmental authority.
- 27 No hand contact of ice. Disposable, non-latex sterile gloves or sanitized tools must be used for all ice contact. Is hand washing performed before touching product contact surfaces?
- 28 Is operations water separate from product water supply? If not separate systems, is the product water protected against potential backflow from the operations water by a suitable back flow prevention device(s)?
- 32 Adequate toilet facilities: sanitary with mechanical ventilation; hand washing facilities; self-closing doors. The doors should not open directly into processing areas unless there are double doors or a positive air flow system. Are there hand washing signs?
- 33 Rubbish disposal adequate; proper receptacles with covers.
- 38 Is there adequate testing procedures in place to identify possible ice contamination? Does the sampling frequency and type of testing conform with EU/national/local regulations? Are records maintained for the testing done internally by the plant and externally by qualified laboratories?
- 39 Packaging with product contact nontoxic; sanitary. Are the applicable certificates or letters of compliance with regulation (EC) 1935/2004 and EU 10/2011 (Plastic materials and articles intended to come into contact with food) on file?
- 40 Are sanitary standard operating procedures (SSOPs) on file, including master cleaning and sanitation plan to cover all areas of the plant? SSOPs should indicate exact methods, tools, detergent and sanitizer concentrations etc. for all cleaning and sanitizing processes. (*HACCP Prerequisite*)
- 41 Is there documentation of the performance of all cleaning and sanitizing activities? (*HACCP Prerequisite*)
- 42 Are all ingredient water contact surfaces and finished ice contact surfaces installed made of food grade or potable water materials? Is there certification on file from manufacturer to verify food grade compliance? Is there a raw materials, ingredient and supply control system in place? (*HACCP Prerequisite*)
- 43 Are there written procedures and performance records for flushing and cleaning the ice making equipment and/or product water storage tanks that



have been idle for more than five days? Otherwise, the time that equipment can be idle before a complete cleaning procedure is required can be determined by the plant based on water quality testing data and acceptable means of water quality protection.

- 45 Is there a master maintenance plan for both facilities and equipment? (*HACCP Prerequisite*)
- 46 Potable water used for washing or rinsing discharged as liquid waste; no reuse
- 49 Is there a current Certificate of Approval of the source used for product operations water supply on file? Are these records retained for two years?
- 50 Are the individual product packages identified with a production code?
- 51 Is the ice protected against microbiological, physical and chemical contamination during storage, transportation and distribution?
- 53 Is there a written recall procedure established?
- 55 Are records of in-house self audits/inspections available? These are internal audits performed by plant management or staff, separate and distinct from audits by government, military, vendors etc. (Minimum once per year).
- 57 For plants selling product in the US, to a US Company with a Facility located in Europe, or to a US government facility - Is the facility registered with the US FDA under the Public Health Security and Bioterrorism Preparedness and Response Act of 2002? Has the facility obtained their registration number from the FDA?
- 60 Are employees trained to report suspicious activity?
- 61 Is there a current Certificate of Product Liability Insurance (consistent with Product Liability Directive 85/374/EEC on file?

PIQCS Audit Requirements

Major audit items (must be passed) are **BOLDED**.

Personnel

| | | |
|----|---|--------------|
| 1. | Are Personnel with disease in communicable form excluded from work in any capacity where there is reasonable possibility of product contamination or transmittal to other individuals? Only authorized personnel are allowed in production, packaging area(s). | MAJOR |
|----|---|--------------|

Determine if management is aware it is their responsibility to exclude from work areas where product contamination is possible, any employee with a communicable disease. Determine whether employees working around product contact surfaces have obvious colds, infected cuts, sores, etc.

Example: *The employee working at the packaging machine was observed sneezing several times and wiping his nose with a pocket-handkerchief. Employees that are ill with communicable diseases must not work directly with the ice product or sanitary equipment. (Note: there could be a hand washing issue here too.)*

| | | |
|----|---|--------------|
| 2. | Are production employees receiving basic training sufficient to enable compliance with EPIA Standards? Is there updated and annual training given as needed? Are training records up to date? Is the PIQCS Manual or acceptable GMP manual, available and complete; available for review and access by employees? (HACCP Prerequisite) | MAJOR |
|----|---|--------------|

A quality manual, explanation of GMPs, and a GMP manual are required. Documentation of the performance of applicable GMPs is required. Other GMPs will be monitored and observed during the audit. The PIQCS Manual meets all these requirements.

Basic Sanitation training should be given to all employees. All employees training should be documented.

Example: *There was no copy of the PIQCS manual or evidence of an alternate, acceptable GMP program in place during the time of the audit.*

| | | |
|----|---|--------------|
| 3. | Are Facilities or Areas provided for consumption of food; storage of employees' clothing, personal belongings. Are the Personnel facilities or areas used as intended – no storage of packaging, chemicals or product related materials. | MAJOR |
|----|---|--------------|



NO smoking, eating and drinking anywhere in the packaging or production areas. Vending machines located immediately outside lunch/break rooms because of space limitations are acceptable as long as the vended products are consumed only in the lunch/break rooms.

Personal items brought into the plant must be properly stored away from production in a designated area, and in such a manner that they do not create cleaning problems or areas difficult to clean. See #4 in regard to providing storage spaces for clothing and personal belongings.

Example: Empty soda cans were observed on the conveyor in the packaging room. All food products must be consumed in the lunch room. Waste can attract pests into the plant area. Employee hands are easily contaminated by bringing cans and food to the mouth.

| | | |
|----|---|--------------|
| 4. | Proper personnel practices: clean outer garments worn; high degree of personal cleanliness exhibited; no jewelry worn in production and packaging areas other than a plain ring band; effective hair and beard restraints used in production and packaging area; tobacco not used in any form; no eating at work stations. | MAJOR |
|----|---|--------------|

No jewelry can be worn in production and packaging areas except for a single plain wedding band. Jewelry is often unsanitary, provides risk of foreign object to the finished product, and is an employee safety risk around equipment.

Hair and beard restraints must be worn in all areas where there is a potential for hair to contaminate the product or container (production and packaging areas). Baseball style caps are no substitute for hair nets. These are often multiuse, unsanitary, and do not provide adequate protection for head and facial hair.

Employees should not partake in any activity that requires putting hands in hair, mouth, nose, eyes etc. If employees are observed not washing their hands after toilet use or before handling ice or ice contact equipment and bags, it would be cited under this item.

Sanitary gloves may be used, but must be changed regularly (minimum every four hours), or after touching non-food or non-sanitary items.

Street clothes are acceptable inside the packaging room as long as they are clean and provide sanitary coverage. Uniforms are not required. Employer provided garments that are required for any employee performing work in a specific area, and which are in addition to the usual outer garments can be stored adjacent to the specific area.

Example: The employee working at the bagging machine was not wearing a hair restraint as required.

Plant and Grounds

| | | |
|----|--|-------|
| 5. | On the exterior of the property, is equipment properly stored; waste and refuse disposed of; no litter; grass and weeds cut? | Minor |
|----|--|-------|

This item is to be used only for deficiencies pertaining to the exterior premises. Deficiencies would include improper, unsanitary storage of equipment; areas of debris or litter accumulation, etc. This also especially applies to storage against the outside walls of any material and includes weeds, grass, landscaping, etc. that may be growing against the wall. For audit purposes, this item applies to grounds under the control of the company.

Example: *Discarded troughs and screws were noted stored on the ground and against the building on the West outside wall. This area creates a potential pest-hiding place.*

| | | |
|----|--|-------|
| 6. | Is road, yard and parking lot dust controlled; grounds adequately drained? | Minor |
|----|--|-------|

It is not a requirement that the parking lot be paved – although paving is the best method of controlling dust. If the parking lot is gravel and dust is raised routinely, then there should be some sort of dust control – usually water sprayed or dispersed by a tanker truck.

In order to justify a citation for lack of dust control, it is necessary to have a dust problem. Dust accumulates quickly on equipment, overhead fixtures, mezzanines etc., so it will be very easy to identify a problem.

Example: *Unpaved lot area adjacent to open loading dock doors appears to be contributing to excessive dust build-up on plant equipment and stored product. A heavy accumulation of dust was noted on all the overhead piping and fixtures in the plant.*

The surrounding grounds under the control of the company shall be well-drained and not present breeding/harborage areas for pests. Use good judgment. If puddles are present as a result of rain during the inspection (or within the last 24 hrs.), the inspector should not cite a deficiency unless it is apparent that the puddles will become stagnant.

Example: *A pond of standing water was noted near the West side of the main plant building. Standing water provides active breeding sites for insects and pests.*

| | | |
|----|--|-------|
| 7. | Is the operation of system(s) for waste treatment and disposal adequate? | Minor |
|----|--|-------|

Soil, waste or drain pipes should be located and maintained to avoid potential contamination of the ice product or applicable ice equipment. Sewage disposal must comply with the local laws. This could be by city sewer where possible, or by a properly maintained private system if this is permitted. Look for flow or drainage to the ground, sewage-laden dirt etc., in any private sewage system area, to determine if there is integrity of the private system. All sewage and toxic disposal must meet local regulations.

Wastewater from ice production should be disposed of in a way that does not create potential standing water areas, excessive mold growth in tanks or otherwise potentially affect integrity of the product.

Example: *Wastewater from the ice production goes to an open storage tank on the west side of the building. The wastewater in this tank appears to have mold and algae growth and allows a breeding place for pests.*

Example: *The waste drain field for the plant on the West side of the main parking lot is plugged and sewage effluent was noted overflowing to the stream.*

| | | |
|----|--|-------|
| 8. | Are storage practices sufficient? Is there adequate space for placement of equipment and storage of materials? Are aisles and working spaces unobstructed with sufficient width? Is equipment installed to facilitate cleaning of equipment and adjacent spaces? | Minor |
|----|--|-------|

This item deals strictly with interior areas of the plant, as opposed to audit Item 5, which refers to outside areas. All interior areas should be accessible. There should be suitable distance between shelving and walls and between underside of shelves and the floor to allow for visual pest inspection at all times.

Processing areas, maintenance rooms, closets and other production related areas should be accessible for cleaning and for visual pest inspection at all times.

“Clean” and product related items such as bags should not be stored immediately adjacent to “dirty” non-product related items such as truck parts, waste drums, and plant maintenance supplies.

Cold Storage: Storage against the curb and against the wall is acceptable as long as areas not immediately accessible or viewable should be subject to regular cleaning and/or inspection to insure absence of pests and contaminants including dust, dirt or debris.

Non-Cold Storage: Storage 15 cm off the floor (height of pallet or higher) and 50 cm away from the wall (space for person to physically inspect) is **recommended but not required**. Areas not immediately accessible or viewable should be subject to regular cleaning and/or inspection to insure absence of pests and contaminants including dust, dirt or debris. Turnaround times are a factor in ascertaining compliance. For example, if refurbished coolers are stored directly on the floor, but are turned around in two+ days, it would not be a deficiency.

Example: *Ice bags were noted being stored directly on the floor next to some tools.*

| | | |
|----|--|-------|
| 9. | Are ice production, packaging, and storage conducted in an enclosed building with tight walls and ceilings? Ice should not be processed or packaged on open platforms or transport vehicles. | Minor |
|----|--|-------|

The ice production facility must be inside of a building with the exception of the icemakers and transfer system. If the icemakers and transfer system are outside, these must be in a secure area and in a sealed system that doesn't allow for potential contamination by dust, drips, pests and other environmental contaminants.

The ice packaging itself must take place in a separate ice “filling” or “bagging” room. This room must be separated from all other plant operations and must have integrity against pests and dust, have self closing doors and be of cleanable construction. Unlike bottled water, forklifts, short term product storage and storage of tools related to the filling/packaging operation are allowed. There is no mandate for positive air pressure and



it is acceptable to use the packaging room as a walkway if necessary. Packaging room windows may open directly to the outside, but must be protected from pest entry. Screen doors and windows are acceptable.

Example: Cleaning supplies, cardboard boxes and maintenance equipment were noted being stored in the packaging room. All materials unrelated to the packaging process must be stored outside this room.

The bagging of the ice takes place in the loading garage where trucks are stored at night. Ice packaging must take place in an area separate from other and unrelated plant operations.

| | | |
|-----|--|-------|
| 10. | Proper construction: Are floors, walls, ceilings in good repair – no potential pest harborage; non-absorbent materials used in applicable areas? | Minor |
|-----|--|-------|

Any deficiency relating to improper construction shall be cited here. This includes packaging room construction.

The ice bagging room, water treatment and production areas should have non-absorbent floors, walls and ceilings. There should be no cracks or gaps in walls and floors or at the wall/floor junctures. All other areas outside these may be bare wood or cinder block unless a problem has resulted from splashing or absorption.

Floors, walls and ceilings must not have cracks or gaps in them or at their junction EXCEPT for the warehouse and distribution areas. Construction issues do not apply in these areas unless they are related to another issue such as accumulated dirt or vermin harborage. Other potential contamination issues like peeling paint or exposed insulation would also be cited. Any cracks in floors and holes in walls in warehousing and distribution areas that are accumulating dirt or are potential pest harborage will be written as non-conformances..

Construction issues with well houses that are separate from the plant are assessed as production areas, and would be cited here as well.

Example: The walls of the bagging room are in poor repair. The metal panels are peeling and exposing insulation. The West wall is partially bare wood. The walls in this area must be smooth, nonabsorbent and easily cleanable.

| | | |
|-----|--------------------------------------|-------|
| 11. | Are floors walls and ceilings clean? | Minor |
|-----|--------------------------------------|-------|

All areas of the plant must be kept clean. All product-related surfaces and areas as well as equipment and restrooms must be cleaned and sanitized as frequently as needed for each particular operation (i.e. daily, every other day or even between shifts). All general cleanliness issues with the floors walls and ceilings would be cited here.

Example: The warehouse floors have a significant accumulation of dust and debris. All areas of the plant must be kept clean at all times.

| | | |
|-----|--|-------|
| 12. | Are fixtures, ducts, and pipes placed to preclude drippage or debris from contaminating the product? | Minor |
|-----|--|-------|



Any piping, ductwork, equipment, lighting fixtures, etc. so located that it might contaminate the product either directly or by allowing potential condensation contamination of product, bags, conveyor covers, work surfaces etc. shall be cited here.

Example: Condensation was noted dripping onto the cover of the sump of the ice maker creating potential contamination of the product source water.

| | | |
|-----|--|-------|
| 13. | Adequate lighting: 540 lux candles recommended in hand-washing areas, dressing and locker rooms, toilet rooms and in all areas where product is examined and processed, and where equipment or utensils are cleaned. 215 lux candles recommended in all other areas. | Minor |
|-----|--|-------|

540 lux of light is recommended wherever there is exposed product or product contact surfaces to be able to determine the presence of physical contamination. These areas would include packaging, processing equipment and areas where these items are repaired, hand washing, rest rooms and the kitchen or break room. A minimum of 215 lux of light should be provided in all other areas. The lighting criterion applies to all areas of the plant – around the storage tanks and equipment, along the walls etc. If citing a deficiency, the actual lux measured must be in the audit report.

Light must be measured at the work surface height. In the warehouse or in open areas, the auditor should face the light source and measure at waist height (approximately 90 cm off the floor.) They will always allow for temporary obstructions such as piles of boxes. (NOTE: If the hand held light meters cannot be calibrated, a 20% leeway is allowed before citing a deficiency.)

The plant may use portable lighting to cover some of the hard to reach areas. This is acceptable, provided the producer can show and display the lighting system used, to verify that it is indeed used and to allow the intensity to be measured.

Example: The light level at the bagging machines was measured at 200 lux. 540 lux of light are recommended in this area.

| | | |
|-----|--|-------|
| 14. | Are light fixtures over processing areas safety type or otherwise protected? | Minor |
|-----|--|-------|

All light fixtures and bulbs in any room, where ice product or product related items are stored, must be protected against breakage to minimize or eliminate potential contamination in the event of breakage. This is true anywhere breakage could contaminate the product or product related items such as bags or equipment that is opened, even if the equipment is only exposed occasionally. For example, a fluorescent tube directly above a water tank manhole cover should be protected.

End pieces of tube type protectors must be present if the tubes are to be effectively protected.

Example: Bare light bulbs were noted above the ice hopper at the packaging line. All light bulbs must be covered or otherwise protected against breakage to avoid potential contamination of the ice or ice related products.

| | | |
|-----|---|-------|
| 15. | Is there adequate ventilation provided to minimize odors, noxious fumes, or vapors and condensate in manufacturing, processing and storage rooms? Is the ventilation equipment clean? | Minor |
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Any area exposed to fumes, moisture accumulation and condensate should have adequate ventilation. Such areas include the bagging room, drier area, water and ice storage processing area, etc. Cleanliness of the ventilation equipment would be cited here as well.

Example: *Diesel and propane fumes are accumulating in the bagging room due to poor ventilation. All areas of the plant must be adequately ventilated.*

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| 16. | Is there effective screening or other protection provided against pests? Are there holes or gaps in walls, doors and openings that would allow pests to enter? | MAJOR |
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All exterior openings should be provided with screening. Exterior doors should be self-closing. Holes should be sealed, closed, or screened if applicable. Vent openings to exterior shall be screened if not self-closing. Dock doors must have a tight seal when closed. Dock doors should be kept closed at all times unless in use.

Insect electrocution devices are acceptable in the plant if they are CE marked and in accordance with the manufacturer's safety recommendations. Best Practice recommendations for mounting distances from exposed product or product contact surfaces: 1,8 meters away for wall-mounted traps and 3 meters away for ceiling hung traps. Electric attraction lights with a sticky surface are preferred over the "zapper" type attraction lights.

A skirt or other means of sealing is required around semi trailers when unloading at open dock doors to protect interior of plant from dust and flies.

Example: *Two of the open windows in the warehouse were not screened as required. They were observed being open during the inspection, potentially allowing pests to enter the building.*

Sanitary Operations

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| 17. | Only toxic materials that are necessary for maintaining sanitary conditions, plant and equipment, or for use in laboratory testing and processing operations are used or stored in plant. Are materials identified, held, stored and used as labeled? | MAJOR |
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This item deals with toxic materials in the plant, not the outside areas. If toxic materials are present and not necessary for the operation of the plant, it is a non-conformance. If they have reason to be there and are present, are they labeled and stored in a separate designated area away from other chemicals such as cleaning supplies and water additives? Product containers used for toxic storage, as well as any container used for chemicals or liquids must be conspicuously and permanently labeled. This includes cleaning, sanitizing materials, pesticides, lubricants, etc. Cleaning and sanitizing supplies should not be stored commingled with pesticides or other products such as paint thinners, degreasers, etc where there is chemical contamination potential.

Any cleaning fluids or other liquids or substances in unlabeled containers will be cited here. Bags must not be used to store or hold anything besides product – misuses of product bags would be cited here as well.

Example: *Bottles of herbicide were noted stored alongside the detergents in the chemical storage area. The herbicides should not be stored inside the plant and toxic materials and detergents/sanitizers must be stored separately.*

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| 18. | Is there an adequate Pest Control Program as per PIQCS manual? (HACCP Prerequisite) | MAJOR |
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All pest control inspections, activity and pesticide applications must be documented. It is not necessary for the plant to have a licensed, outside firm in charge of the pest control. However, there must be an active pest control program in place. A good pest control program will have bait traps outside and live traps inside (bait is not allowed inside and would be a citation under this item if observed during the inspection). There should be a map of the premise, showing the bait and trap locations. There must be regular pest and pest activity inspections of the facility and records of any findings during those inspections. Minimum requirements would be a documented inspection program with map. Recommend the complete program and professionals as a note.

If the ice producer has cans of insecticides on the premises, always examine them to determine if they are acceptable for use in food areas. They must only be used as needed or routinely if under the direction of a licensed pest control operator. Records of all pesticide applications must be maintained.

Example: *There is no map of the premises indicating where the bait and traps are placed. There is no record of trap inspection or inspection of the facility for pest activity.*

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| 19. | Are pests (birds, animals, and vermin) observed in the plant, near doorways or near sensitive areas of the grounds? | MAJOR |
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Always look for droppings and presence of pests to determine effectiveness of the program. Overloaded glue traps, signs or actual observation of roaches or mice etc. is a variation and will be cited here.

Example: *Several glue traps, under the shelves on the East side of the warehouse, had a large quantity of insects, including cock roaches, attached indicating a presence and potential problem with insect activity in the plant.*

Birds were observed nesting in the roof overhang above the loading docks. During the inspection 2 birds were observed flying inside the building. A large accumulation of bird waste was noted on the ground in the area of the nests.

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| 20. | Are product contact surfaces (utensils, pipes, equipment, etc.) clean? Is the frequency of cleaning adequate? Are product contact surfaces of cleanable construction? | MAJOR |
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Product contact surfaces must not exhibit rust, oil, dust accumulation, etc. Determine if they are being properly maintained, and if oxidation is a problem, how the plant is handling it.

Example. *The housing for the rack in the storage bin is very rusty. Ice falls over this housing as it is conveyed into the bin. A rusty surface is not cleanable and allows and supports bacterial growth.*

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| 21. | Are cleaning and sanitizing operations conducted in a manner to preclude contamination of product and product contact surfaces? Are the cleaners and sanitizers used safe, adequate for the job intended? | MAJOR |
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Cleaning detergents and sanitizer mixtures shall be changed regularly to avoid build up of microorganisms. The detergents and sanitizers shall be suitable for food plant usage and evidence of this approval should be available.

Cleaning and sanitizing should not be performed during production to avoid potential contamination of product or product surfaces.

For the PIQCS program, there should be written procedures for equipment sanitation. The performance of all routine cleaning and sanitizing operations of equipment shall be documented. Documentation should be by a log or checklist system. A checklist system requires written procedures (also a requirement for HACCP Prerequisites).

For PIQCS, it is required that there be a master cleaning schedule of all sanitizing and cleaning in the plant as well as the documentation of performance.

Example: *There is no written procedure or documentation of the equipment sanitizing activities in this plant.*

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| 22. | Are non-product contact surfaces of equipment free of accumulated dust, dirt, and other debris? | Minor |
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Any deficiency dealing with non-product contact cleanliness of equipment or fixtures will be entered here.

Example: A large accumulation of dust was noted on the waste storage tanks in the NE corner of the warehouse.

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| 23. | Are bags purchased and stored in sanitary closures (original containers) in a clean, dry place? Are they examined before use, handled, dispensed, used in a sanitary manner, and used only once? | Minor |
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Deficiencies in the handling and storage of ice bags or similar containers should be cited here. Common deficiencies include: packages of ice bags stored directly on the floor during routine storage or prior to debagging. Ice and ice bags must be protected from drips, dust, sneezes etc. where containers are debagged and filled.

Example: Packages of ice bags were noted stored directly on the floor in the bagging room, as they were preparing to be used for production. Sanitary packaging must always be stored off the floor.

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| 24. | Are portable equipment and utensils cleaned, sanitized and stored in a sanitary manner? | Minor |
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Equipment and utensils used in production must be in clean condition at all times. Records of cleaning performance of large equipment must be documented.

Example: Clean shovels are set directly on the floor.

Sanitary Facilities and Controls

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| 25. | For private water sources – Is the water supply from adequate, properly located and constructed private source; permit on file, and conforms at all times with applicable laws? Is there an annual chemical/physical testing to EU Directive 98/83 and local laws pertaining to drinking water regulations performed on individual sources and the finished product.? Certificate of approval of source, or permit available from local authority? | MAJOR |
|-----|---|--------------|

The plant should be able to provide acceptable documentation that verifies individual source compliance (for both product and operations use) with appropriate regulatory requirements. This item is in regard to the documentation aspect of the source(s).

If there is a well, or spring, there must be annual testing performed on the source water. The source water is tested to identify any potential hazards that would need treatment to comply with EU drinking water standards.

The finished ice is tested to EU drinking water standards (or Natural Mineral Water standards if this is the claim made on packaging) to insure there are no hazards or contamination contributed by the processing/manufacturing of the ice.

If the source is not located, operated and/or maintained in a sanitary manner, then a citation will be given. For example, "dead mice observed around the perimeter and inside of the well house" or "source located in a flood plain."

If the well or spring is enclosed in a building, that building must meet all the construction requirements of a processing area, including lighting, non-absorbency, lack of pest entry or harborage, cleanability etc. Any construction issues would be cited under the construction section.

Because permitting and approval varies from country to country and potentially from province to province EPIA will accept the following items as demonstrating compliance to the requirement:

1. A well or spring permit or license from the local, State or federal authority.
2. A letter from the local health authority or another competent authority etc., stating that the spring/well has been inspected and approved.
3. A current (within 2 years) inspection report from any health, agriculture or environmental agency that addresses the source.
4. A current license issued by any local, county or state health, environmental or agriculture department, for operating an ice packaging facility or food processing facility.

Example: *This facility uses a well as the source for the packaged ice product. There is no documentation on file to show that the well meets local (city, county or State) regulatory requirements.*

The source water for the ice comes from an individual well. There is no annual testing on file to show compliance with the EU requirements for chemical and physical parameters.



Example: *The well casing is below ground in a well pit. The pit is not drained and has an accumulation of water in the bottom that is potential contamination to the well.*

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| 26. | Municipal supply – Product water supply verification by water bill or other means. Any non-potable water (fire systems etc.) must have approval of local governmental authority. | MAJOR |
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There must be evidence that the source is from the city water supply (i.e., water bill).

Example: There is no approval letter or permit for fire system. There are no current water bills (within past 6 months) available for inspection.

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| 27. | No hand contact of ice. Disposable, non-latex sterile gloves or sanitized tools must be used for all ice contact. Is hand washing performed before touching product contact surfaces? | MAJOR |
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Adequate provisions must be made so that hands never touch the ice directly. Sanitary gloves must be provided and changed as needed. A sanitized bar may also be used to free up jammed ice etc. When bare hands are observed touching the ice, it will be cited here.

Storage of ice before and after packaging must be such that there is not a possibility of contamination. The storage area must be free of conditions that might lead to contamination.

Example: Individuals were observed touching the ice in the packaging room with their bare hands.

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| 28. | Is operations water separate from product water supply? If not separate systems, is the product water protected against potential backflow from the operations water by a suitable back flow prevention device(s)? | MAJOR |
|-----|---|--------------|

Water used for operations must be separate from the water to be used for product unless otherwise protected by a suitable back-flow prevention device. This device will avoid potential back-siphonage from the operations side into the product water side.

Example: *There does not appear to be a separation between the water processed into ice product and the water used for operations purposes. If product and operations water are not serviced by separate lines, the product water must be protected from potential back-siphonage coming from the operations side.*

| | | |
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| 29. | Is plumbing adequately installed and maintained and protected against backflow? There are no cross-connections at equipment, re-cycle tanks and cooling towers, brine circulation tanks, etc. | Minor |
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Back flow prevention devices must be applied where applicable including back flow prevention devices on all hose bibs. Installations must comply with EN 1717 and EN 806 and its local implementation. Water for production must not be directly connected to brine or non-potable water or waste systems. At no time are specific recommendations made regarding cross-connection resolution. Instead, refer to a local plumbing agency. Records documenting maintenance and inspection of cross-connection control systems are required.

Improperly installed water pipes and drains that lay directly on the floor would be cited here. Pipes should be installed above and away from the floors and walls to allow cleanability.

Example: *None of the hose bibs in the ice plant have anti-siphon devices installed as required.*

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| 30. | Is the floor drainage adequate where it is subject to flooding type cleaning or where normal operations discharge on the floor? | Minor |
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In no area of the plant should the floors show significant ponding or be continuously flooded. There should be sufficient drains or some process in place to assure that water does not accumulate.

Floor drains shall be functional and properly trapped and be located in all areas where necessary.

Example: *The floor around the wastewater storage tanks had an accumulation of water, creating mud and cleaning problems as workers walk through that area. Adequate drainage is required in all areas of the plant.*

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| 31. | Is sewage disposal adequately installed and maintained? | Minor |
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Drain lines from equipment should be “sanitary drains” and not hard plumbed into the sewer line. The drain line from the equipment should be at least 5 cm above the floor drain or drain receptacle. If the drain line lays down into the drain, the diameter of the drain line from the equipment must be less than ½ the diameter of the floor drains to prevent potential sewage backflow.

Be sure to ask whether or not the plant is on city sewer. If not, ask to see the location of the septic system to observe the grounds in the area to observe any leaks or breaches in the system.

Example: *The drain on the water storage tank is hard plumbed to the city sewer line. An appropriate air gap should be implemented to avoid potential cross contamination in case of sewage back up or gases.*

| | | |
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| 32. | Adequate toilet facilities: sanitary with mechanical ventilation; hand washing facilities; self-closing doors. The doors should not open directly into processing areas unless there are double doors or a positive air flow system. | MAJOR |
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| | | |
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| | Are there hand washing signs? | |
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Toilet facilities shall not open directly into the bagging or packaging room unless there is double door construction.

Self-closing doors and a screened window or exhaust system are required.

Bathrooms should be readily accessible. The plumbing fixtures should be operational, soap and paper towels or electric hand dryers provided, and the toilet facility clean and well-lighted (540 lux). Hand washing reminder signs must be posted.

Bathrooms in the office area that are not connected to the plant and are used by office personnel only do not need to meet these guidelines.

Example: *The hand wash sink in the locker area bathroom was lacking soap and towels during the inspection.*

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| 33. | Rubbish disposal adequate; proper receptacles with covers. | MAJOR |
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Dry paper or plastic waste related to product packaging does not have to be in covered containers. All other waste must be kept in covered containers. Dumpsters, garbage cans, etc. containing putrescible waste located inside and/or outside must have covers that are kept closed.

Example: *The waste containers in the employee lunch room lacked covers as required.*

Equipment and Utensils

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| 34. | Are ice manufacturing, holding, and conveying equipment suitable for intended use, designed and of such materials to be cleanable, and properly maintained? Seams smoothly bonded; adequately maintained. Food grade lubricants used. Equipment includes collection and storage tanks, piping, fittings, ice cans, freezing tanks/covers, filter beds, etc. | Minor |
|-----|---|-------|

This item refers specifically to ice handling equipment. Rusty, pitted or un-cleanable conditions of conveyors, chutes and ice contact equipment is not permissible. Seams and corners must not have cracks or gaps and be of a cleanable construction.

Example: *The conveyor belt between the drier and ice bin is rusty and cannot be easily cleaned and sanitized*

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| 34.-A | Are pipework including gaskets, fittings, and other auxiliary equipment suitable for food production? | Minor |
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Explanation: Whereas for drinking water pipes of galvanized iron, copper or plastic are suitable, all installations in the plant should be made of food grade materials similar to bottled water plants (e.g. stainless steel). Hemp packing in pipe connections is not suitable. There should be enough suitable sampling taps for process step controls. Dead-ends, sacks, sudden diameter reductions, sharp bends, connections with edges, stagnation zones are to be avoided. Inner surfaces must be smooth, easy to clean and disinfectable.

Joining pipes made of different type of metal can cause problems at the joints if the proper precautions are not taken. The metals commonly used for pipes, copper and steel, have a small microvolt electrical potential. When joined directly, the differences in the electric potential of dissimilar metal pipes causes a small current to be produced. This current, when acted upon by water, turns the pipe joint into a small battery. This creates a buildup of corrosion, which soon causes a failure at the pipe joint. You can prevent these effects by using a special dielectric union device. The device electrically separates the two types of pipe. Installation of the device is simple, and will save you in both repair and replacement costs.

Example: *The incoming water pipe from the Municipal source had a 25 cm “dead-end” extension off the main inflow pipe creating a stagnation zone.*

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| 35. | Are product water contact surfaces of nontoxic, non-absorbent durable materials? Can they be adequately cleaned and sanitized? | Minor |
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All the surfaces in the process system that come in contact with the product water before freezing or the finished ice product must be non-absorbent, food grade and cleanable materials.

There should be documentation for certification of the food grade construction of equipment surfaces that are not stainless steel.



The design and construction of the equipment must not prevent easy cleaning and sanitation of the product surfaces.

Example: Metal plate in the rake bin had rust and was in direct contact with ice.

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| 36. | Is the ice product holding/storage area refrigerated? Are there temperature-indicating devices present? Is the space clean; free from objectionable odors, mold? | Minor |
|-----|--|-------|

Storage areas must be clean and made of cleanable construction. The ice must be refrigerated at all times and a thermometer or suitable temperature measuring device must be present in the chilled storage areas.

Example: *There was a strong mildew or mold like odor present in the main ice storage room during the inspection.*

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| 37. | Is the air for water agitation filtered? Are upstream air filters easily removable; air free of oils, dust, rust, excessive moisture, and extraneous materials? | Minor |
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Filtered air must be provided. The filters should be adequate to provide the protection needed. The filters must be maintained or re-placed regularly and should always be in a clean and sanitary condition. The filter systems should not have gaps or holes that would allow unfiltered air to enter the systems

Example: *The air compressor system filters are soaked with oil and have not been regularly changed or maintained as required.*

Processes and Controls

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| 38. | Is there adequate testing procedures in place to identify possible ice contamination? Does the sampling frequency and type of testing conform with EU/national/local regulations? Are records maintained for the testing done internally by the plant and externally by qualified laboratories? | MAJOR |
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Monthly microbiological testing shall comprise of Coliforms (including E.coli), Enterococci and Pseudomonas aeruginosa in 250 mL each. There is zero tolerance for the presence of these microorganisms. Colony count at 22°C and at 37°C must also be tested once a month. The results should not exceed 100/mL at 22°C and 20/mL at 37°C.

Example: *The finished ice microbiological testing has not been performed monthly as required.*

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| 39. | Packaging with product contact nontoxic and sanitary. Are certificates or letters of FDA compliance on file? | MAJOR |
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The ice product bags must meet FDA requirements as food grade and there should be evidence documenting this fact.

Example: *There is no documentation on file certifying the bags used for the ice product are manufactured from food grade material.*

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| 40. | Are sanitary standard operating procedures (SSOPs) on file, including master cleaning and sanitation plan to cover all areas of the plant? SSOPs should indicate exact methods, tools, detergent and sanitizer concentrations etc. for all cleaning and sanitizing processes. (HACCP Prerequisite) | MAJOR |
|-----|--|-------|

Cleaning and sanitation procedures should cover all the areas of the plants, including warehouse, lunchrooms, etc. The procedures should be thorough and specific, indicating type and amount of detergent and sanitizer, tools, exact methods etc.

Example: *Exact cleaning and sanitizing procedures were lacking for the bagging room, lunchroom, and locker room.*

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| 41. | Is there documentation of the performance of all cleaning and sanitizing activities? (HACCP Prerequisite) | MAJOR |
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All cleaning and sanitizing activities that are performed must be documented, either by logging the activity or a checklist system.

Example: *There are no cleaning records on file for the performance of the cleaning of the lunchrooms and rest rooms in the plant.*

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| 42. | Are all ingredient water contact surfaces and finished ice contact surfaces installed in 2006 and after made of food grade or potable water materials? Is there certification on file from the manufacturer to verify food grade compliance? Is there a Raw materials, ingredient and supply control system in place? (HACCP Prerequisite) | MAJOR |
|-----|---|--------------|

This item covers the integrity of the source water contact surfaces and the materials used to make them. Severely cracked gaskets, tanks exhibiting un-cleanable crevasses or ice and water contact surfaces that are not smooth and cleanable will be cited here. Filter equipment and filter beds must be designed to protect the ice from contamination and must be constructed to allow for periodic cleaning and maintenance.

Certifications from suppliers must be on file for plastics and other synthetic materials that the ingredients are nontoxic and in compliance with the national and EU standards for all product contact surfaces such as piping, valves, gaskets, fittings, etc.

If a file has been established with some information, then the intent of this requirement has been met and there would be no citation or point deduction - However, the auditor's report should note what certifications were missing from the file and need to be obtained. Recommend that the certifications on replacement parts and frequently purchased equipment and supplies be renewed every two years if it is not provided per shipment. If the product has the certification directly on it then this would be acceptable (e.g., NSF Listed piping).

Example: *There is no documentation on file certifying the ice storage bins used are manufactured from food grade material.*

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| 43. | Are there written procedures and performance records for flushing and cleaning the ice making equipment and/or product water storage tanks that have been idle for more than five days? Otherwise, the time that equipment can be idle before a complete cleaning procedure is required can be determined by the plant based on water quality testing data and acceptable means of water quality protection. | MAJOR |
|-----|---|--------------|

Bacteria can grow after a period of time in any stagnant or unmoving water. After any storage of 5 days or more in unused equipment, the equipment must be flushed, cleaned and sanitized before being used again for ice production. There shall be a clearly defined procedure for performing this important cleaning sanitation and when this operation is performed, the process must be documented.

If by a series of testing, studies or other validation, a particular plant picks another time frame less stringent than the 5 day rule for sanitizing, it is acceptable as long as the evidence for this decision is documented and scientifically rational.

Example: *A water storage tank being filled at the time of audit had no record of sanitation after it was idle for 6 days.*

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| 44. | Do water treatment methods accomplish intended purpose? Are records maintained of type and date of treatment; equipment and physical inspections; condition found, performance, and effectiveness noted? Methods used: Reverse Osmosis; Ion Exchange; Mechanical Filtration; Carbon Filtration; Ultraviolet; Other | Minor |
|-----|---|-------|

There is no specific requirement that the water used for ice be subjected to any specific treatment as long as there is adequate assurance the water is potable. The producer may choose a variety of treatments to adjust the water quality or nature to suit his product. Whatever treatment the producer chooses, there must be monitoring and evidence that the treatment is effective. The maintenance of the equipment and all process monitoring must be adequate and documented.

Example: *There is no routine maintenance of the water treatment system. The carbon filter and R.O. system must be monitored daily in use to assure the processes are effective. All routine monitoring and maintenance must be documented.*

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| 45. | Is there a master maintenance plan for both facilities and equipment? (HACCP Prerequisite) | MAJOR |
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There will be a master plan that indicates schedules and frequency of routine maintenance of all equipment in the plant.

There shall also be documentation of special maintenance or emergency maintenance projects that are performed.

The documentation can be in a written log form, on a computer program or on a handwritten schedule/form. There is no specific format for the maintenance plan, but it must be reasonable and easily understood by the auditor.

Example: No Master Plan was available showing schedule or frequency of the pre-treatment filter changes.

Example: The plant had no record of any special or emergency maintenance even though the plant manager identified the auger had recently broken on left unit.

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| 46. | Potable water used for washing or rinsing discharged as liquid waste; no reuse. | Minor |
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In some areas, if allowed and permitted, non-potable water may be used for toilets, fire systems, refrigeration equipment, boilers etc. If non-potable water is present in the plant, all related plumbing must be clearly marked. Non-potable water should not be physically connected to potable water or water to be used for product.

Example: *The wastewater from the conveyor sanitizing process is recycled to use for cleaning and sanitizing the bins. Water for washing and sanitizing should only be utilized once and drained to waste.*

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| 47. | Are processing equipment, utensils and containers kept adequately cleaned and sanitized? Equipment includes: icemakers, conveyors, water treatment devices and other related equipment. | Minor |
|-----|---|-------|

The equipment must be cleaned and sanitized as needed to be in a clean condition at all times. Records, by log or checklist, of cleaning and sanitation are required. SSOPs (standard sanitary operating procedures) should be available for each cleaning and sanitizing activity if a checklist system is used.

Example: *The grinders for the packaged ice product were not in use at the time of the inspection. They exhibited an accumulation of dirt and a slime material. This equipment should be kept clean and sanitized at all times.*

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| 48. | Is the product ingredient water manufactured, processed, stored to prevent contamination? Are water storage tanks covered? Is the ice product manufactured, processed and packaged to prevent contamination? | Minor |
|-----|--|-------|

Storage of ice before and after packaging must be such that there is not a possibility of contamination. The storage area must be free of conditions that might lead to contamination.

Ingredient water stored in tanks must be covered to protect from foreign objects and contamination.

Example: *Storage tank #1 contained ingredient water with the access cover on top in the open position.*

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| 49. | Is there a current Certificate of Approval of the source used for product operations water supply on file? Are these records retained for two years? | MAJOR |
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Records retention issues and lack of records for the source approval will be cited under this item. All products related records should be kept for a minimum of two years.

Example: *Plant uses well on property for operations water but had no permit from any regulatory agency nor any test report showing conformance to EU and national standards within past 18 months.*

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| 50. | Are the individual product packages identified with a production code? | MAJOR |
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Each bag or packaged final ice product shall be identified by a production code. The code identifies the particular batch or segment of continuous run of the product (normally one calendar day). It can be the date or lot or other identifier that will allow the plant to trace their product. This information should be recorded at a reasonable level, and maintained on file at the plant.



Example: The finished product bags for the 2kg cube ice do not have any type of production code visible on the bag.

Warehousing and Distribution

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| 51. | Is the ice protected against microbiological, physical, and chemical contamination during storage, transportation, and distribution? | MAJOR |
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All areas where ice is stored shall be kept clean and sanitary. Ice should not be stored near chemicals or agents that may contaminate or impart off tastes into the product.

Ice product must be in a tightly sealed bag or container. The label must show product name, net weight, company and contact information and otherwise meet State or local labeling requirements.

Example: Cold Storage room had 5 open tears in walls that could harbor pests or bacteria.

Example: Three 5-gallon bottles of bleach were observed near the loading dock where ice was being loaded into trucks.

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| 52. | Are Ice transport vehicles of cleanable construction; clean and in good repair? Are unpackaged ice transport vehicles fully enclosed with interior surfaces cleaned prior to each loading? | Minor |
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Ice shall be kept free from dirt and dust while in transportation. Compartments for ice transportation shall be covered, be in good repair and of cleanable condition and be refrigerated to keep ice frozen while in transit.

Example: *The #4 truck was loading packaged ice finished product during the inspection. The floors and walls of the interior of the truck were not clean and there was a heavy musty, moldy smell prevalent inside the storage bays.*

Program Supervision

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| 53. | Is there a written recall procedure established? | Major |
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The production and distribution records must be sufficient to ensure thorough recall. A written recall plan must be available. If it is not, cite a deficiency. A list of names is also not sufficient. Note: Refer to the EPIA manual for sample format.

In the absence of traceability by lot or production code to individual customers, a written policy of 100% recall without regard to lot or production code is deemed acceptable.

These are the basics for a recall plan. The recall plan is covered in detail in the EPIA guidelines.

- 1) The recall plan must be written down.
- 2) It must include the name of the person who is in charge, and include a list of recall contacts with phone numbers.
- 3) It must include the classes of recalls with definitions.
- 4) It must define strategies for each class of recall.
- 5) Depth of recall for each category.
- 6) Public warning requirements.
- 7) Level of effectiveness checks for each class. How is the plant going to go back and determine response from wholesalers and retailers? Were records maintained by all parties involved in the recall?

Example: *There is no list of contacts with phone numbers available in the company recall plan.*

| | | |
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| 54. | Are mock recalls performed annually? | Minor |
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A mock recall shall be performed at least annually. It is not necessary to have the product actually returned, but it is important to measure and document how much of the product could be traced and found to determine potential effectiveness in the event of a real recall.

Example: No mock recall was performed in this facility during the previous calendar year as required. The plant manager indicated doing Mock Recalls was not something the plant had ever done.

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| 55. | Are records of in-house self audits/inspections available? These are internal audits performed by plant management or staff, separate and distinct from by government, military, vendors etc. (Minimum once per year). | MAJOR |
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An in house audit is required using EPIA criteria. Audit results and any corrective action should be documented. **Records of all required audits, in-house and external, should be maintained for two (2) years.**

An audit from a regulator or the military etc. does not suffice as a "self-audit" The idea of a self audit is to have management and personnel in the plant perform a self examination and become familiar with the sanitation and audit expectations.



Example: *There is no record of an in house audit being performed in this facility in the past year.*

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| 56. | Are the MSDS sheets or hazardous products handling instructions posted in appropriate language? | Minor |
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The MSDS sheets shall be posted where accessible by all employees. MSDS sheets are required to be in the national language of the country. The employer may maintain copies in other languages as well.

Example: The MSDS sheet for Ammonia is missing.

Security

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| 57. | For plants selling product in the US, to a US Company with a Facility located in Europe, or to a US government facility - Is the facility registered with the FDA under the Public Health Security and Bioterrorism Preparedness and Response Act of 2002? Has the facility obtained their registration number from the FDA? | MAJOR |
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Food manufacturing facilities should be registered. Instructions on the process can be found at the FDA website:

<http://www.fda.gov/Food/FoodDefense/Bioterrorism/FoodFacilityRegistration/default.htm>

Example: Plant moved into new facility four months ago but has not re-registered or changed the address with US FDA plant registration site.

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| 58. | Is access to the plant's premises and water source limited, i.e. alarm system, fences, locked doors, badges, time cards, sign-in rosters and guards? | Minor |
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The expectation is that there is a policy in place and that this is practiced. Easy and casual access to the facility should be limited.

Example: Individuals were observed walking in from the front office of the plant into the warehouse area without any type of ID or escort.

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| 59. | Is access to the plant's production areas limited, i.e. uniforms, keys, escort visitors, and supervisory monitoring? | Minor |
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There should be a contractor and visitor policy. It may include a sign in sheet and a short statement of basic GMPs and policies to be observed while in the facility.

Example: Noted sign in sheet at the front office but it was not being used. Auditor was not made to sign before entering the production area.

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| 60. | Are Employees Trained to Report Suspicious Activity? | MAJOR |
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As a part of routine employee training programs, employees shall be taught to be observant of suspicious or unusual activity in or outside the plant. Suspicious behavior would include someone who without an identifiable cause stays unusually late after the end of their shift, arrive unusually early, ask questions on sensitive subjects, bring cameras to work, access areas of the facility outside the area of their responsibility, etc. Training should also include the procedure of how and who to report the suspicious activity.

Example: One employee has been working at the plant for 6 months but has not received training.



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| 61. | Is there a current Certificate of Product Liability Insurance on file? | MAJOR |
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A current certificate or declarations page for Product liability Insurance must be on file and readily available. There is no minimum amount of coverage to verify.

Example: Certificate on file is expired.

PIQCS – HACCP Standards

In the EU, requirements for the hygiene of food is laid down in **Regulation (EC) 852/2004**. This establishes general hygiene procedures for food at all stages of the production process and requires operators to put into place permanent procedures (PRPs, GMPs, SSOPs) that are based on the HACCP methodology.

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| 1H | Preliminary Tasks: Is there a list of the HACCP team members and their responsibilities? | MAJOR |
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The facility must have a HACCP team in place. The main function of the team is to initially construct and implement the HACCP system, then routinely meet to discuss the HACCP plan and any changes that may have occurred or may be occurring in the future. The HACCP plan will then need to be changed or adjusted to meet the changes.

There should be a list of all the members of the team. In a small facility, this may consist of the owner, spouse and a part time worker. In a large corporate-owned facility, the team may include personnel from different departments.

As part of the preliminary step, the HACCP team should establish the scope of the HACCP plan. The HACCP plan must identify what products and processes it covers. At what point in the process does the HACCP system start and at what point does it end?

Example: Three of the four people listed on the HACCP team are no longer with the company.

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| 2H | Is there a written description of the product(s)? | MAJOR |
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The HACCP plan must list all products for which the plan was written.

A full description of the product should be written, including relevant safety information such as: raw materials and ingredients, processing, packaging, storage conditions, and methods and conditions of distribution. This information is used to identify all potential hazards associated with the products or processes covered by the HACCP plan.

The intended end users of the product should be identified. It can be as simple as stating “general public” or identifying the specific or sensitive population to which the product is marketed to.

Example: Block ice is produced but this product is not included in the list of products.

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| 3H | Is there a process flow diagram covering all the steps in the operation? | MAJOR |
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The flow diagram must outline each step in the facility's process covered by the HACCP plan. There is no specific format necessary. The important thing is that all process steps are covered and the flow chart is correct and current.

When the flow diagram is completed, the HACCP team must walk through the facility and observe the processes to confirm that all the steps are identified and accurately described by the flow diagram.

Example: The plan flow chart only shows two 2 kg bag ice and does not include block ice or bulk ice production.

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| 4H | Is the HACCP plan signed by the HACCP coordinator and the facility manager? | Minor |
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The HACCP coordinator has the responsibility of developing, organizing, and managing the HACCP program.

Example: The signature on the plan is by the plant manager who is no longer with the company.

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| 5H | Principle 1: Are all potential biological, chemical and physical food safety hazards associated with each step in the process flow identified and listed? | MAJOR |
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The HACCP team must document all hazards that may be reasonably expected to occur at each step in the process.

Once all of the hazards are identified and documented, the team must identify which hazards must be prevented, eliminated, or reduced to acceptable levels to ensure the production of safe food. These hazards are deemed significant and must be addressed by the plan.

Example: Not all steps identified in the flow diagram are addressed in the hazard analysis. Specific chemical, biological and physical hazards are not defined for each step. These are just referred to as "Chemical, Physical and Biological".

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| 6H | Are preventative measures for each hazard determined? | MAJOR |
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Specific control measures for each hazard must be identified. If there are no controls at this point, it must be indicated and identified. If no control measures can be identified for a hazard, the product or process must be changed to provide control measures.

Control measures may include temperature controls or visual inspections.

Example: Ice Making Equipment: Preventative measure at this step is to periodically flush icemaker contact surfaces and pans with sanitizer. However, the hazards listed were "Biological, Chemical, Physical" instead of being specific (e.g. Total Coliform) so it cannot be determined if the preventative measure indicated would be appropriate.

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| 7H | Is there supporting documentation for the selection of hazards and preventative measures? | MAJOR |
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There must be a rationale, evidence, history, or scientific based reason why hazards are or are not included in the HACCP plan.

Example: There is no documentation available that the UV light provides an effective kill at the dosage being followed.

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| 8H | Principle 2: Are CCPs identified from the list of hazards? Are CCPs limited to only those specific steps in the process where loss of control will result in a risk to the safety of the product? | MAJOR |
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Each control measure must be analyzed to determine whether that control eliminates, prevents or reduces the hazard to an acceptable level. If it doesn't meet this definition, it is not a CCP.

All significant hazards identified by the HACCP team during the hazard analysis must be addressed. Every significant hazard identified must have at least one CCP assigned to it. The CCP is the control.

Example: The water softener as identified as a CCP. However, the water subsequently passes through a 1 micron absolute filter and UV. The last step where the hazard is eliminated, prevented, or reduced to an acceptable level is typically the CCP.

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| 9H | Principle 3: Are critical limits or tolerance levels established for each CCP to prevent, eliminate or reduce the occurrence of the food safety hazard to an acceptable level? Are the limits measurable? | MAJOR |
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For each CCP, a critical limit must be defined. A critical limit is a measurement or observation that separates what is acceptable from what is not acceptable. The critical limit must be effective at keeping the hazard under control.

Critical limits must be measurable. They can be quantitative (numerical) or qualitative (descriptive). Critical limits are set in terms of maximum, minimum, or both.

Example: The UV system is identified as the CCP. However, there is no critical limit established for the step.

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| 10H | Principle 4: Is there a documented monitoring procedure in place to include what CCP will be monitored, what critical limits and control measures will be monitored, how they will be monitored, the frequency, what to do when limits are out of control, and who will be monitoring? | MAJOR |
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Monitoring is the scheduled measurement or observation of a CCP relative to its critical limits. The monitoring procedures should be able to detect loss of control at the CCP.

Monitoring should be able to provide information in time to make adjustments to ensure control of the process to prevent violation of the critical limits.

Monitoring can be continuous or at scheduled intervals. If it is not continuous, the frequency of monitoring must be sufficient to guarantee that CCP is under control. It must be scheduled and not done on a random basis.

Each CCP must have a written corrective action procedure to follow if the CCP limits are breached. The corrective action should include disposition of the affected product, root cause analysis, and correction of the problem to assure it will not happen again.

The person designated to perform the monitoring and recordkeeping must be identified.

Example: The CCP identified by the plant is ozonation of water prior to freezing. However, there are no procedures to monitor the CCP. There is no plan on what action is to be taken if the ozone generator stops working.

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| 11H | Principle 5: Are corrective actions documented when a CCP fails to meet a critical limit? | MAJOR |
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All deviations from critical limits and the corresponding corrective action must be documented.

Example: On Sept. 30 the monitoring record shows ozone was above the maximum limit. However, there is no record to show what was done to correct the problem.

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| 12H | Does the corrective action identify, correct, and eliminate the cause of the critical limit deviation? | MAJOR |
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The corrective action put in place must correspond to the critical limit deviation. The goal is to put the process back in control.

Example: On Oct. 1 the monitoring record shows ozone was above the maximum limit. The record shows that the line was stopped while the ozone equipment was fixed. However, it does not show the disposition of the affected products.

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| 13H | Principle 6: At a minimum, is there an annual review to determine if the information and data used to control food safety hazards is valid and that the plan is being followed? | MAJOR |
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The HACCP team must, at a minimum, conduct annual verification and validation of the HACCP plan.

Verification is an activity designed to make sure that the facility is using the HACCP plan. This is through review of systems and records, direct observation of monitoring and recording of CCPs, review of product dispositions, and confirmation that CCPs are kept under control. It also includes equipment calibration and sample analysis. Verification is a systematic, periodic check of the entire operation to ensure that the plan is implemented and properly working.

Validation is an activity designed to make sure that the HACCP system will work to address all of the known hazards. It is intended to confirm that the HACCP plan, if implemented as designed, will be effective in controlling significant hazards. It includes review of hazard analysis, review of HACCP records and documentation, and on-site audits conducted by the HACCP team or by external auditors.

Example: The last time the HACCP plan was reviewed was three years ago.

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| 14H | Principle 7: Is the HACCP plan documented and customized for the facility presenting the plan? | MAJOR |
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The HACCP plan should be designed specific to the facility using it. No two facilities will necessarily have identical HACCP plans.

Example: The HACCP plan references treatment by de-ionization though the plant does not use that technology at this location. There are also two ice producing units shown on flow chart even though this facility has only one.

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| 15H | Are there records of CCP monitoring results, corrective actions if necessary, with dates and signatures or initials of operator/reviewer? Are records retained for at least one year? | Minor |
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A system for record keeping must be established. Documentation provides evidence of compliance to the established requirements. All HACCP activities must be documented, filed and retained for at least one year.

Example: The monitoring records are not signed by the reviewer.

Definitions Applicable to Ice Manufacturing

Definitions Applicable To Ice Manufacturing

(Includes definitions of some acronyms)

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| Aerobic bacteria | Bacteria that require oxygen to survive and multiply. |
| Approved | Acceptable to local, state, federal or EU health authorities based on their determination as to conformance with appropriate standards of good public health practice. |
| Aquifer | A water-bearing underground layer of rock or sand. |
| Biological Hazards | Parasites, bacteria, moulds, or viruses that have the ability to cause illness or death. |
| Carbon filtration | A method of removing organic compounds and chlorine by-products from water using carbon's natural ability to absorb these chemicals. The technique is often used to remove objectionable taste and odor from water. |
| Carrier | An operator of a conveyance such as a truck, railcar, vessel or aircraft used to transport food products. |
| CCP Decision Tree | A sequence of questions to determine whether a control point is a CCP. |
| CCP | Critical Control Point |
| Chemical hazards | Chemical products (e.g. agricultural chemicals, cleaning agents, food additives, waxes and coatings, heavy metals, etc.) that have the potential to cause illness or death. |
| Chlorination | The disinfection of water using chlorine or chlorine compounds. |
| Cleaning | The removal of soil, food residue, dirt, grease or other objectionable matter. |
| Cold storage | The area of a distributor's facility where perishable food products are stored at freezing (<18F or -8C or colder) temperatures. |
| Coliform | A specific class of bacteria found in the intestines of warm-blooded animals. The presence of coliform in water indicates that the water is polluted and may contain disease-causing (pathogenic) microorganisms. |
| Contaminant | Any biological or chemical agent, foreign matter, or other substance not intentionally added to food that may compromise food safety or suitability. |
| Contamination | The introduction or occurrence of a contaminant in food or food environment. |

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| Continuous Monitoring | Uninterrupted collection and recording of data such as temperature on a strip chart. |
| Control | To prevent, eliminate, or reduce. (a) To manage the conditions of an operation to maintain compliance with established criteria. (b) The state wherein correct procedures are being followed and criteria are being met. |
| Control measure | Any action or activity that is used to prevent, reduce to acceptable levels, or eliminate a hazard. |
| Control Point | Any point, step, or procedure at which biological, physical, or chemical factors can be controlled. |
| Corrective action | The actions taken when the results of monitoring a critical control point indicate a loss of control. Any action taken to bring a process into control. |
| Criterion | A requirement on which a judgment or decision can be based. |
| Critical control point | A point, step, or procedure in a food process at which a control measure can be applied and at which control is essential to reduce an identified food hazard to an acceptable level. |
| Critical Defect | A deviation at a CCP, which may result in a hazard. |
| Critical limit | The maximum or minimum value to which a physical, biological, or chemical parameter must be controlled at a critical control point to prevent, eliminate, or reduce to an acceptable level the occurrence of the identified food hazard. |
| Cross-contamination | The unacceptable migration or transfer of biological, chemical or physical hazards from one product to another or from a person or object to a product due to a variety of situations including improper storage, handling, sanitation or transporting. |
| Deionization | A method for removing inorganic impurities from water by using the ionic charge present on inorganic substances. |
| Demineralization | The removal of dissolved mineral salts from water. |
| Deviation | Failure to meet the critical limits or other specified requirements for a process or critical factor. |
| Disinfection | The treatment of water to inactivate, destroy and/or remove bacteria and other microorganisms from it. Chlorine, ultraviolet light and ozone are often used for this purpose. |

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| Disinfection by-product | A compound formed by the reaction of a disinfectant with other substances in the water, such as chlorine with organic material. |
| DSD | Direct store delivery. |
| Easily Cleanable | Readily accessible and of such material and finish, and so fabricated, that residue may be completely removed by normal cleaning methods. |
| EFSA | European Food Safety Authority. The EU risk assessment body for food safety. |
| EPIA | European Packaged Ice Association |
| Equipment | All grinders, crushers, chippers, ice makers, shavers, scorers, saws, cubers, can fillers, drop tubes, needles, core sucking devices, conveyors, rake bins, augers, baggers, and similar items used in ice plants. |
| Establishment | Any building or area in which food is handled and the surroundings under the control of the same management. |
| EU | European Union |
| Extraneous hazardous material | Foreign matter that is not intended to be in a food. This could include plastic, glass, wood and metal. |
| FDA | U. S. Food and Drug Administration |
| Filtration | The process of removing particulate matter from water by passing it through a porous medium. |
| Flow diagram | Systematic representation of the sequence of steps or operations used in receiving, storage, assembly and delivery of a product. |
| Fluoridation | A water treatment involving the addition of fluoride to drinking water to help prevent dental cavities. |
| Food handler | Any person who directly handles packaged or unpackaged food, food equipment and utensils, or food contact surfaces and is therefore expected to comply with food hygiene requirements. |
| Food hazard | Any biological, chemical, or physical agent that is reasonably likely to cause illness or injury in the absence of its control. |
| Food hygiene | All conditions and measures necessary to ensure the safety and suitability of food at all stages of the food chain. |
| Food-contact | Surfaces that are in direct contact with unpackaged food. |

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| surfaces | This also includes any surface that might drip or drain onto a surface that directly contacts food products during normal operations. |
| Food safety | Assurance that food will not cause harm to the consumer when it is prepared and/or eaten according to its intended use. |
| Food suitability | Assurance that food is acceptable for human consumption according to its intended use. |
| FSEP | Food Safety Enhancement Program |
| Groundwater | Water from an underground aquifer that may reach the surface through a spring, deep well or artesian well. |
| HACCP | Hazard Analysis Critical Control Point system. A system that identifies, evaluates, and reduces the hazards that are significant for food safety. |
| HACCP Plan | The written document that is based upon the principles of HACCP and delineates the procedures to be followed. |
| HACCP Plan Reevaluation | One aspect of verification in which a documented periodic review of the HACCP plan is done by the HACCP team with the purpose of modifying the HACCP plan as necessary. |
| HACCP System | The result of the implementation of the HACCP plan. |
| HACCP Team | The group of people who are responsible for developing, implementing, and maintaining the HACCP system. |
| Hazard | A biological, chemical or physical agent in, or condition of, food with the potential to cause an adverse health effect and cause a food to be unsafe for consumption. |
| Hazard Analysis | The process of collecting and evaluating information on hazards associated with the food under consideration to decide which are significant and must be addressed in the HACCP plan. |
| Ice | The product, in any form, obtained as a result of freezing water by mechanical or artificial means. |
| Ice Plant | Any commercial establishment or production area within any type of establishment, together with the necessary apparatus, in which packaged ice is manufactured or processed, packaged, distributed, or offered for sale for human consumption. |
| IPIA | International Packaged Ice Association |
| Ionization | The splitting (dissociation) of molecules into negatively and |

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| | positively charged ions. |
| Location identifier | A statement on the label of a bottled water product that indicates the location of the water's source. |
| Microfiltration | A process for filtering water by forcing it through a screen with very small pores (0.1 to 2 microns in diameter). |
| Microorganism | Organisms too small to be seen by the naked eye that include yeast, moulds, bacteria, and viruses. |
| Milligrams per litre (mg/L) | A measure of the concentration of a dissolved substance. For practical purposes, this unit is equal to parts per million (ppm). |
| Monitor | To conduct a planned sequence of observations or measurements to assess whether a process, point, or procedure is under control and to produce an accurate record for future use in verification. |
| MSDS | Material Safety Data Sheet |
| Normal atmospheric conditions | The prevailing atmospheric conditions in terms of temperature, atmospheric pressure and the chemical composition of the air. |
| NSF | NSF International |
| Ozonation | Adding ozone to water to disinfect it or to remove objectionable taste or odor. |
| Parasite | An animal or plant living in or on an organism of another species (its host), obtaining from it part or all of its organic nutrient, and commonly exhibiting some degree of adaptive structural modification. The host is typically, but not always, harmed by the presence of the parasite; it never benefits from this presence. |
| Pathogen | A disease-causing organism. |
| Person | An individual, or a firm, partnership, company, corporation, trusted, association, or any public or private entity. |
| Personnel | Any person working in an ice plant, or ice production area in any commercial establishment, who transports ice or ice containers, who engages in ice manufacturing, processing, packaging, storage, or distribution, or who comes in contact with any ice equipment. |
| pH | A measure of the acidity or alkalinity of a solution. |
| Physical hazard | Physical components (e.g. wood or glass chip, metal piece, |

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| | etc.) and foreign matter that can cause illness or injury. |
| PIQCS | Packaged Ice Quality Control Standards |
| Potable water | Water that meets European Union Drinking Water Guidelines or the requirements of a specific jurisdiction. |
| Prerequisite program | Refers to the universal steps, or procedures including Good Manufacturing Practices (GMPs) and Good Distribution Practices (GDPs) that control the operational conditions within an establishment that allow for favorable environmental conditions for the production, processing, transportation and distribution of safe food. |
| Preventive Measure | Physical, chemical, or other factors that can be used to control an identified health hazard. |
| Processing | Grinding, crushing, flaking, cubing, or any other operation that changes the physical characteristics of ice or packaged ice for human consumption. |
| Product Area | The production area and all other areas where the product, ingredients, or packaging materials are handled or stored, and shall include any area related to the manufacturing, packaging, handling, and storage of ice intended for sale for human consumption. |
| QC | Quality Control |
| Radionuclide | Any man-made or natural element that emits radiation. |
| Random Checks | Observations or measurements that are performed to supplement the scheduled evaluations required by the HACCP plan. |
| Ready-to-eat | Foods not requiring any further preparation before consumption. |
| Recall | Shipped product that comes back to the warehouse. The recovery of harmful or substandard product. All food recalls are registered with the EFSA and, depending on whether the recall is a Class I, II or III level, formal verification activities may be required. |
| Receiving | The acceptance of product from a carrier at the loading/unloading dock/area. |
| Regulatory Authority | The official enforcement agency responsible for ice plant sanitation. |
| Reverse osmosis | A process for filtering water by forcing it to flow under pressure through a semi-permeable membrane. The membrane allows |

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| | the water to pass through, but not particulate, dissolved solids or microorganisms. |
| Risk | An estimate of the likely occurrence of a hazard. |
| RO | Reverse osmosis |
| Sanitation | A treatment process which destroys most microorganisms, including all pathogens (i.e., effective bactericidal treatment by a process that provides enough accumulative heat or concentration of chemicals for enough time to reduce the bacteria count, including pathogens, to a safe level on cleaned food contact surfaces of utensils and equipment.) |
| Sanitize | To treat by a process that destroys most microorganisms, including all pathogens. |
| SARS | Severe Acute Respiratory Syndrome |
| Sensitive Ingredient | An ingredient known to have been associated with a hazard and for which there is reason for concern. |
| Severity | The seriousness of a hazard. |
| Single Service Items | Those items, such as packaging materials, which are intended by the manufacturer and generally recognized by the public as being for one usage only, then to be discarded. |
| SOP | Standard operating procedure |
| Spring water | Groundwater that may rise to the surface through a natural opening in the earth or rock. |
| Step | A point, procedure, operation or stage in the food chain including raw materials, from primary production to final consumption. |
| Surface water | Water from rain and snow that collects in above-ground reservoirs, lakes, rivers, icebergs and glaciers. |
| Target Levels | Criteria that are more stringent than critical limits and which are used by an operator to reduce the risk of a deviation. |
| TDS | Total dissolved solids |
| THM | Trihalomethanes (a class of disinfection by-product chemicals including chloroform) |
| Total Dissolved Solids | The total weight of all solids (organic and inorganic) dissolved in water, in parts per million (ppm) or milligrams per liter (mg/L) of water. |
| Ultrafiltration | A process for filtering water by forcing it through a screen with |

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| | very small pores. Ultrafiltration falls between reverse osmosis and microfiltration in terms of the size of particles removed, with Ultrafiltration removing particles in the 0.002 to 0.1 micron range. |
| Ultraviolet radiation | A water treatment that involves exposing water to intense ultraviolet light to kill bacteria and other microorganisms. |
| UPC | Universal Product Code |
| USDA | United States Department of Agriculture |
| USP | United States Pharmacopeia |
| Utensil | Any multi-use cans, buckets, tubs, pails, covers, containers, tongs, picks, shovels, scoops, and similar items used in the manufacture, handling, and transport of ice. |
| UV | Ultraviolet radiation |
| Validation | Obtaining confirmation that the elements of the Food Safety System are complete and effective in controlling biological, chemical and physical hazards. |
| Verification | The application of methods, procedures, tests or other evaluations, in addition to monitoring conformance and effectiveness of the Food Safety System to determine if the HACCP system is in compliance with the HACCP plan and/or whether the HACCP plan needs modification and revalidation. |
| Water resource | A type of specific water supply—i.e., spring, lake, river, glacier, aquifer etc. |
| Water source | The geographical location where the water in a bottled water product was obtained. |
| Well water | Groundwater that is reached by drilling or boring and is then pumped to the surface. |
| WHMIS | Workplace Hazardous Materials Information System. |
| WHO | World Health Organization |

Frequently Asked Questions

Frequently Asked Questions

What is a passing grade for the PIQCS plant audit?

The plant must pass all the Major audit items. Upon completion of your audit, NSF will electronically forward the results to the Facility and to EPIA headquarters. EPIA will review your audit results and email you that you successfully passed or, if necessary, a corrective action is needed.

What do I do if I do not make the passing grade?

If one or more of the major audit items were not passed (i.e., corrective actions are necessary), you will be asked to complete Corrective Actions on the failed items within 30 days to NSF. (The email you receive after the audit will provide a PDF copy of any non-conformances and instructions on how to submit the Corrective Actions electronically.) If a correction is going to take more than 30 days, the plan should still be submitted along with information on when the ultimate resolution will be complete. Once EPIA receives notice from NSF that the item(s) has been corrected along with requested supporting documentation, you will be accredited. Re-audits are not necessary to verify corrective actions.

Assistance and advice will be available from not only your inspector, but from EPIA if necessary to make the needed changes for accreditation. EPIA wants all members to pass and will work on a case-by-case with members to help in understanding the requirements. If you need assistance in passing the audit, please contact EPIA headquarters for more information.

Where do I find a laboratory that will perform the necessary tests?

NSF and its cooperating labs (list available from NSF) can provide the necessary tests. As well, EPIA offer assistance in helping to locate a testing company(s) that provide efficient courier service for ice pickup and return.

How do I tailor the PIQCS program to serve as my documented GMP's?

One must first read the PIQCS Manual thoroughly and all Prerequisite Program guidelines. Secondly, make notations regarding any processes, controls, etc. that need to be added (not deleted) to make the document even more suitable to the operation. A logical step-by-step description of your process (flow chart) as well as cleaning and sanitizing descriptions (Sanitation Standard Operating Procedures) should be added and/or customized to complete the document for any operation. Of course, if any part of the PIQCS program is not being implemented or followed, then changes to your operation are in order to accomplish total PIQCS compliance.

What else will I need to develop in the future?

As part of your Food Safety plan and as a requirement by the European Union, you are required to have a HACCP plan. Part of the PIQCS audit evaluates the Plan to make sure all the critical elements are present.

A minimum of once a year, or whenever you make a change to your food safety process, you should update your HACCP Plan including your Prerequisite



Programs, Good Manufacturing Practices and Standard Operating Procedures to reflect the way you are operating the plant.

I am inspected now by my local/state/national health department. Is this sufficient to meet EPIA accreditation?

No. If there is a specific situation that may warrant an exception, please contact EPIA headquarters.

If I meet the PIQCS as outlined, will I pass the audit?

Yes! Remember, you must pass all the Majors to be accredited

Must I have a documented recall plan to pass the audit?

Yes. The EPIA generic recall plan is included in the PIQCS Manual. You can create a Recall plan by starting with the generic model and modifying it to reflect your business, local market and any applicable regulations.

I am currently being inspected because I have a government contract. Will this meet the requirements for EPIA membership?

Contact EPIA to discuss your circumstances. There are several options available for a member to meet the requirements of EPIA. All these options should include the provisions of the PIQCS audit. Acceptable alternatives include a GFSI Certification (BRC, SQF, IFS, FSSC22000) or NSF Product Certification.

Audits conducted by governments or customers generally do not qualify since they are measuring compliance with EPIA PIQCS quality standards.

If I am currently NSF certified do I need to be PIQCS audited?

No, NSF Packaged Ice certification suffices for PIQCS accreditation.

Who do I contact for answers to other questions?

Contact MARYSE PRIOR, Correspondence Secretary for EPIA, at +0033616225588 - Skype: galinettou1. If she can't answer your question, she will get the answer from someone else for you.

Prerequisite Programs

PIQCS Prerequisite Programs

Prerequisite Programs are increasingly used to support the implementation of food safety control programs, including PIQC-Plus and HACCP, in food processing. They are not a part of the HACCP Plan, but they are essential in establishing the basic “frame work” in the task of developing simple, effective food safety control systems. Prerequisite programs are defined requirements a company determines are necessary to control the manufacturing process that will help that company attain their quality control objectives and meet their food safety requirements. Prerequisite programs are used in establishing that all aspects for the safe manufacturing of ice have been put in place prior to the start of and during the processing operation. EPIA’s PIQCS prerequisites focus on providing members with a better understanding of how to develop and implement food safety management programs including: Good Manufacturing Practices (GMPs), Sanitation Standard Operating Procedures (SSOPs), as well as general hygiene and sanitation practices. It’s the beginning of our process leading to PIQCS-Plus certification. If Prerequisite Programs are adequately established and maintained, there will be good process control for ice manufacturing.

PERSONNEL

Good Manufacturing Practices (Quality Control Standards)

- ❑ No personnel shall be allowed the production or packaging areas if ill, affected with sores or open wounds or affected by disease in a communicable form that could in any way contaminated the product or be transmitted to other individuals.
- ❑ Personnel shall wear clean outer garments, maintain a high degree of personal cleanliness including hands and fingernails, and conform to hygienic practices to the extent necessary to prevent contamination of the product.
- ❑ No tobacco, spitting, eating, drinking, medications, chemicals shall be allowed in the production and packaging areas.
- ❑ While in production areas, personnel shall wear hairnets, caps, or other effective hair restraints.
- ❑ Personnel in direct contact with ice or ice contact surfaces shall not put hands or fingers in mouth, nose, hair, eyes, or any other part of the body so as to prevent potential contamination.
- ❑ Personnel shall be provided with adequate facilities outside the production and packaging areas for the storage of clothing and other personal belongings, and for the consumption of food.
- ❑ Personnel shall wash their hands thoroughly in an adequate hand washing facility before starting work, after each absence from the workstation, after visiting the toilet room, after performing cleaning duties, handling a handkerchief or tissue, smoking, and any other event where hands can become contaminated. Disposable latex or plastic gloves can be used.

Personnel Training Guidelines

Training is an essential prerequisite to prepare the work force for strict process control. The steps used in prerequisite training are as follows:

1. Each new employee must receive entry-level training on the following subjects before being assigned to work in the ice manufacturing process:
 - Introduction to Food Safety
 - Responsibilities of individuals making and handling ice
 - Good Manufacturing Practices and Personal Hygiene (see PIQCS Quality Control Standards.)
 - Explanation of the Prerequisites
 - Introduction to the HACCP System
2. All employees are to be given a comprehensive refresher course at least once per year on the topics listed under (1) above. Retraining or on-the-job training is to be given for the specific job or area involved whenever a significant quality or food safety deviation or failure occurs.
3. Training sessions for specific corrective actions must be customized from the above topics. You can customize training sessions by job function, types of problems, or specific sections within your PIQCS Manual (i.e., HACCP).

All employees must sign a record indicating their attendance and type of training received.

PIQCS Requirements for Operational Sanitation in Handling Ice

The actions of processing personnel directly affect the control of sanitation for ice quality and safety. You should:

- Conduct an inspection of employee hygienic practices. Each employee should be given a copy of the Employee Sanitation Rules.
- Conduct a daily pre-operational sanitation inspection of the employee facilities, each process step, and the storage areas and the delivery vehicles. Record the results on a “check list” report, sign and date.
- Conduct a daily operational sanitation inspection of the facilities and equipment and employee.
- An internal audit, using the EPIA PIQCS checklist should be conducted at least semi-annually. Such an audit will provide excellent guidance in meeting EPIA accreditation requirements and improving quality which will lead to improved customer satisfaction.

Sample - Employee Sanitation Rules

These rules must be followed or disciplinary action will be taken:

1. All employees are required to follow good hygiene practices when working in food manufacturing.
2. Any employee who has or appears to have an infectious disease, open lesions (such as boils or sores on infected wounds), or other illness which could result in product contamination, must be excluded from those operations involving manufacturing.
3. Employee's personal clothing must be clean each day before beginning work. Work uniforms must be removed before going to the restroom or outside the plant. Uniforms must be hung in the proper place before leaving the work area. A head covering must be worn while inside the plant.
4. Work gloves must be clean at the start of each day and when soiled, changed during the day. They must be clean and sanitary at all times. Use disposable, approved gloves for handling food products, where appropriate.
5. No jewelry other than plain wedding ring band are to be worn inside the plant, even under clothing.
6. Fingernails must be clean and trimmed with no artificial nails or fingernail polish unless covered with sanitized plastic gloves.
7. No eating or storage of food in the plant except in the break room. No tobacco of any kind is to be used in plant production areas. Use must be restricted to designated areas outside of the food zone.
8. Hands must be sanitized after picking up anything from the floor, after handling trash, or handling inedible containers, use of the bathroom, or other situations which may be unsanitary.
9. Do not let trash accumulate on the floor in your work area.
10. Persons who work in non-processing areas of the plant must not visit finished product areas at any time unless precautions are taken to clean and sanitize footwear and change to clean work clothes. All maintenance personnel must follow this rule.

THINK GOOD SANITATION AND WORK HABITS AT ALL TIMES



Sample – Personnel Sanitation Rules Checklist

To be completed each workday

| RULE | Satisfactory | Unsatisfactory |
|--|--------------|----------------|
| 1. Personal clothing must be clean each day before beginning work. | | |
| 2. Proper head covering worn while in the processing plant. | | |
| 3. No jewelry other than a single plain wedding band can be worn in production. | | |
| 4. Gloves must be clean at the start of each day and changed during the day as required. | | |
| 5. Hands must be washed and sanitized each time a person returns to the processing area. | | |
| 6. No tobacco of any kind to be used in product areas. | | |
| 7. Work uniforms must be removed before going to the restroom or outside the plant. | | |
| 8. Fingernails must be clean and trimmed with no artificial nails and hand cream and fingernail polish prohibited. | | |
| 9. No eating or storage of food in the plant except in break room. | | |
| 10. Hands must be kept away from nose and mouth. | | |
| 11. Hands must be washed and sanitized after handling trash or inedible containers. | | |
| 12. Do not let trash or ice accumulate on the floor in your work area. | | |

Comments: (List person's name and item number found to be unsatisfactory).

Checked By: _____

Date: _____



Sample – Personnel Training Tracking Worksheet

To be completed as needed or at least monthly

| EMPLOYEE TRAINING | | | Worksheet Completed By: _____ Title: _____ Date: _____ |
|--|--|-------------------------|---|
| Instructions: Describe the employee training program for your facility below. The program should, at a minimum, include the items listed below per the EPIA PIQCS Manual. Provide the date(s) for the training program and list the employees who attend the training session. | | | |
| Training Topics | Brief Description of Training Program/Materials | Date of Training | Participants |
| Quality Control Standards | | | 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ |
| Employee Sanitation Rules | | | 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ |
| Personnel Training Guidelines | | | 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ |
| Operations Checklist | | | 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ |
| Cleaning & Sanitizing Practices | | | 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ |
| HACCP Review | | | 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ |

Source: U.S. EPA, 1992.

PLANT AND GROUNDS

Good Manufacturing Practices (Quality Control Standards)

- ❑ The grounds about an ice plant under the control of the operator shall be free from conditions which may result in the contamination of ice including: improperly stored equipment, litter, waste, refuse; uncut weeds or grass within the immediate vicinity of the plant buildings or structures that may constitute an attractant, breeding place, or harborage for rodents, insects, and other pests; excessively dusty roads, yards or parking lots; inadequately drained areas that constitute potential seepage, food-borne filth or provide a breeding place for insects and micro-organisms.
- ❑ Plant buildings and structures for ice manufacture shall be suitable in size, construction, and design to facilitate maintenance and sanitary operations.
- ❑ Ice manufacturing, processing, packaging, and storage operations shall be conducted in an enclosed building maintained in a sanitary condition and in a state of good repair. The building shall protect the ice, equipment, and utensils from dust, dirt, rodents, insects, and other sources of contamination
- ❑ Ice for human consumption shall be processed and packaged only in rooms used solely for those operations. The floors, walls, and ceilings of all rooms, in which ice is manufactured, processed, packaged, and stored shall be of such impervious material and so constructed that it can be maintained in a clean, sanitary condition.
- ❑ Ice for human consumption shall not be processed or packaged on open platforms or on trucks or delivery vehicles, or in any manner which would permit contamination from overhead drip, condensation, dirt or other contaminant.
- ❑ Adequate lighting shall be provided in all areas where ice is manufactured, processed, packaged, or stored to facilitate handling and inspection of the product, cleanup and repair of the building, equipment and utensils.
- ❑ Light bulbs, fixtures, skylights, or other glass suspended over product areas shall be of the safety type or shielded to prevent the scattering of broken glass onto ice or equipment.
- ❑ Adequate ventilation shall be provided to minimize odors, noxious fumes or vapors, and condensation in manufacturing, processing, and storage rooms.
- ❑ Fixtures, ducts and pipes placed properly to preclude drippage or debris contaminating product.
- ❑ If specifically approved by the health authority, a non-potable water supply may be permitted within the facility for purposes of fire protection, cooling of refrigeration equipment, for use in boilers, or for flushing toilets. It may not be used for product or operations water. The piping of any non-potable water system shall be adequately identified (recommend separate color or clearly visible decals throughout the plant), so that it is readily distinguished from piping that carries potable water. The potable water supply piping shall not be connected with any non-potable water supply system whereby the non-potable can be drawn or discharged into the potable system. The potable water system shall be installed to preclude the possibility of back flow into the system.
- ❑ Plumbing shall be of adequate size and design for food manufacturing, and installed and maintained in accordance with applicable state and local plumbing laws, ordinances, and regulations. Attention shall be given to the material, fittings and gaskets. They must be suitable for being in contact with foodstuff.
- ❑ Soil, waste, or drainpipes shall be located, installed and maintained to prevent a source of contamination of ice, equipment, and utensils.



- ❑ Floor drains shall be functional and properly trapped. Floor drainage shall be provided in all areas where floors are subject to flood-type cleaning, or where normal operations discharge, or release water or other liquid waste onto the floor.
- ❑ All sewage and waste water shall be disposed of by means of a public sewer system or an approved sewage disposal system which is constructed, operated, and maintained in conformance with applicable state and local laws, ordinances, and regulations.
- ❑ Toilet facilities shall be adequate, conveniently located, properly ventilated, and in compliance with regulatory codes. Walls, ceiling, and floors shall be of a material that is easy to clean and kept in good repair. Doors to toilet rooms shall be self-closing and not open directly into the food packaging area.
- ❑ Adequate hand washing facilities shall be provided in a place convenient to toilet rooms. Such facilities shall be furnished with hot and cold running water, hand cleansing soaps, paper towels, or other suitable sanitary drying device. Adequate receptacles with covers shall be provided for disposal of hand drying waste material.



Sample – Personnel Training Tracking Worksheet

To be completed as needed or at least monthly

| Date | Location | Problem Noted | Corrective Action |
|------|--|---------------|-------------------|
| | Standing water in areas outside plant | | |
| | Overgrown vegetation outside | | |
| | Outside areas free of trash | | |
| | All garbage receptacles covered | | |
| | Windows tight fitting/no gaps | | |
| | Door tight fitting/no gaps | | |
| | Plant materials stored off floor | | |
| | Employee lunch/locker rooms clean/ Free of non-contained food stuffs | | |
| | General inadequate housekeeping | | |
| | Holes in walls, ceilings, floors | | |
| | Unscreened vents | | |
| | Plumbing leaks, sewer openings | | |
| | Lighting adequate, fixtures protected | | |
| | Ventilation adequate, no odors, fumes or condensation | | |
| | Hand washing facilities properly equipped | | |

Checked By: _____

Date: _____

PEST CONTROL

Facility Pest Control & Guide

1. An adequate pest control begins by first identifying areas where harborage can occur.
2. Areas outside of plant should be free from trash, garbage, and debris. No vegetation should be allowed to grow at the perimeter of the building. Weekly inspection is suggested.
3. Inside the plant, proper storage is “off the floor” (on pallet or duct boards) and a minimum of 50 cm from the walls to allow for ease of inspection. Weekly inspection is suggested.
4. Employee lunch and locker rooms should be clean and free of non-contained food stuffs. Daily inspection of these areas is suggested.
5. Standing water can be a breeding ground and should be eliminated. Daily inspection is suggested.
6. All trash should be stored in properly covered garbage receptacles. Daily inspection of these areas is suggested.
7. All windows/doors should be tight fitting with no apparent gaps. These must be screened or closed when not in use.
8. Many different methods can be used to eliminate pests. For rodents, these include traps such as glue, spring, have-a-heart, and bait. If bait is used, it should be approved and limited to exterior use. For insects, sprays and powders, all should be approved. Daily inspection suggested.
9. The SSOP includes both pre-operational and operational daily sanitation inspections forms. It is recommended that the pest control inspections listed above be accomplished jointly with the SSOP inspections.
10. A company representative should be designated to oversee the Pest Control Program, whether performed by outside contractor or in-house.
11. A recommended Inspection Checklist follows the program information.

It is important in every ice processing facility to have an effective pest control program. An effective program requires a three step approach. The first step is creating barriers to entry; the second step, is creating awareness through inspection should barriers be broken; the third step is initiating corrective action when warranted. The presence or evidence of insects, flies, rodents, or birds, in or on the raw materials (including packaging) or finished products is extremely serious. This is adulteration of product and could lead to a food borne illness. A bird flying through the facility could easily cause adulteration of product through direct contact or feces. Likewise, the direct or indirect contact with insects and rodents can lead to similar results.

The presence of insects, rodents, or birds immediately outside a plant often provides the source of the problem. Birds' nests can be in the awnings over the office entrances or dock doors, or in the gutters on the facility. Other pests, such as rodents and insects, reside around trash, garbage, standing water, weeds, and exterior lights. These pests must be controlled, while minimizing paths of entry to the facility. A facility can manage pest control in several ways:

- a) Have a pest control agency perform all the pest control activities
- b) Handle all pest control activities in-house
- c) A combination of both of the above

The best pest control program does not rely solely on one individual or one pest control service. Instead, it encompasses a system known as Integrated Pest Management (IPM). IPM is a holistic approach that combines the awareness of all employees, with the right



professional expertise, sanitation, building repair, maintenance, and proper food storage practices. This approach, by far, delivers the most effective result.

Standard operating procedure:

There are several components to the pest control program. There needs to be a standard operating procedure that includes the following:

- a) A written action plan that describes the nature and frequency of the pest control activities. All contracted and in-house activities must be included in the written program.
- b) A current map (plot plan) of all pest control devices should be on file.
- c) Logs of pest control activities need to be maintained. These logs must include the name of the pesticide, as well as the concentration and amount of pesticide used (i.e., Tempo WP was used, 2 pounds at a 10% concentration).
- d) If using a contracted agency, a current copy of the certificate of insurance, business license, and pest control operator's (PCO) license must be on file. Some states require that in-house personnel have training and obtain a license in order to conduct pest control activities.
- e) MSDS and sample labels should be on file for all pesticides in use.

Proper storage of pesticides:

Pesticide usage should be minimized when possible. If pesticides must be used, good management procedures are a must. When using a contracted service, there should be no pesticides kept on site. If the facility is conducting the pest control activities with in-house personnel, then only pesticides that the plant is licensed to apply should be present. There should be no store-bought pesticides. All pesticides kept on site must be kept in a clearly labeled locked cabinet or storage area.

The interior rodent control program:

Each plant needs to have rodent control devices on each side of any doorway leading to the exterior of the facility. In addition these rodent control devices should be located every 25 feet along the inside of exterior walls. These devices can be multiple-catch units (Ketch-Alls), Tin Cats, glue boards, or snap traps. All interior devices should be checked weekly.

Never use bait stations within the interior of any building. Bait stations within the facility function as an attractant and may draw pests from the outside in.

If a contracted pest control agent is used, it is acceptable for the facility to use in-house personnel to check the traps in the weeks in which the PCO is not there. In this instance, the activities of the in-house personnel need to be included in the written program. A reporting system should be established which encourages all employees to report any pest sightings to management. Management will contact the PCO as appropriate. Despite the fact that a pest control operator is contracted to service a facility, it is management's responsibility to make sure that proper pest control occurs.

The exterior rodent control program:

This is a plant's first line of defense against an invasion of wild rodents. Although less important than the inside program, it is still necessary. Stations should be placed every 12 meters apart against building as well as on both sides of a dumpster/compactor. When meeting this 12 meter rule, exterior bait stations should not be placed closer than 10 feet from any building opening or doorway. Bait stations located too close to openings can draw pests within unacceptable distances of entrance points. In addition, the facility might wish to place bait stations 15 feet apart if used at perimeter fence line because of neighboring property problems. All bait stations must be tamperproof (locked in some fashion) and anchored to the ground. Bait must be replaced regularly, as rodents are not attracted to moldy or insect-infested bait. The bait stations should be checked at least once per month.

If the plant does not have a secured property line where the public is denied access, then an outside bait program is not recommended because of liability. If part of the building is within grounds that are secured, then use bait stations in this area only.

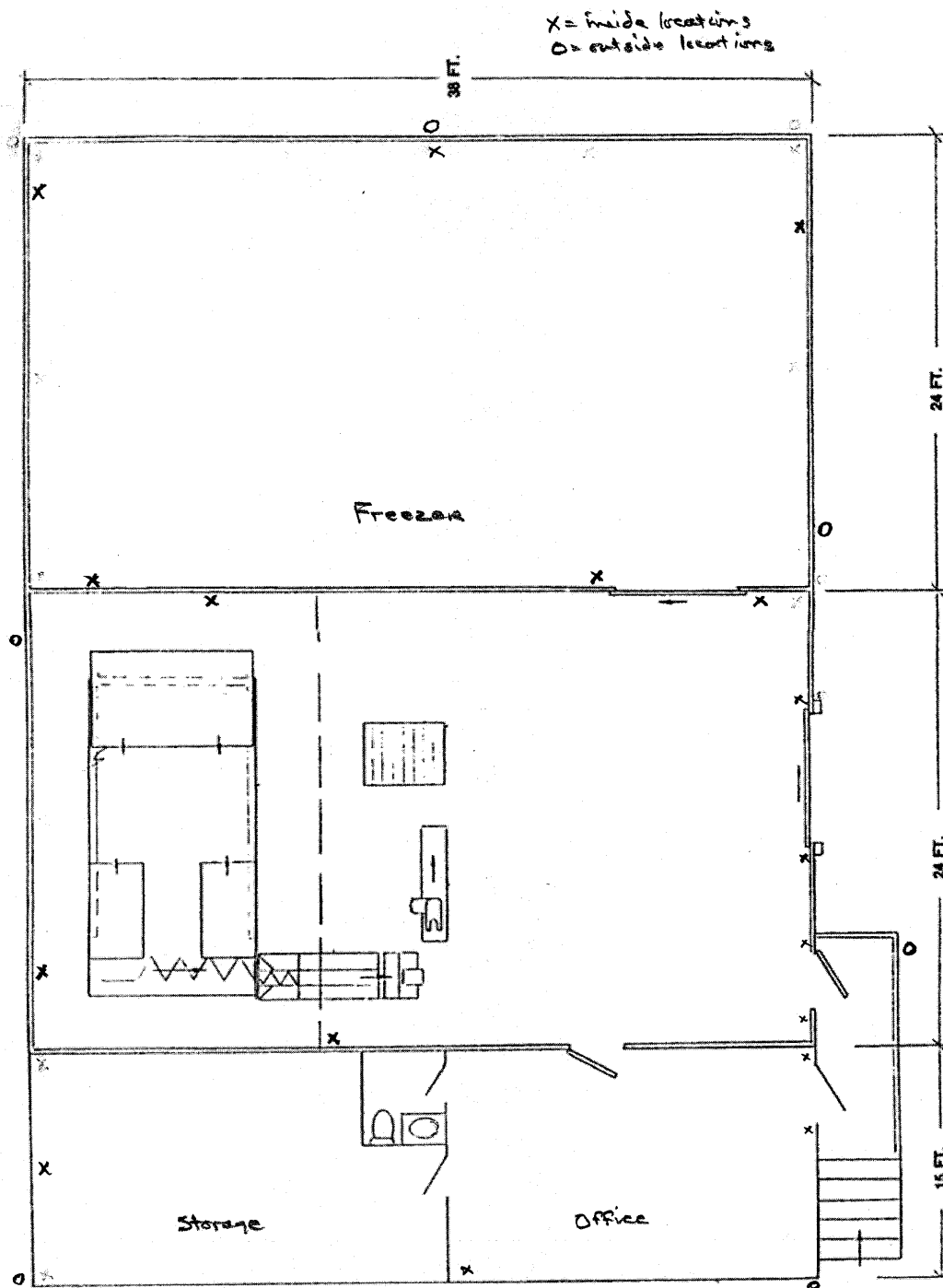
Insect-O-Cutors:

If in use, these must be located away from exposed products, clean and maintained. Insect-O-Cutors used to catch flies are most effective when they are close to the ground, 4 to 6 feet off the floor. As this is not always possible, care should be taken in the location of these devices when suspending them from the ceiling. They should not be over raw material or finished products, processing areas, nor should they be positioned where drafts can flow insect fragments onto materials or equipment. They need to be installed at right angle to outside doors, out of drafts, and as close to the floor as possible.

All Insect-O-Cutors need to be emptied at least weekly to prevent problems with insect carcasses. The carcasses become infested with beetles, and they can also dehydrate and disintegrate and be blown onto packaging. The light tubes need to be changed every 12 months in order to maintain their effectiveness. The light tubes or the units must be marked with the date on which the bulbs were changed.

Sample - Pest Station Placement Diagram

- Interior: on both side of exit doors and every 7,5 m around perimeter
- Exterior: every 12 m but not within 3 m of a door, dock or opening
- Dumpster: on both sides





Sample – Pest Control Checklist

To be completed at least monthly

| Date | Location | Problem Noted; Insects, Mice, Rats | Corrective Action |
|------|---|---------------------------------------|----------------------|
| | Standing water in areas outside plant | | |
| | Overgrown vegetation outside | | |
| | Outside areas free of trash | | |
| | All garbage receptacles covered | | |
| | Windows tight fitting/no gaps | | |
| | Door tight fitting/no gaps | | |
| | Plant materials stored off floor | | |
| | Employee lunch/locker rooms clean/ Free of non- contained food stuffs | | |
| | General inadequate housekeeping | | |
| | Holes in walls, ceilings, floors | | |
| | Unscreened vents | | |
| | Plumbing leaks, sewer openings | | |
| | Inspection of all traps for location and activity | | |

Checked By: _____

Date: _____

RAW MATERIALS, INGREDIENTS & SUPPLIES

The Packaging Materials which are directly in contact with the ice product must be managed to ensure that they are appropriate for “food grade” or “food contact” uses. These materials include polybags, film, sheeting, and tote liners.

Include documentation for all materials to be used. Normally, each supplier will provide documentation related to the materials that they supply. Suppliers should be instructed to update materials documentation annually and whenever there is a change in the materials provided.

- Require letters from vendors indicating that all products used in the manufacturing of ice, and especially for those directly in contact with either water or ice, are food grade. File letters for easy access.
- Ingredients and supplies shall be inspected upon receipt and essential information recorded (i.e., date of receipt) and initialed by the responsible individual.
- All ingredients and supplies must be properly labeled, dated, and stored according to the suppliers’ recommendations. A “first in, first out” rotation system is recommended.
- Edible ingredients or supplies and materials coming in direct contact with ice must be stored in a separate area from inedible materials. A system of periodic inventory must be established.

Sample - Receiving Form

| RECEIVING | DATE: | | |
|---|------------|---------------------|-------|
| | Ingredient | Packaging Materials | Other |
| Material Name | | | |
| Plant Log # | | | |
| Supplier | | | |
| Manufacturing ID # | | | |
| Date Received | | | |
| Defects Noted | | | |
| Action Taken (i.e., Accepted / Rejected) | | | |
| Inspected By | | | |

SANITARY OPERATIONS

Good Manufacturing Practices

- ❑ Dilapidated walls, foundations, windows, holes, cracks, and crevices permitting entry by insects, birds, or rodents shall be repaired.
- ❑ Cleaning and sanitizing substances shall be free from undesirable microorganisms and shall be safe, food grade and approved for the conditions of use.
- ❑ The only toxic materials used or stored in a plant shall be those that are necessary for cleaning and sanitizing or for the plant's operation. All toxic materials shall be clearly identified, held and stored as labeled.
- ❑ The use of insecticides and rodenticides shall be in accordance with the applicable local regulations. All chemicals should be clearly labeled. Inspection for rodents and insects shall be implemented on a timely schedule by plant personnel or an outside exterminator.
- ❑ No live animals, including dogs, cats, or birds shall be allowed in any area of the plant.
- ❑ Single service supplies shall be stored, dispensed, and handled in a sanitary manner and shall be used only once.
- ❑ Stainless steel will corrode when exposed to certain chemicals such as chlorine compounds in concentrations above 200ppm. Suggested use levels are 150-200ppm. Stainless steel surfaces should be cleaned periodically with a non-chlorine mild abrasive, acid-based cleanser.
- ❑ Cleaning and Sanitizing operations shall be done sufficiently frequent and thorough to maintain all parts of the plant in a clean condition to insure that no contamination occurs. Operations shall include: all process water and ice contact surfaces and equipment cleaned, sanitized and air dried frequently and after any interruption whereby surfaces may have become contaminated. Contact surfaces shall be free of scale, oxidation and other residue. Non-product contact surfaces of equipment cleaned free of dust, dirt, and other debris. Portable equipment and utensils frequently cleaned and sanitized. Toilet rooms cleaned and sanitized. Interior ice compartment of vehicles cleaned and sanitized. Plant floors, walls, ceilings maintained cleaned and sanitized. Product storage and holding areas cleaned and sanitized.
- ❑ Water supplies must be controlled to meet applicable regulations to include separation of product water from operations water, if different.
- ❑ Drainage and sewage disposal systems adequately maintained and controlled to meet sanitary and regulatory standards.



Sample – Sanitary Operations Daily Checklist

To be completed daily

| Points to Check/Inspect in Plant Processing Area | Satisfactory | Unsatisfactory | Comments | Initials |
|--|--------------|----------------|----------|----------|
| 1. Trash removed and placed in correct disposal containers (all areas of plant) | | | | |
| 2. Floors, walls, drains, lights, & equipment kept clean and orderly; equipment operational (include temperature controls) | | | | |
| a. Area around ice makers and surge tanks | | | | |
| b. Transfer Chutes/Augers to & from Ice Bin Storage | | | | |
| c. Drying/Sizer Room/Equipment | | | | |
| d. Ice Bin Storage Area | | | | |
| e. Packaging / Bagging Area | | | | |
| f. Freezer Storage | | | | |
| g. Restrooms/ Lockers | | | | |
| h. Break Room | | | | |

Comments: _____

Checked By: _____

Date: _____

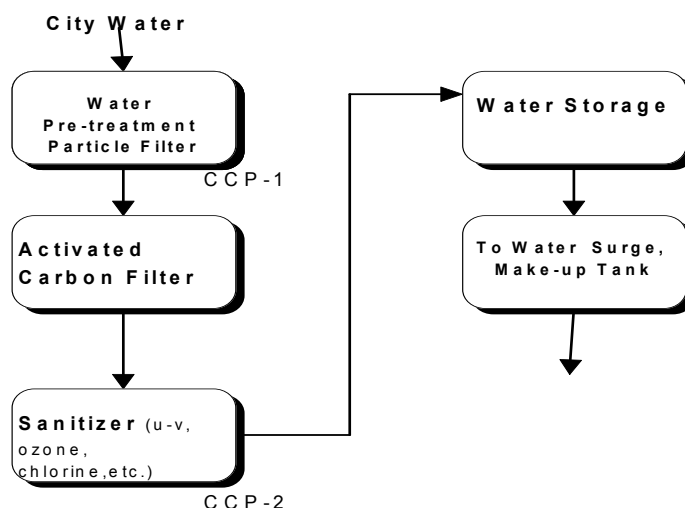
CLEANING PROCESSES AND CONTROLS

Good Manufacturing Practices

- ❑ All water used in ice plants shall be of safe and sanitary quality and drawn from an approved public or private water supply system that is in compliance with the EU and local Drinking Water Standards. The ice product shall meet with bacteriological, chemical, and physical standards of state and local laws, ordinances, and regulations.
- ❑ Processes and controls shall be designed and monitored to insure that neither the product area nor the product is subject to contamination from filth, dust, condensation, peeling paint, grease, foreign matter, building materials, mineral deposits, scale molds, algae, or other undesirable micro-organism or objectionable substance.
- ❑ Adequate provisions (such as sanitary gloves) shall be made so that hands shall not come in direct contact with the ice at any time during manufacturing, processing, packaging, and storage.
- ❑ Bacteriological tests of the finished ice as delineated in the separate section on Testing of Finished Ice.
- ❑ Packaging shall be done with non-toxic materials and in a sanitary manner.
- ❑ Bags used for the packaging of ice shall be stored in a dry, rodent and dust proof environment. The storage of packaging supplies shall be on pallets or raised above floor level and all partially used supplies shall be kept in closed containers. The bags shall be of sound strength and quality to prevent fracture or tearing during handling and be constructed of materials approved for food contact. Bags shall be restricted from reuse, or repackaging.

Water Handling / Ice Machine Areas - Cleaning and Sanitizing

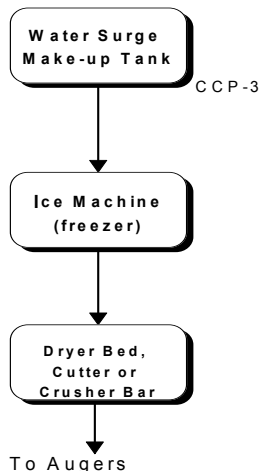
Process Step



| Procedures & Requirements for Water Handling / Ice Machine Areas | |
|---|--|
| Equipment & Supplies | Brooms, mops, squeegees, hose, power shop vacuum (optional), hose spray unit for sanitizer. Plastic or rubber gloves. Personnel filter masks. |
| Cleaners / Concentration | Mild phosphate detergent (i.e., safe on aluminum) at vendor recommended concentration. |
| Sanitizers / Concentration | Quaternary ammonium sanitizer at 600 ppm or other sanitizers such as hydrogen peroxide, acetic acid or a mixture. |
| Frequency | Weekly or as required per inspection. |
| Procedure(s) | Pick up trash and sweep floors. Apply mild detergent using hose spray unit with 55 – 65 °C water. Apply 600 ppm quaternary ammonium or other sanitizers such as hydrogen peroxide, acetic acid or a mixture and let air dry. CAUTION: Do not apply any water near control units. Personnel to wear filter mask when applying sanitizer. All access to potable water and icemaker units must be sealed during cleaning and sanitizing. |
| Verification | |
| <ul style="list-style-type: none"> • Inspection checklist • Water Sanitizer Concentration • Samples for laboratory analysis | See daily checklist Monitor concentration via auto system or daily, if manual None |
| NOTE: Filter Serviced by Maintenance Master Schedule | |

Surge Tanks, Ice Machines & Cutter / Discharge Chutes - Cleaning and Sanitizing

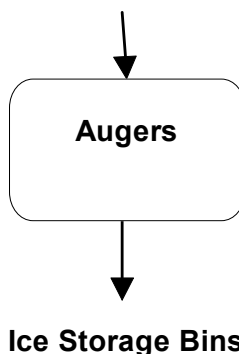
Process Step



| Procedures & Requirements for Surge Tanks, Ice Machines & Cutter / Discharge Chutes | |
|---|---|
| Equipment & Supplies | Containers for dilution and application of sanitizer. Sponges, brushes, spray units for application of descaler, if necessary. Rubber gloves & boots, personnel filter mask, eye goggles. |
| Cleaners / Concentration | Add descaler to ice machines as recommended by vendor. |
| Sanitizers / Concentration | Quaternary ammonium sanitizer diluted to 200 ppm. |
| Frequency | Semi-annually to annually or as required per inspection for ice makers and surge tanks. Cutter or crusher bars weekly or as required by inspection. |
| Procedure(s) | <p>Ice Machines: Open and inspect tubes of ice machines. If scale buildup, apply descaler compound, per vendor specifications. Apply 200 ppm sanitizer and rinse with 38- 49°C water. For external areas, use a very low pressure sprayer or brushes with 38-49°C water. Allow to penetrate for 15-30 minutes and rinse clean. Assemble and reseat all ice making equipment for continuing operations.</p> <p>Surge Tanks: Drain and clean with mild phosphate detergent, rinse with potable water, chlorine spray @ 200 ppm, re-rinse with potable water. If swab counts are positive for E.coli, apply 200 ppm chlorine to surge tank. Do not use ice until chlorine dissipates.</p> <p>Dryer Bed, Cutter, Crusher Bars: Mist with sanitizer with 200 ppm without ice present. CAUTION: Use personnel filter masks, eye safety glasses, gloves & boots when applying detergent & sanitizers.</p> |
| Verification | |
| <ul style="list-style-type: none"> Inspection checklist Samples for laboratory analysis | <p>Record date, comments, and individuals' initials who performed the work.</p> <p>Take microbiological swab samples quarterly of surge tank water (CCP-3).</p> |

Augers & Drying Conveyor Areas - Cleaning and Sanitizing

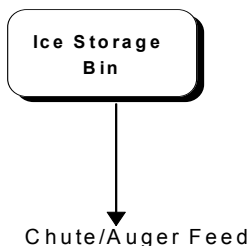
Process Step



| Procedures & Requirements for Augers & Drying Conveyors Area | |
|--|---|
| Equipment & Supplies | Hose spray units for sanitizers and cleaners. Rags, sponges, & brushes for crevices, cogs, auger/chain conveyor, and equipment boxes, etc. which do not allow spray applications. Heavy duty rubber or plastic gloves. |
| Cleaners / Concentration | Mild phosphate detergent at vendor recommended concentration. |
| Sanitizers / Concentration | Quaternary ammonium sanitizer at 200 ppm. |
| Frequency | As required per inspection for chutes and augers (usually annually). |
| Procedure(s) | Spray augers, conveyors, etc. with water at 120-140°F. Scrub all equipment and support systems, which cannot be cleaned with hose spray units, with mild detergent followed by wiping with clean/sanitized rags. Spray same areas with 200 ppm chlorine. (Rinse only if ice contacts equipment within 2 hours). CAUTION: No water or sanitizer is to penetrate into ice bin storage areas. CAUTION: Use personnel filter masks, eye safety glasses, gloves & boots when applying detergent & sanitizers. |
| Verification <ul style="list-style-type: none"> Inspection checklist Samples for laboratory analysis | See daily checklist None |

Ice Storage Bin - Cleaning and Sanitizing

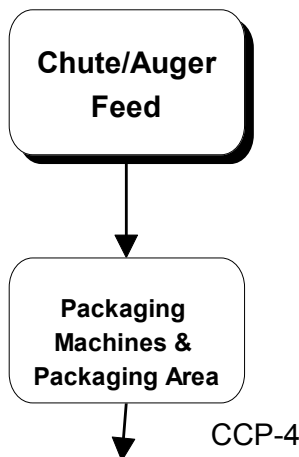
Process Step



| Procedures & Requirements for Ice Storage Bin | |
|---|---|
| Equipment & Supplies | Rubber or plastic gloves, eye safety glasses, rubber boots, & personnel filter masks. Towels, brushes, sponges, & sponge mops suitable to clean all areas. Buckets, hose spray applicator for detergent & one for sanitizers. |
| Cleaners / Concentration | Moderately heavy duty detergent suitable for metals exposed in ice storage bin. |
| Sanitizers / Concentration | Chlorine at 600 ppm or quaternary ammonium sanitizers. |
| Frequency | Annually or as required per inspection (note microbiological test results for any problems). |
| Procedure(s) | <p>Empty bin & lower rake to lowest position. Workers are to scrub all surfaces with the specified type of concentration of detergent using 50-60°C solution. The chains will need special scrubbing. This includes ceilings, walls, equipment (rakes, etc.), and floors. Rinse all areas and spray with chlorine sanitizer. Rinse with water at 50-60 °C. Inspect for cleanliness. If not clean: Repeat for areas needing and then spray all surfaces with 200 ppm quaternary ammonium sanitizer. Perform the following maintenance on the rake equipment to assure optimum operation:</p> <ul style="list-style-type: none"> • Oil in gearbox. • Apply food grade grease to all bearings. • Check wear on plates & rail. • Alignment & tension correct for chains & belts. • Flight of rake is correct. <p>Air dry bin area and start the ice making operation. CAUTION: Use personnel filter masks, eye safety glasses, gloves & boots when applying detergent & sanitizers. Sanitizers are to be applied at a solution temperature of 27-38°C.</p> |
| Verification(s) | <ul style="list-style-type: none"> • Inspection checklist • Samples for laboratory analysis <p>Record date, comments, and individual's initials responsible for the work. None</p> |

Chute / Auger Feed to Packaging - Cleaning and Sanitizing

Process Step



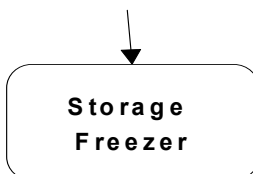
| Procedures & Requirements for Chute / Auger Feed to Packaging | |
|---|---|
| Equipment & Supplies | Hose spray units for sanitizers and cleaners. Rags, sponges, & brushes for crevices, cogs, auger/chain conveyor, equipment boxes, etc. which do not allow spray applications. Heavy duty rubber or plastic gloves. |
| Cleaners / Concentration | Mild phosphate detergent at vendor recommended concentration. |
| Sanitizers / Concentration | Quaternary ammonium sanitizer at 200 ppm. |
| Frequency | As required per inspection for augers/chutes. Base on microbiological test results. |
| Procedure(s) | Spray augers, conveyors, etc. with cleaner solution at 49-60°C Scrub all equipment and support systems, which cannot be cleaned with hose spray units, with mild detergent followed by wiping with clean/sanitized rags. Spray same areas with 200 ppm sanitizer. CAUTION: No water or sanitizer is to penetrate into ice bin storage areas unless empty and being cleaned. CAUTION: Use personnel filter masks, eye safety glasses, gloves & boots when applying detergent & sanitizers. |
| Verification(s) | <ul style="list-style-type: none"> • Inspection checklist • Samples for laboratory analysis See daily checklist Take microbiological swab samples quarterly of chute/augers at CCP-4 (i.e., just prior to ice filling units to packaging machines) |

Packaging Machines & Packaging Area - Cleaning and Sanitizing

| Procedures & Requirements for Packaging Machines & Packaging Area | |
|--|---|
| Equipment & Supplies | Hose spray units for sanitizers and cleaners. Rags, sponges, & brushes for crevices, cogs, auger/chain conveyor, equipment boxes, etc. which do not allow spray applications. Compressed air (filtered) to remove residual ice from areas of filling and packaging. Heavy duty rubber or plastic gloves. |
| Cleaners / Concentration | Mild phosphate detergent at vendor recommended concentration. |
| Sanitizers / Concentration | Quaternary ammonium at 200 ppm on equipment. NOTE: Mist walls & ceilings only with quaternary ammonium at 600 ppm. Floors at 600 ppm with quaternary ammonium or chlorine sanitizer. |
| Frequency | Equipment & floors daily. Walls & ceilings quarterly. |
| Procedure(s) | Equipment & Floors: Spray water acceptable equipment with cleaning solution at 49-60°C. Wipe all equipment and support systems, which cannot be cleaned safely and effectively with hose spray units or compressed air, with mild detergent followed by wiping with clean/sanitized rags. Spray equipment areas with 200 ppm chlorine or quaternary ammonium unless water damage could result. Clean floors with mild phosphate detergent, rinse and spray with 600 ppm of sanitizers (make sure drains are clean and sanitary). Walls & Ceilings: To prevent mold growth, mist walls and ceiling with quaternary ammonium at 600 ppm quarterly. CAUTION: No water or sanitizer is to penetrate critical electronic components. CAUTION: Use personnel filter masks, eye safety glasses, gloves & boots when applying detergent & sanitizers. |
| Verification(s) | <ul style="list-style-type: none"> • Inspection checklist • Samples for laboratory analysis |
| | See daily checklist Take microbial swab samples quarterly on packaging machine ice bin prior to filling bags at CCP-4. |

Storage Freezers - Cleaning and Sanitizing

Process Step



| Procedures & Requirements for Storage Freezers | |
|--|---|
| Equipment & Supplies | Brooms, power vacuum for weekly floor cleaning. Annually or as required, hose/spray units, mops, brooms, power shop vacuum, squeegees. Personnel filter masks, eye goggles, rubber boots & gloves. |
| Cleaners / Concentration | Mild phosphate detergent at vendor recommended concentration. |
| Sanitizers / Concentration | Quaternary ammonium at 600 ppm. |
| Frequency | Dry clean floors only weekly or as required per inspections. As required by inspection for total cleaning of freezer. |
| Procedure(s) | Remove all products and shut down freezer. Spray floors with detergent solution at 49-60°C. Apply thorough water rinse at 49-60°C. Inspect & scrub areas having buildup of debris with detergent solution and rinse. Mist ceiling, walls, and floors with quaternary ammonium sanitizer. Remove major moisture from floors with power shop vacuum and turn on fans at ambient temperatures. When area is completely dry, restart freezing units. CAUTION: Use personnel filter masks, eye safety glasses, gloves & boots when applying detergent & sanitizers. |
| Verification(s) <ul style="list-style-type: none"> • Inspection checklist • Samples for laboratory analysis | See daily checklist Sample bagged ice for microbiological testing per PIQCS. Alternatively, samples may be taken from retail cases. |

Break Room & Restrooms - Cleaning and Sanitizing

| Procedures & Requirements for Break Room & Restrooms | |
|--|---|
| Equipment & Supplies | Brooms, mops, sponges, brushes, towels. |
| Cleaners / Concentration | Mild soap, household detergent, toilet bowl cleaner at concentration stipulated on label. |
| Sanitizers / Concentration | Chlorine or Quaternary ammonium sanitizers diluted to 200 ppm, except use 600 ppm for floors and toilets. |
| Frequency | After each shift or as required by inspection. |
| Procedure(s) | Remove trash and replace waste container liners. Clean all break room equipment (e.g., microwave, refrigerator, sinks, tables, etc.) using soap and/or detergent and wipe or mist with sanitizer and towel dry. Clean restrooms with detergents and toilet bowls with special cleaner and apply sanitizer at 600 ppm. Mop all floors with detergent, then clean with warm water, apply sanitizer at 600 ppm. |
| Verification(s) <ul style="list-style-type: none"> • Inspection checklist • Samples for laboratory analysis | See daily checklist None |

Interior of Distribution Vehicles - Cleaning and Sanitizing

| Procedures & Requirements for Interior of Distribution Vehicles | |
|--|---|
| Equipment & Supplies | Hose spray unit, water hose, brushes, brooms, squeegees, power shop vacuum. |
| Cleaners / Concentration | Mild phosphate detergent. |
| Sanitizers / Concentration | Quaternary ammonium at 200 ppm. |
| Frequency | Weekly or as required by inspection. |
| Procedure(s) | <p>Cut off refrigeration, sweep floor, & rinse inside walls, ceiling, & floors with 49-60°C water.</p> <p>Apply detergent to all surfaces and let soak and rinse with 49-60°C water.</p> <p>Scrub buildup spots as required with detergent using brushes, brooms, etc. and re-rinse.</p> <p>Apply 200 ppm of sanitizer to cleaned surfaces.</p> <p>Dry interior with power shop vacuum or mop, cloths, etc.</p> <p>Reset refrigeration.</p> |
| Verification(s) <ul style="list-style-type: none"> • Inspection checklist • Samples for laboratory analysis | <p>See daily checklist</p> <p>None</p> |

Ice Display Cabinets at Retail Stores - Cleaning and Sanitizing

| Procedures & Requirements for Ice Display Cabinets at Retail Stores | |
|--|---|
| Equipment & Supplies | Brushes, sponges, towels, buckets. |
| Cleaners / Concentration | Mild soap, household detergent. |
| Sanitizers / Concentration | Quaternary ammonium diluted to 200 ppm. |
| Frequency | As required by inspection. |
| Procedure(s) | <p>Remove ice & shut off refrigeration.</p> <p>Apply mild detergent solution using warm water and sponges</p> <p>Wipe with warm water to rinse and scrub any buildup spots with brush & detergent.</p> <p>Wipe clean with clean, wet sponge or cloths soaked in quaternary ammonium solution at ≤ 200 ppm.</p> <p>Dry interior with clean towels and restart refrigeration.</p> |
| Verification(s) <ul style="list-style-type: none"> Inspection checklist Samples for laboratory analysis | <p>Record date, location, and initials of person cleaning.</p> <p>Sample bagged ice for microbiological testing if not done at the plant per PIQCS.</p> |



Sample - Ice Plant Pre-Operations Sanitation Daily Checklist

| Points to Check/Inspect in Plant Processing Area | Satisfactory | Unsatisfactory | Comments | Initials |
|---|--------------|----------------|----------|----------|
| 1. Water Treatment Areas | | | | |
| 2. Ice Makers & Surge Tank Area | | | | |
| 3. Chute/Augers from Ice Machines (e.g., metal particles) | | | | |
| 4. Ice Storage Area (around bins) | | | | |
| 5. Chute/Augers to Packaging Machines | | | | |
| 6. Packaging Area, Equipment, - Floors/Walls | | | | |
| 7. Storage Areas, Dry Materials/Supplies, - Freezers | | | | |
| 8. Personnel Facilities | | | | |
| 9. Vehicles (at times parked at plant) | | | | |
| 10. General Plant Sanitation | | | | |

Checked By: _____

Date: _____

SANITARY FACILITIES AND CONTROLS

Good Manufacturing Practices (Quality Control Standards)

- ❑ All water used in ice plants shall be of safe and sanitary quality and drawn from an approved public or private water supply system that is in compliance with the EU Drinking Water Standards 98/83/EC. The ice product shall meet with bacteriological, chemical, and physical standards of state and local laws, ordinances, and regulations.
- ❑ Personnel in direct contact with ice or ice contact surfaces shall not put hands or fingers in mouth, nose, hair, eyes, or any other part of the body so as to prevent potential contamination.
- ❑ Personnel shall wash their hands thoroughly in an adequate hand washing facility before starting work, after each absence from the workstation, after visiting the toilet room, after performing cleaning duties, handling a handkerchief or tissue, smoking, and any other event where hands can become contaminated. Disposable latex or plastic gloves can be used.
- ❑ If specifically approved by the health authority, a non-potable water supply may be permitted within the facility for purposes of fire protection, cooling of refrigeration equipment, for use in boilers, or for flushing toilets. The piping of any non-potable water system shall be adequately identified, so that it is readily distinguished from piping that carries potable water. The potable water supply piping shall not be connected with any non-potable water supply system whereby the non-potable can be drawn or discharged into the potable system. The potable water system shall be installed to preclude the possibility of back flow into the system.
- ❑ Floor drains shall be functional and properly trapped. Floor drainage shall be provided in all areas where floors are subject to flood-type cleaning, or where normal operations discharge, or release water or other liquid waste onto the floor.
- ❑ Drainage and sewage disposal systems adequately maintained and controlled to meet sanitary and regulatory standards.
- ❑ All sewage and waste water shall be disposed of by means of a public sewer system or an approved sewage disposal system which is constructed, operated, and maintained in conformance with applicable state and local laws, ordinances, and regulations.
- ❑ Drain lines from equipment shall not discharge wastewater in a manner that permits the flooding of floors or the flowing of water across working or walking areas.
- ❑ Toilet facilities shall be adequate, conveniently located, properly ventilated, and in compliance with regulatory codes. Walls, ceiling, and floors shall be of a material that is easy to clean and kept in good repair. Doors to toilet rooms shall be self-closing and not open directly into the food packaging area.
- ❑ Adequate hand washing facilities shall be provided in a place convenient to toilet rooms. Such facilities shall be furnished with hot and cold running water, hand cleansing soaps, paper towels, or other suitable sanitary drying device. Adequate receptacles with covers shall be provided for disposal of hand drying waste material.
- ❑ Cleaning and Sanitizing operations shall be done sufficiently frequent and thorough to maintain all parts of the plant in a clean condition to insure that no contamination occurs. Operations shall include: all process water and ice contact surfaces and equipment cleaned, sanitized and air dried frequently and after any interruption



whereby surfaces may have become contaminated. Contact surfaces shall be free of scale, oxidation and other residue. Non-product contact surfaces of equipment cleaned free of dust, dirt, and other debris. Portable equipment and utensils frequently cleaned and sanitized. Toilet rooms cleaned and sanitized. Interior ice compartment of vehicles cleaned and sanitized. Plant floors, walls, ceilings maintained cleaned and sanitized. Product storage and holding areas cleaned and sanitized.

ALLERGEN CONTROL

Regulatory agencies, at the insistence of consumers, and insurance companies have become increasingly aware of problems with allergens in the food supply. At this time, there does not appear to be any scientific basis to be concerned that allergens could be present in ice manufactured under Good Manufacturing Practices. However, you should be alert for any potential ingredients or materials that could possibly be transferred to your ice.

Examples of areas in ice manufacturing that need to be monitored are:

- Packaging materials
- Water treatment compounds or systems which might leave residuals
- Chemicals and sanitizer residuals used in sanitation procedures
-

Any complaints by consumers should be promptly solved.

TREATMENT/DISINFECTION - SOURCE WATER

NOTE: You should have on file the water quality specifications as supplied by the manufacturer of the water treatment/disinfection system you use. In most cases, the specifications on source water will be within the manufacturer's specifications, but this should be verified for each operation.

The United States Environmental Protection Agency (EPA) publishes numerous reference guides on topics related to treatment and disinfection of water. While they are written for the water treatment industry in the US, the content is applicable to anyone treating or disinfecting water. Here are some that are available free of charge via the internet:

Ultraviolet Disinfection

http://www.epa.gov/ogwdw/disinfection/lt2/pdfs/guide_lt2_uvguidance.pdf

Membrane Filtration

http://www.epa.gov/ogwdw/disinfection/lt2/pdfs/guide_lt2_membranefiltration_final.pdf

WAREHOUSING AND DISTRIBUTION

Good Manufacturing Practices (Quality Control Standards)

- ❑ All product storage and holding areas are to be refrigerated and kept in a clean and sanitary manner.
- ❑ While being transported or delivered, ice shall be protected from contamination from dust, dirt, or any other sources. The ice compartment of vehicles used to transport or deliver ice shall be of cleanable construction and shall be kept clean and in good repair.
- ❑ The ice compartment used for transport or delivery shall be insulated or refrigerated to maintain the ice in a frozen state.
- ❑ Packaged ice products must be tightly sealed and clearly labeled to show the name, manufacturer, and location of processing plant, (date code recommended), and net weight.

EQUIPMENT AND UTENSILS

Good Manufacturing Practices (Quality Control Standards)

- ❑ Filter equipment and filter beds must be designed to protect ice from contamination and allow for periodic treatment and cleaning
- ❑ All equipment and utensils used in ice plants or ice production areas shall be of easily cleanable construction with protective coatings or non-corrosive material surfaces. Materials should also be smooth, non-toxic, and non-absorbent. Ice cans shall be leak proof and the inner surfaces of such containers shall be free of corrosion.
- ❑ Holding, conveying, manufacturing and storage systems shall be of impervious material and shall protect ice from contaminants that may result from shredding, flaking, peeling, or fragmentation of the surface.
- ❑ Only food grade equipment lubricants shall be used and equipment lubrication shall not contaminate the ice.
- ❑ Drain lines from equipment shall not discharge wastewater in a manner that permits the flooding of floors or the flowing of water across working or walking areas.
- ❑ All portable equipment and utensils shall, when not in use, be stored in a clean cabinet or other suitable enclosure that provides protection from contamination. Any time such equipment or utensils contact the floor or are otherwise subjected to contamination, they shall be thoroughly cleaned and sanitized before re-use.
- ❑ Air for water agitation filtered and free of contaminants.

Specifications On Food Contact Equipment And Related Materials

The equipment that contacts the ice product, including ice machines, augers and conveyers, bins, and hoppers, must be “food grade”. For complete systems specifically manufactured for food production, such as ice machines, certification is normally provided by NSF International (NSF). Other custom equipment and modifications to equipment must use appropriate materials. This includes chutes, hoppers and bins, nylon fittings bearings and pads, as well as paints, waxes and other coatings. The manufacturers and suppliers must provide appropriate documentation indicating that materials used are NSF certified or “food grade”. Other documents describing the material should also be included.

Specifications On Non-Food Contact Materials

The materials that come into close proximity to, but not direct contact with, ice product must be suitable for use in a food preparation environment, and may or may not be “food grade”. These materials include stretch wrap, baler bags, skid liners (slipboards), sheeting cores, combo bins, cardboard boxes (bags), ties and seals.

Include documentation for all of these materials. Normally, each supplier will provide documentation related to the materials that they supply. If documentation indicates that the material is “food grade”, even if not required, then this documentation should be included. Other documents describing the material should also be included.



Suppliers should be instructed to update materials documentation annually and whenever there is a change in the materials provided.

Specifications for block press fluids

Block press fluids, either hydraulic oils or brines, must be food grade. Documentation from suppliers should be included.

Specifications for inks for coding

Inks used in ink-jets or other printing systems for marking product packages, such as for date and lot coding, must be food grade. Documentation from suppliers should be included.

Sanitation Standard Operating Procedures (SSOP)

Sanitation Procedures are essential to meeting the PIQCS Quality Control Standards. They describe the detailed actions that must be taken by employees to insure Good Manufacturing Practices are followed.

SSOP's have been drawn from regulatory requirements of the US and Europe. . A written SSOP Plan must be a practical procedures document to develop and implement the desired plant and process sanitary procedures. Sanitation for ice manufacturers must be a continuous task that is uniform, fair, and persistent. This is accomplished by building a strong team of well-trained plant workers.

Key elements for an SSOP must include:

- Cleaning and Sanitizing Principles to assist in understanding how to use the compounds. You can contact the vendor of your cleaning and sanitizing compounds for assistance.
- Develop a master cleaning and sanitizing plan for each process step showing frequencies and types of cleaners and sanitizers to use (examples of such a plan are included in this section).

Your HACCP plan will help to identify all the processes. This will help to identify the task and individual processes which will need SSOPs written to insure employees know what is expected and are given step by step guidance.

EXAMPLES FOR A SSOP RELATED TO CLEANING OF ICE MACHINE

Vogt Model P24/P34 Sanitizing Procedure

| | Vogt Model | Gal /inch | Total Gallons (Fill Level") |
|----|------------|-----------|-----------------------------|
| 1. | P-24 | 2.5 | 46 (18.5") |
| | P-34 | 4.7 | 88 (18.8") |

1. After shutting machine off using the "Stop" button, set "Hand /Auto" selector switch to the "Hand" position. .
2. Shut off water supply and drain water tank by opening the drain valve at the bottom of the water tank..
3. Fill water tank with warm water (32°C-46°C). Warm water speeds the cleaning process. Fill tank to bottom of overflow connection on water tank. If possible, close the overflow drain line.
4. Add following amounts of Nu-Calgon® IMS-II Sanitizing Concentrate or equivalent to the water tank:
5. P24: 74 ounces of sanitizing solution
6. P34: 140 ounces of sanitizing solution
7. Note: Concentration should be 200 ppm active sanitizing solution. (Nu-Calgon® IMS-II: 1.6 ounces of sanitizer per 1 gallon of water = 200 ppm).
8. With the "Selector" switch to the "Hand" position, push the "Start" button to run the pump only and circulate sanitizing solution.
9. Mix an additional 5 gallons of warm water (32°C-46°C) and 8 ounces of Nu-Calgon® IMS-II Sanitizing Concentrate or equivalent in the clean container.
10. Submerge a clean sponge in the sanitizing solution and wipe all inside surfaces of water box and water box cover, including the makeup water float valve.
11. With the water pump running, add the additional 5 gallons of sanitizing solution to the water tank. Allow sanitizing solution to circulate for at least 30 minutes.
12. Use the "Stop" button to stop the water pump.
13. Note: Concentration should be 200 ppm active sanitizing solution. (Nu-Calgon® IMS-II: 1.6 ounces of sanitizer per 1 gallon of water = 200 ppm).
14. Drain the ice machine water tank by opening the drain valve. After tank is drained, close drain valve.
15. Refill and flush tank with fresh water making sure that if the overflow drain has been closed, it is now reopened.

Performed by: _____

Date: _____



Sample - SSOP – Daily Checklist

| AREA | MATERIALS NEEDED | SANITIZING COMPOUND | ACTION TAKEN | DATE | INSPECTED BY (INITIALS) |
|--------------------|--|---|-----------------|------|-------------------------------|
| Packaging floor | <i>Broom Hose spray unit Cleaning compound</i> | <i>Quaternary ammonium: 600ppm</i> | | | |
| Break room | <i>Broom Mop Single service towels Cleaning compound</i> | <i>Quaternary ammonium: 600ppm for floors; 200ppm for counter tops Chlorine: 200ppm for counter tops</i> | | | |
| Restrooms | <i>Broom Mop Single service towels Cleaning compound</i> | <i>Quaternary ammonium 600ppm for floors & toilets; 200ppm for countertops Chlorine: 200ppm for counter tops</i> | | | |

Comments: _____

Checked By: _____

Date: _____



Sample - SSOP – Weekly Checklist

| AREA | MATERIALS NEEDED | SANITIZING COMPOUND | ACTION TAKEN | DATE | INSPECTED BY (INITIALS) |
|--|---|---------------------------------------|--------------|------|-------------------------|
| Water handling/ ice machines area | <ul style="list-style-type: none">• Hose spray unit• Broom• Mop• Squeegees• Rubber gloves• Personnel filter mask• Cleaning compound | Quaternary ammonium 600ppm | | | |
| Freezer floors | <ul style="list-style-type: none">• Broom• Power vacuum | Sweep or vacuum floors (dry cleaning) | | | |
| Interior of distribution vehicles | <ul style="list-style-type: none">• Hose spray unit• Broom• Brush• Power vacuum• Cleaning compound | Quaternary ammonium: 200ppm | | | |
| Packaging machine | <ul style="list-style-type: none">• Hose spray• brush• Rubber gloves• Cleaning Compound | Quaternary ammonium 200ppm | | | |

Comments: _____

Checked By: _____

Date: _____

Sample - SSOP – Semi-Annual / Annual Checklist

| Area | Materials Needed | Sanitizing Compound | Action Taken | Date | Inspected by (Initials) |
|---------------------------------|---|-----------------------------|--------------|------|-------------------------|
| Surge tanks | <ul style="list-style-type: none"> Hose spray unit Brush Rubber gloves & boots Personnel filter masks Eye goggles Cleaning compound | Quaternary ammonium: 200ppm | | | |
| Cutter/discharge chutes | <ul style="list-style-type: none"> Hose spray unit Brush Rubber gloves & boots Personnel filter masks Eye goggles Cleaning compound | Quaternary ammonium: 200ppm | | | |
| Augers | <ul style="list-style-type: none"> Brush Hose spray unit Rubber gloves Cleaning compounds | Quaternary ammonium: 200ppm | | | |
| Drying conveyor | <ul style="list-style-type: none"> Brush Hose spray unit Rubber gloves Cleaning compound | Quaternary ammonium: 200ppm | | | |
| Ice storage bin | <ul style="list-style-type: none"> Brush Hose spray unit Eye safety glasses Rubber boots Rubber gloves Cleaning compound | Quaternary ammonium: 200ppm | | | |
| Packaging area walls & ceilings | <ul style="list-style-type: none"> Hose spray unit Broom Rags Cleaning compound | Quaternary ammonium: 600ppm | | | |
| Freezer floors, ceiling & walls | <ul style="list-style-type: none"> Broom Mop Power vacuum Hose spray unit Cleaning compound | Quaternary ammonium: 600ppm | | | |
| Ice Display cabinets | <ul style="list-style-type: none"> Brush Single service towels Cleaning compound | Quaternary ammonium: 200ppm | | | |
| Chute/auger feed | <ul style="list-style-type: none"> Brush Hose spray unit Cleaning compound Rubber gloves | Quaternary ammonium: 200ppm | | | |

Comments: _____
Checked By: _____ **Date:** _____

Example: - Master Maintenance Plan for Facilities and Equipment

This plan includes procedures to implement and maintain PIQCS Quality Control Standards including: Plants to Grounds, Sanitary Operations, Facilities and Controls (only those parts dealing with maintenance), Equipment and Utensils (only those parts dealing with design and maintenance), Processes and Controls (only those parts dealing with design and maintenance), and Program Supervision and Records (as pertains to the efficient operation and control of the Maintenance Plan).

Each plan must include the specific items to be checked, maintained, and/or corrected, the responsible individual(s) to do the task(s), and the frequency to check the item.

| Item | Task | Responsible Individual(s) | Frequency |
|---|--|--|---|
| 1. Grounds | Mow grass Trim shrubs Remove trash | Contract to outside grounds maintenance firm | Not less than monthly. |
| 2. Plant Exterior | Maintain exterior to prevent entry of vermin, dust, debris, water, etc. Inspect entire plant. | Maintenance Supervisor | Correct defects as requested. Quarterly. |
| 3. Personnel Facilities, Break Room, Toilets, Locker Area | Personnel maintain neatness Clean/Sanitize Inspect Area | Custodian and Production Manager | Daily |
| 4. Water Treatment System(s): Type: Mechanical Filter Chemicals: Storage & Usage Levels | Inspect the system (see attached form) Chlorine Levels Ozone Delivery | Maintenance Supervisor Maintenance Individual | Weekly Daily |
| 5. Plumbing System | Check for defects | Maintenance Individual | Weekly |
| 6. Heating, A/C, Ventilation, Compressed Air | Maintain all systems to standards | Contract to outside firm | Quarterly |
| 7. Lighting | Check for defects | Maintenance Individual | Weekly |
| 8. Process Equipment Program | | Maintenance Supervisor | Daily |
| 9. Vehicles Control & Maintenance | Contract with outside firm | Maintenance Supervisor | As per Service Plan |
| 10. Parts Stock & Control | Storage, inventory, ordering | Maintenance Supervisor | Continuous |

➤ *These items are examples. The plan must be customized using these examples as a guide. Records of the required actions must be kept.*





Example - Master Maintenance Plan for Incoming Water Treatment System

Processing Area: Incoming Water Treatment System

Process Step/ Equipment: In Line Filter Units

Changing Procedures: Inspection and changing procedures

1. Turn off water supply.
2. Put on disposable plastic rubber gloves.
3. Spray canister(s) exterior with 200 ppm chlorine sanitizer solution.
4. Remove filter from canister(s). If required filter is satisfactory and changing is not required, replace and tighten canister(s) and turn on water supply. Back flush if required.
5. If new filter is needed:
 - a. Rinse empty canister(s) with 200 ppm chlorine solution, followed by potable water rinse.
 - b. Insert new filter(s) in canister(s), tighten, and turn on water supply and test.
6. Record essential information as follows:

Date: _____ Canister No.: _____

No Action Needed _____

New Filters _____

Back Flushed _____

Comments: _____

Checked By: _____

Date: _____



Example - Master Maintenance Plan – 25 Micron Filters

| | |
|--------------------------|------------------------------------|
| Processing Area: | Reverse osmosis (R/O) Room |
| Process Step/ Equipment: | 25 Micron Filters |
| Changing Procedures: | Inspection and Changing Procedures |

| | |
|-----|---|
| 1. | Check Pressure drop across filters while the R/O system is running. If the pressure drop is not greater than ten pounds across the filters, no action is needed. If the pressure drop is greater than ten pounds, follow the procedures below |
| 2. | When the R/O unit is off: Turn off the R/O Unit, Turn off water valve feeding into and out of the 25 micron filter housing, Open the drain valves to the housing, open the bleed valve on top of the housing, and remove the top of the housing. |
| 3. | Remove the 12 filters and replace with new ones. No cleaning or sanitizing is needed other than maintaining general cleanliness. |
| 4. | Replace the top of the housing and make sure that the gap between the two ends of the hold down band is less than ¼ inch. This will keep the top from coming off when pressure is applied. |
| 5. | Slightly open the input water valve and close the two housing drain valves. Leaving the top bleed off valve open allows the air to bleed out of the system. When water comes out of the bleed off valve, close the bleed off valve. |
| 6. | Open the water input valve fully and slowly open the water output valve fully. |
| 7. | Turn the R/O system back on. |
| 8. | |
| 9. | |
| 10. | |
| 11. | |

Record the needed information on the water system check list.

Comments: _____

Checked By: _____

Date: _____



Example - Master Maintenance Plan – Water Softener

| | |
|--------------------------|----------------------------|
| Processing Area: | Reverse osmosis (R/O) Room |
| Process Step/ Equipment: | Water Softener |
| Changing Procedures: | Inspection Procedures |

| | |
|-----|---|
| 1. | The water softener resin will in most likelihood be changed by an outside contractor. |
| 2. | If we do it ourselves, a procedure will be developed as we try different ways to see what works. |
| 3. | Watch the pressure drops across the water softener to check on operation. |
| 4. | Check the levels of the output water for hardness. If hardness begins to show up, check the brine level and for proper operation of the water softener control. If this does not work, schedule to get the resin replaced |
| 5. | |
| 6. | |
| 7. | |
| 8. | |
| 9. | |
| 10. | |
| 11. | |

Record the needed information on the water system check list.

Comments: _____

Checked By: _____

Date: _____

RECORDS AND DOCUMENT STORAGE

Good Manufacturing Practices (Quality Control Standards)

- ❑ All essential records stipulated for implementation in this documented PIQCS Program, tailored to individual plant operations, to form a Good Manufacturing Practices document.
- ❑ A written product recall plan maintained and records of recall actions taken (Generic plan EPIA included). Records of production, stock, sales and delivery records to assist in a recall situation are essential for the recall plan.
- ❑ Records of testing of ice and water supplies in accordance with PIQCS maintained for two (2) years.
- ❑ Pest control program records.
- ❑ Records of all required audits, in-house and external, maintained for two (2) years.
- ❑ Recommended optional documents and records to be maintained (not currently required by EPIA PIQCS):

Primary Records

1. Sanitation Standard Operating Procedures Action Records,
2. Employee Product Safety Training Program and Implementation Records,
3. Maintenance and Process Control Records,
4. HACCP Plan Records,
5. Accreditation Documents, and
6. Corrective Action Records.

To assist your plant operations and HACCP Committee, you should maintain a notebook (replaced annually) that contains your records documentation and organization. The following are some suggested “tabs”:

Recall Plan /Actions – Insert your company recall actions and mock recall records.

Pest Control – Insert your company pest control records whether you perform in house or hire an outside pest control firm.

Finished Ice Testing - Insert your of analytical laboratory test results for your finished ice.

Source Water Records

Insert your source water records either from your municipal source or your testing records if on a private source.

Personnel Training Records – Insert all employee signed training records for GMP's and SSOP's.



Maintenance And Process Control Records – Include records of repairs, maintenance checks, etc. for plant and equipment.

SSOP Action Records (In-House Plant Inspections)

Pre-Op Sanitation Inspections – Insert your Pre-Operational in-house inspection records

Operational Inspection Records – Insert your Operational inspection records.

Outside Audit Records – Insert copies of all outside audits (Army, NSF, customer audits, etc.).

Accreditation Documents – Insert copies of your EPIA accreditation document and others received from other sources.

HACCP Plan – Develop and insert your company HACCP records. Required for PIQCS

Corrective Action Records – Insert any corrective action records and index as to area and problem.

FINISHED PRODUCT TESTING

Monthly - Outside Laboratory

Sampling

Samples are to be taken once per month from the final package(s) of ice; either from the plant's line operations or the freezer storage area. Location of sampling should be recorded at the time the sample is taken. For best representation, the sample should consist of at least two (2) bags of ice, each taken from a different lot (day's production) of ice. The bags may be held in frozen storage until all are collected, then sent to a test laboratory for analyses. This test laboratory must take aseptic aliquots of ice (or the water from the thawed ice bags) in a manner to adequately represent the ice sample(s).

Analysis

The final sample aliquot is to be analyzed for:

- E. coli and total coliforms in 250 ml are to be negative
- Enterococci in 250 ml are to be negative
- Pseudomonas aeruginosa in 250 ml are to be negative
- TCC at 22°C the limit is 100 per ml;
- TCC at 37°C the limit is 20 per ml

All laboratories must use approved methods according to EU and local requirements.

Weekly/Daily – Inhouse testing

Sampling

Samples are to be taken once per day from the final package(s) of ice; either from the plant's line operations or the freezer storage area. Location of sampling should be recorded at the time the sample is taken. The bags may be held in frozen storage until the analysis is done in-house.

Analysis

The final sample aliquot is to be analyzed for:

- Presence/Absence for total coliforms are to be negative
- If positive for total coliform; tests for E.coli.

PRODUCT SAFETY IN EUROPE

The document “A Guide to corrective action including recalls” is published as an open source reference guide under the auspices of the European Commission Health and Consumer Protection Directorate General.

http://ec.europa.eu/consumers/cons_safe/action_guide_en.pdf

From the Guide:

If you are a producer or distributor of consumer products on sale in the European Union (EU), this guide gives you general advice about what you should do if you have evidence that one of your products may be unsafe.

It is a voluntary guide to carrying out corrective actions for product safety, supported by the market surveillance authorities in Member States and consumer and trade organizations within the EU.

Producers and distributors are encouraged to consult and cooperate with the authorities in Member States when carrying out corrective actions, following any codes of practice where they exist. There may be differences between Member States in the conditions, procedures and requirements for such actions.

The guide is aimed particularly at managers with responsibility for quality control, legal affairs and public and corporate relations. Organizations should have their own documented corrective action procedure applicable to their own circumstances.

The guide covers all types of corrective action (not just product recall) by producers or distributors, aimed at removing a safety risk arising from a non-food product they have placed on the market. Corrective actions can include:

- *Changing the design of products*
- *Withdrawing products from the distribution chain*
- *Sending information and warnings about correct use of products to consumers*
- *Modifying products at the customer's premises or elsewhere*
- *Recalling products from consumers for replacement or refund.*

This guide was supported by a grant from the European commission Health and Consumer Protection Directorate General. The guide applies to all food products, including Packaged Ice.

PREPARING A PRODUCT RECALL PLAN FOR YOUR COMPANY

The plan should be in written form and should put all of the information needed to manage the crisis at the fingertips of your crisis management team (CMT). Additionally, checklists should be distributed to employees explaining how to proceed when they receive information signaling a potential product recall.

Basic steps

- a. Start by putting down your company name and address or corporate headquarters if you have multiple plants. Include a contact person(s), phone, fax, email. For multiple plants add a chart listing all your facilities (usually identified using a coding system so that they can be uniquely identified).
- b. Then write down your crisis management team (CMT) members. (See the ***Managing a Crisis: Tips from Communications Veterans*** section in the PROGRAM SUPERVISION tab for discussions of each team member's roll). For multiple plants add a Recall Coordinator for each plant.

| The People | Name | Phone | Fax/Email |
|-------------------------------|------|----------------|--------------|
| Team Leader | | Direct Cell | Fax Email |
| Recall Coordinator | | Direct Cell | Fax Email |
| Legal Counsel | | Direct Cell | Fax Email |
| Public Relations Counsel | | Direct Cell | Fax Email |
| Government Office | | Direct Cell | Fax Email |
| Government Recall Coordinator | | Direct Cell | Fax Email |
| EPIA Executive Coordinator | | Direct Cell | Fax Email |

Key questions to ask about your company:

1. Do you code your bags? If so, how? Write down the specifics of what your code means. For multi-plant operations tell how each plant's code is determined and how it differs from other plants. If you code is different for each bag, tell how you handle waste bags.
2. Do you label your pallets? If so, how? Write your procedures down and where the records are stored.
3. Do your truck loaders keep track of what pallets they put on a truck as they load it? Write down what the loaders do and where the information is stored.
4. Do your drivers keep track of what ice they deliver and from what pallet? Write down what they do and where the information is stored.

Based on the information above you can now begin writing your Recall Procedures Plan.

Write down step by step the actions you will take in your RECALL procedure. (The following is a framework used by many companies that are members of the EPIA. Also see the Flowchart for Recall Action Plan and the EPIA Recall Guide below).

“Your Company name” will follow the following procedures upon receiving a consumer or retailer complaint or notification from a regulatory agency that indicates that contaminated or unsafe product is being distributed.

We will:

1. Investigate the complaint promptly and thoroughly.

Once information indicating a potential crisis reaches a member of the crisis management team (CMT), that member will convene the CMT immediately. This enables the CMT to identify the nature and scope of the specific crisis and consider the appropriate corporate response. Fact development. Design a system for collecting information within the corporate structure and assuring that the information is accurately and rapidly transmitted. Proceed to identify the additional facts needed to manage the situation effectively

1. Degree of risk to consumers
2. Likely exposure to civil liability
3. Level of government and media scrutiny
4. Extent to which government agencies need to be involved
5. Interference with normal business operations
6. Damage to public image
7. Potential damage to a company's profit and market position

2. Review the Recall Procedures Guide.

3. Determine if a recall is necessary, and at what level.

“Our company name” will use the following decision tree to determining the severity or level of recall required.

Follow this Decision Tree to Determine the correct Food Recall Classification.
Note that you will write down your decision as you consider each question.

Question 1. Is there a reasonable probability that the use of or exposure to the product will cause serious adverse health consequences or death?

NO **YES→ Initiate a Recall**

↓

Question 2. Is there a reasonable probability that use of or exposure to the product will cause temporary or medically reversible adverse health consequences or where the probability of serious adverse health consequences is remote?

NO **YES→ Initiate a Recall**

↓

Question 3. Is exposure to the product not likely to cause adverse health consequences, but represents a legal violation (i.e., technical labeling violation)?

NO **YES→ Initiate a Recall**

↓

Question 4. Does the product problem represent a technical or significant violation that is not a legal violation?

NO **YES→ Initiate a Market Withdrawal or Correction**

↓

No Action Required.

4. If a recall is necessary, activate the Crisis Management Team (CMT) and the Recall Coordinator. Write down the name of the person with the authority to make decisions for the company and who will direct the activities of the CMT. Designate them as the Recall Coordinator or “Team Leader.” The crisis management plan should also describe the order of succession for company officers in case one or more of the officers is unable to perform his or her duties as a result of a crisis.
5. Contact and consult with legal counsel.
Write down who is authorized to make statements to the media or any regulatory agency. Make sure you spell out to all other employees they are to refer all inquiries to the Recall Coordinator.
NOTE: Effective communication with the media, government officials, customer, and suppliers is absolutely necessary. Any crisis puts a premium on intelligent, effective communication, both inside and outside a company corporate communications policy. So, do not let ego get in the way:
 - Choosing a corporate spokesperson based on ability.
 - Let the CMT make decisions on releasing information (when, how and how much, to whom)
 - Communicating with the media and government authorities



6. Contact and consult with your local government official for your area. Depending on the reason of the product recall, the regulatory agency people may want to oversee recall activity. They may be interested in % recovery of stock, assurances that the condition is corrected and affected product properly identified, as well as final disposition of product. On occasion, regulatory people want to witness destruction of the affected product. The point here is that once a regulatory agency becomes involved, continued communication with them is required.
7. Contact and consult with public relations counsel.
8. Prepare a recall communication backgrounder.
9. Notify retailers of the recall. (The following is compliments of Karim at Dixie Ice). You can use most of it but modify for your operations.

These simple steps will instruct an individual on recalling product, and should be used only after it has been confirmed that it is necessary to do so. This guide will not aid in deciding whether or not a recall plan should go into effect.

Step 1: Determine how many days of production must be recalled. This can be figured by determining when the contamination took place.

Step 2: Pull records of route sales which occurred from the day following the contamination until present. Also, pull records of purchases by distributors from the day of the contamination until present. (Depending upon the type records you keep, this may be able to be able to be done electronically.)

Step 3: Organize as many able individuals as possible to begin contacting all parties who, according to these sales records, purchased ice during the time frames described in Step 1 above.

Step 4: Once the list of customers who need to have ice recalled is determined, follow the guidelines below to inform them of the situation. (Write this to make this fit your company's operations.) Telephone numbers are available in _____. In the event electronic records are not available or there is a loss of power and computers not available, hard copies are available in _____ located _____.

- Call the store and ask to immediately speak to a manager or owner. If not available, continue this call process with the clerk on the phone and get a number where management can be reached to also go through this call procedure with them.
- BE HONEST!! Inform the person that the ice in their merchandiser may be contaminated and could cause serious injury or harm to their customers if it is continued to be sold. (Make the follow fit you company's chosen procedures) Ask them to immediately lock out or destroy all of the ice in their merchandiser and stop all sales and use of ice in their merchandisers. It is imperative that ALL the ice in the merchandiser be locked out or destroyed because it is impossible to determine which bags were delivered

recently and which bags may have been in the box already. The date coding embossed on the bags can be very difficult for the public to find and identify well enough for this to be reliable. The customer should also be informed the all the bags will be destroyed and replaced at their next delivery free of charge. In the event that the store manager/owner elects to destroy the bags on his own, ask him to make a note of how many bags are destroyed for crediting purposes.

- Thank the customer for his compliance and let him know that a truck will be sent as soon as possible to destroy any remaining ice and to restock the merchandiser with good ice once the contamination issue is resolved.

Step 5: Make a note of the Customer called, address, person whom you spoke to, time and date of call, whether the ice will be locked out or destroyed, if the person agreed to comply with your request. A sample form, *Product Recall Certification Form*, is below to illustrate how this could be documented.

Step 6: Develop routes for all trucks available to go to all of the customers with contaminated ice. First, priority should be given to those stores who are recorded by the caller as “did not agree to comply.” Second priority should be given to those who only locked out their boxes and did not destroy the ice. This will ensure that no ice will be mistakenly sold from the store.

Step 7: Instruct your driver(s) to follow the given routes and destroy any remaining ice in the boxes at the locations. This can be done simply by throwing all the bags into a nearby dumpster. Ask the driver to make a note of bags discarded and write negative balance credit invoice to the customer to receive his credit on the next delivery. Ask the driver to personally sign off on the invoice that he has removed every bag of ice from the merchandiser.

Step 8: These invoices can be used to sign off on the same form used to record information from the initial phone call that a store has been certified free of contaminated ice and is available for restock of good ice.

Step 9: Once all stores have been certified clean of contaminated ice and restocked, the recall program has been completely and successfully completed.

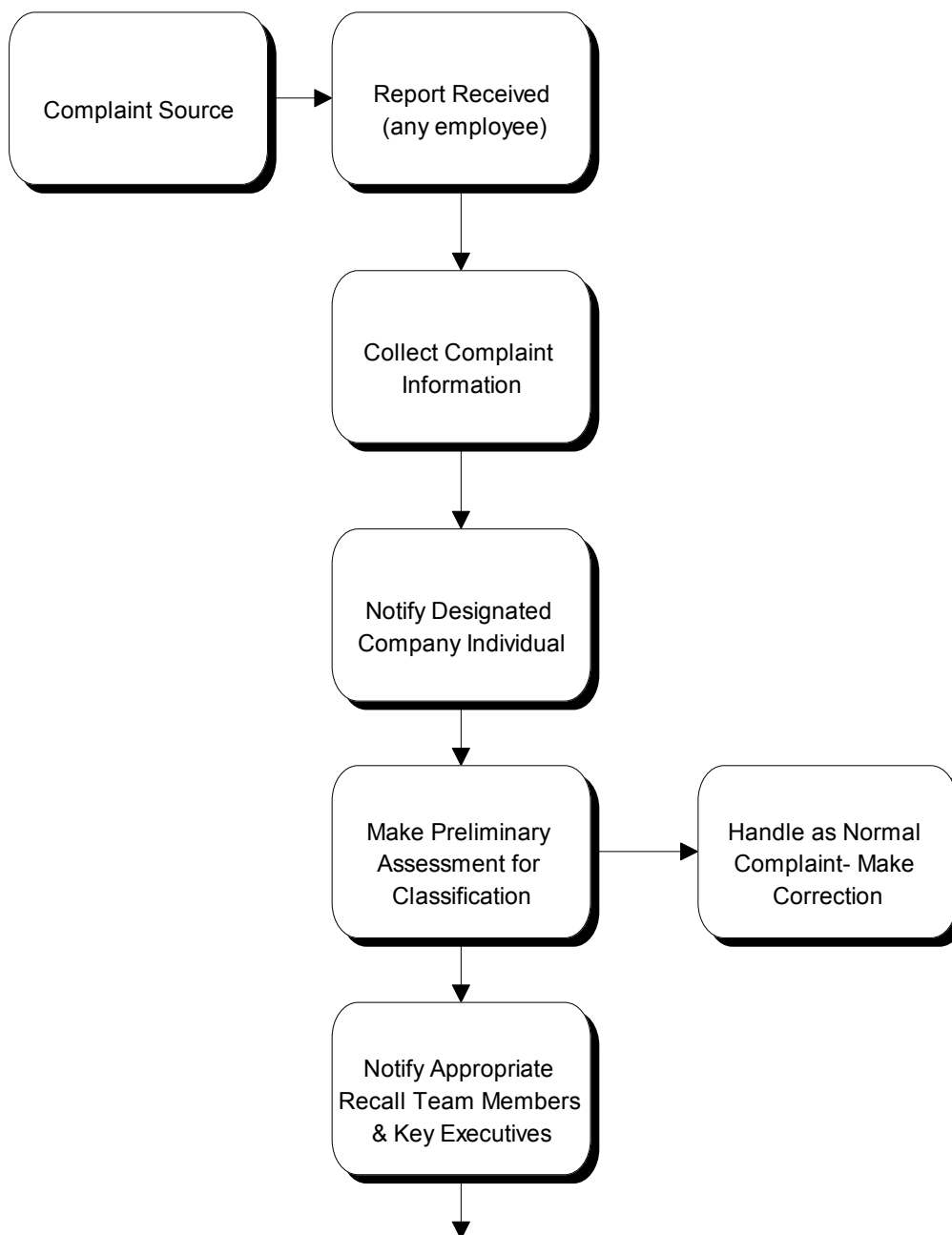
10. Oversee the recall operation. You should have written down the name of team leader or recall coordinator. If not, write down who that person will be and what he will do. Continue communicating with trade associations, customers, and suppliers speaking through one person during times of crisis. Remember spokesperson is most effective when he or she is a senior officer of the company. Make a comment that the company will keep employees informed.
11. You should write down everything relating to a recall and a copy must go to the recall coordinator.

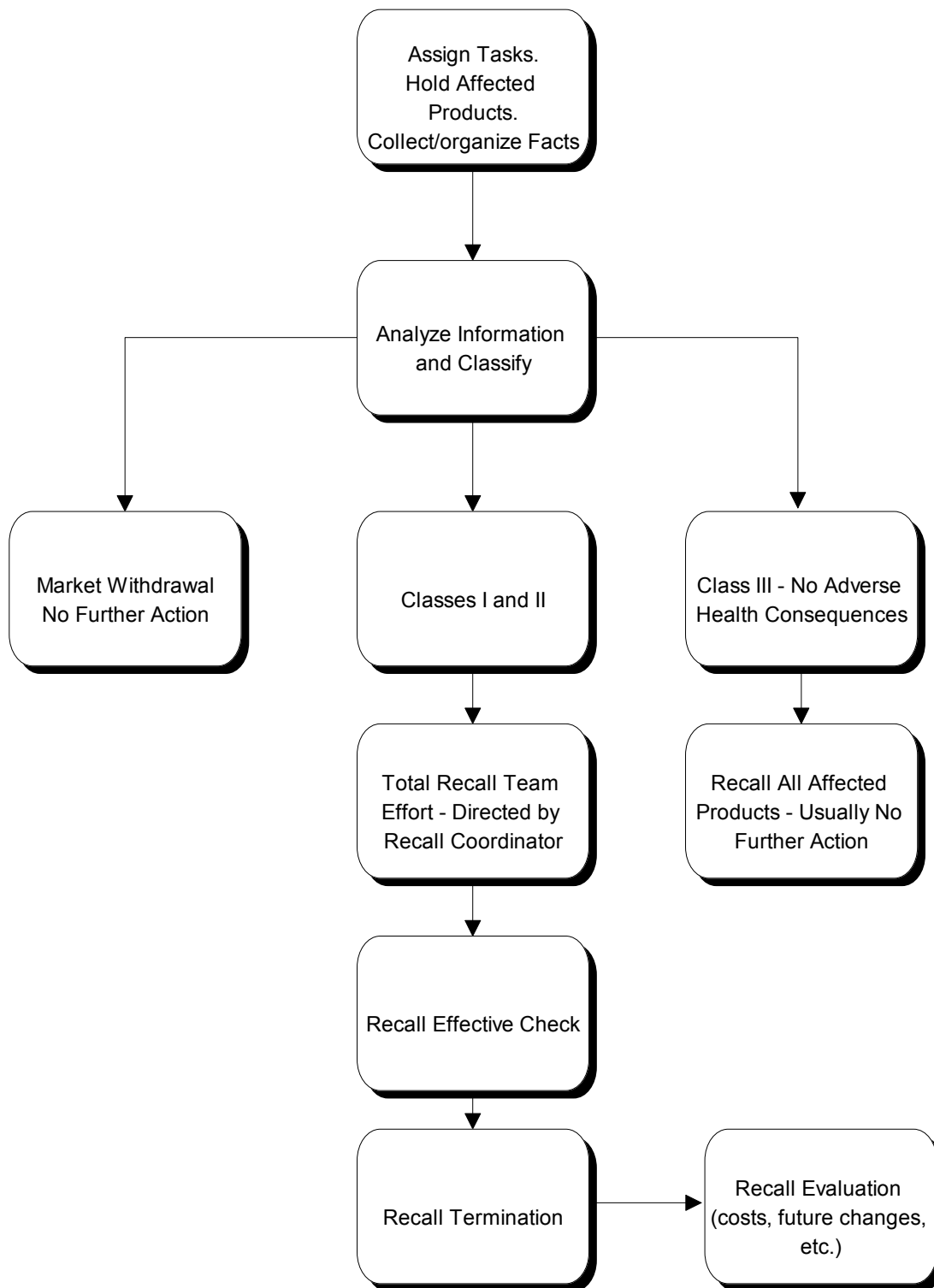
Sample form recording information for initial call to a customer and final certification.

PRODUCT RECALL CERTIFICATION FORM

[illegible]

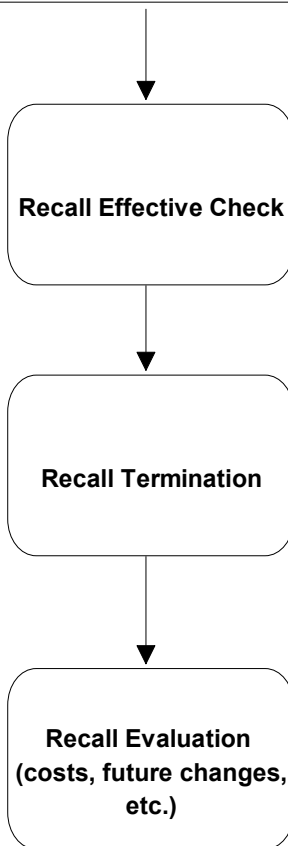
Flow Chart for Recall Action Plan





(Insert names of responsible individuals)

Records tracking of raw materials used _____
 Legal Council _____
 Communication with Suppliers _____
 Customer Communication _____
 Media Coordinator _____
 Financial Accountability _____
 Records tracking of Product Distribution _____
 Notification of appropriate agencies/groups
 (USDA, AMI, etc.) _____
 Quality Control troubleshooting (lots, codes, type
 failure) _____



Sample - Company Recall Plan Form

| The People | Name | Phone | Fax/Email |
|-------------------------------|------|----------------|--------------|
| Team Leader | | Direct Cell | Fax Email |
| Recall Coordinator | | Direct Cell | Fax Email |
| Legal Counsel | | Direct Cell | Fax Email |
| Public Relations Counsel | | Direct Cell | Fax Email |
| Government Office | | Direct Cell | Fax Email |
| Government Recall Coordinator | | Direct Cell | Fax Email |
| EPIA Executive Coordinator | | Direct Cell | Fax Email |

THE STEPS TO TAKE IN A RECALL

1. Investigate the complaint promptly and thoroughly.
2. Review the EPIA Recall Procedures Guide.
3. Determine if a recall is necessary, and at what level.
4. Activate the Recall Coordinator.
5. Consult with legal counsel.
6. Consult with the accountable health authority.
7. Consult with public relations counsel.
8. Prepare a recall communication backgrounder.
9. Notify retailers of the recall.
10. Oversee the recall operation.

YOUR COMPANY NAME

Company Name _____
Address _____
City/State/Zip _____

Mock Recall Procedure

Objective: A mock recall is designed to test a company's ability to accurately track product in the event of an actual recall. This is a timed event. The time to conduct and complete such an exercise, should take no more than two hours with the goal to complete in less than one hour.

A recall coordinator should be assigned to manage the mock recall. This may be a corporate employee in application to a multi plant organization or an individual on site at a single plant facility.

A mock recall should be conducted without advance notice to participating employees. Providing advance notice, removes the reality check necessary to accomplish the objective.

A mock recall begins when the recall coordinator provides a product and code to the producing plant. This notice should be both verbal and written to avoid any misunderstanding on the product and code in question. Everyone involved must know this is an internal test so that no contact is made with customers.

Time is very important in conducting a mock recall. Regardless of time, nothing is more important than accuracy. This will avoid additional complications requiring multiple notices and confusion on the part of customers, consumers, regulatory and others. Both time and accuracy will improve with practice which is the key objective of a mock recall.

A mock recall should be conducted no less than once every six months. A higher frequency may be required initially to achieve the objective.

A Mock recall does not require direct contact with customers or regulatory. Upon completion of a mock recall companies should insure that customer, regulatory and internal company contact information is up to date. This can be accomplished by phone, e-mail or written survey to key contacts. It is extremely important that this contact information contain both day time and after hours phone numbers.



Mock Recall

Urgent!! Immediate Attention by Management Required!
This is a timed test!!!!

Plant Location: _____ Plant Contact: _____
Date of Mock Recall: _____ Start time of Recall: _____
Recall coordinator _____ Time Coordinator called: _____
Test item Description: _____ Test Item Number: _____
Production Code: _____ Location on the bag: _____
Production date: _____

Plant Location Completes the Following A.S.A.P.

1. Total product produced: _____
2. Current product inventory: _____
3. Total inventory distributed: _____
4. Dates product may have been shipped. From: _____ to: _____
5. Compile an item usage query by customer, location, date and amount purchased for the period of time that product was in active distribution. This becomes the active call list.
6. Time query requested: _____ Time query completed: _____

****** Note: Do not call customers, as this is just an internal test. ******

7. Make note of date and time all actions are completed with signature of location manager.

Date: _____ Time: _____

Signature: _____

8. All customer, regulatory, and internal contact information should be updated upon completion of a mock recall.

FOOD DEFENSE

Crisis Management Suggestions

For packaged ice, like any food, a Crisis Management Plan must consider a broad range of circumstances (e.g., product recall, terrorism, plant facilities hazards, contagious illness among employees, etc.). It is wise to prepare your company for potential crises by establishing a Food Defense plan with definitive procedures and familiarizing your personnel with all aspects of the plan. This section pertains to all types of crises and, additionally, gives detailed guidelines for conducting a Product Recall and a Food Defense Plan.

These Crisis Management Guidelines included in this Reference Section are:

EFSA Food Security Assessment Handbook

- Plan Management
- Outside Security
- General Inside Security
- Storage Security
- Shipping and Receiving Security
- Water and Ice Supply Security
- Mail Handling Security
- Personnel Security

FOOD SECURITY PLAN MANAGEMENT

The EFSA Food Security Assessment Handbook can be downloaded here:

<http://www.wfp.org/content/emergency-food-security-assessment-handbook>

- A food security management team and a food security management coordinator should be identified for each plant or company. Each member should be assigned clear responsibilities.
- A food security plan using established risk management principles should be developed and implemented. The plan should include procedures for handling threats and actual cases of product tampering and an evacuation plan for each facility.
- Corrective action taken in all cases of product tampering should ensure that adulterated or potentially injurious products do not enter commerce.
- The plan should include the immediate recall of adulterated products from trade and consumer channels. Safe handling and disposal of products contaminated with chemical or biological agents should also be included in the plan.
- A relationship should be established with appropriate analytical laboratories for possible assistance in the investigation of product-tampering cases.
- Procedures for notifying appropriate law enforcement and public health officials when a food security threat is received, or when evidence of actual product tampering is observed, should be detailed in the plan.
- Specially designated entry points for emergency personnel should be identified in the plan.
- Current local, State and Federal Government Homeland Security contacts and public health officials should be listed in the plan. This list should be updated regularly.
- Members of the food security management team should be trained in all provisions of the plan. Drills should be conducted periodically. The plan should be periodically reviewed and revised as needed.
- Food security inspections of the facility should be conducted regularly by plant officials to verify key provisions of the plan.
- All employees should be encouraged to report any sign of possible product tampering or break in the food security system. Consider implementing an award system or establishing performance standards related to food security consciousness.
- All threats and incidents of intentional product tampering should be immediately investigated and reported to the local law enforcement officials and the FSIS/State Inspector in-Charge.
- Liaison with local Homeland Security officials and other law enforcement officials should be pre-established by the food security management team.

OUTSIDE SECURITY

- Plant boundaries should be secured to prevent unauthorized entry. “No Trespassing” signs should be posted.
- Integrity of the plant perimeter should be monitored for signs of suspicious activity or unauthorized entry.
- Outside lighting should be sufficient to allow detection of unusual activities.
- All access points into the establishment should be secured by guards, alarms, cameras or other security hardware consistent with national and local fire and safety codes.
- Emergency exits should be alarmed and have self-locking doors that can be opened only from the inside.
- Doors, windows, roof openings, vent openings, trailer bodies, railcars and bulk storage tanks should be secured (e.g., locks, seals, sensors) at all times.
- Outside storage tanks for hazardous materials and potable water supply should be protected from, and monitored for, unauthorized access.
- An updated list of plant personnel with open or restricted access to the establishment should be maintained at the security office.
- Entry into establishments should be controlled by requiring positive identification (e.g., picture IDs, sign-in and sign-out at security or reception, etc.).
- Incoming and outgoing vehicles (both private and commercial) should be inspected for unusual cargo or activity.
- Parking areas for visitors or guests should be situated at a safe distance from the main facility. Vehicles of authorized visitors, guests and employees should be clearly marked (placards, decals, etc.).
- Truck deliveries should be verified against a roster of scheduled deliveries. Unscheduled deliveries should be held outside the plant premises, if possible, pending verification of shipper and cargo.

GENERAL INSIDE SECURITY

- Restricted areas inside the plant should be clearly marked and secured.
- Access to central controls for airflow, water systems, electricity and gas should be restricted and controlled.
- Updated plant layout schematics should be available at strategic and secured locations in the plant.
- Airflow systems should include a provision for immediate isolation of contaminated areas or rooms.
- Emergency alert systems should be fully operational and tested, and locations of controls should be clearly marked.
- Access to in-plant laboratory facilities should be strictly controlled. Comprehensive and validated security and disposal procedures should be in place, particularly for the control of reagents, hazardous materials and live cultures of pathogenic bacteria.



- Visitors, guests and other non-plant employees (contractors, salespeople, truck drivers, etc.) should be restricted to non-product areas unless accompanied by an authorized plant representative.
- Computer data systems should be protected using passwords, network firewalls and effective and current virus detection systems.

STORAGE SECURITY

- Controlled access should be maintained for all product and ingredient storage areas. An access log may be maintained.
- Security inspection of all storage facilities (including temporary storage vehicles) should be performed regularly, and the results logged.
- A daily inventory of hazardous chemicals or other products should be made, and all discrepancies should be investigated immediately.
- Hazardous chemical storage areas or rooms should be secured and isolated from other parts of the plant. In addition, they should be constructed and safely vented in accordance with national or local building codes.

SHIPPING AND RECEIVING SECURITY

- All outgoing shipments should be sealed with tamper-proof, numbered seals that are included on the shipping documents.
- Establishments should require that incoming shipments are sealed with tamper-proof, numbered seals, and that the seal numbers be shown on the shipping documents for verification prior to entry to the plant.
- Shipping documents with suspicious alterations should be thoroughly investigated.
- All trailers on the premises should be locked and sealed when not being loaded or unloaded.
- A policy for off-hour deliveries should be established to ensure prior notice of such deliveries and require the presence of an authorized individual to verify and receive the shipment.
- Packaging integrity of all incoming shipments should be examined at the receiving dock for evidence of tampering.

WATER AND ICE SUPPLY SECURITY

- Outside access to wells, potable water tanks and ice-making equipment should be secured from unauthorized entry.
- In-plant ice-making equipment and ice storage facilities should have controlled access.
- Potable and non-potable water lines in food processing areas should be inspected periodically for possible tampering.
- The plant should arrange for immediate notification by local health officials in the event the potability of the public water supply is compromised.

MAIL HANDLING SECURITY

- Mail handling activity should be done in a separate room or facility, away from in-plant food production/processing operations, if possible.
- Mail handlers should be trained to recognize and handle suspicious pieces of mail using U.S. Post Office guidelines.

PERSONNEL SECURITY

- A system of positive identification/recognition of all plant employees should be in place.
- Procedures should be established for controlled entry of employees into the plant during both working and non-working hours.
- New hires (seasonal, temporary, permanent, and contract workers) should be subjected to background checks before hiring.
- Orientation training on security procedures should be given to all plant employees.



PIQCS-HACCP Standards

HACCP Plan Guidelines

Guidelines for Developing a Hazard Analysis / Critical Control Points (HACCP) Plan

In order to prepare a thorough HACCP-based Plan, the following outline is recommended:

- A. Statement of Commitment
- B. Description of the Company
- C. Organization and Management of the HACCP Plan
- D. Appointing of the HACCP Team
- E. Selection of the HACCP Coordinator
- F. Description of the Products and Processes
- G. Prepare a Process Flow Chart
- H. Conduct a Hazard Analysis (HA)
- I. Identify the Critical Control Points (CCPs)
- J. Establish Critical Limits
- K. Establish Monitoring Procedures for each CCP
- L. State the Corrective Actions when Critical Limits are Exceeded
- M. Establish an Accurate Record Keeping System
- N. Establish a Verification System for the HACCP Plan
- O. Validation of the HACCP Plan

Introduction to the HACCP Concept

The Hazard Analysis Critical Control Point (HACCP) concept is a systematic, preventive approach to identify, monitor, and control hazards at critical points in the process to assure safe food production and distribution. HACCP came to the food industry in the 1960's and was endorsed by the US National Academy of Sciences in 1985. EU directive 852/2004 requires the implementation of HACCP in all food producing enterprises. Since 2006 it is mandatory that all food products sold in and imported into the EU follow HACCP guidelines. EPIA

Why HACCP for EPIA Members?

HACCP is a proactive and preventive system. It requires the use of a systematic process to eliminate, reduce, or minimize food safety risks. Critical success factors for HACCP are a comprehensive and well-enforced set of prerequisites (i.e., the PIQCS program) and management's commitment to the implementation of the system.

These prerequisites are commonly described as Good Manufacturing Practices (GMPs), which are explained in the Packaged Ice Quality Control Standards (PIQCS). In conducting a Hazard Analysis, a critical control point (CCP) must be based upon a food safety hazard that is reasonably likely to occur in your process. That is, each plant must assess the degree of risk by conducting a hazard analysis at each step in the ice manufacturing process.

A good HACCP program requires continuous effort, and we believe the results will identify our members as top-ranking and forward-thinking ice manufacturers. HACCP will give you the edge as a private label manufacturer, increase staff morale, increase the confidence of your customers, reduce your product liability – all by enhancing the safety and quality of EPIA member products. And that should lead to better product perception by your customers and give greater profits for everyone!

The HACCP Principles

This guideline will give step-by-step procedures for developing a HACCP Plan that can be customized for each plant by applying the following seven HACCP principles:

The Seven Principles of HACCP

- Principle One:** Identify Hazards by Conducting a Risk Assessment of the Processes. Start with the Process Flow Chart.
- Principle Two:** Identify Critical Control Points.
- Principle Three:** Develop Procedures with Critical Limits for each CCP.
- Principle Four:** Establish Monitoring Procedures.
- Principle Five:** Establish Corrective Action Procedures.
- Principle Six:** Establish a Record Keeping System.
- Principle Seven:** Verification of the System.



A. Statement of Commitment

Company management needs to state their commitment to implementing the HACCP principles so that all personnel understand that the company is totally involved. This commitment must be made in order to commit the necessary resources and the efforts to attain the level of food safety required. The Owner and/or Chief Executive Officer of the company/plant must provide a statement of commitment and follow through to assure implementation of the HACCP system.

EXAMPLE:

Statement of Commitment to the HACCP Concept of Food Safety

We will commit the necessary resources to meet the HACCP principles and to train all involved personnel to maintain safe ice manufacturing and distribution.

The undersigned assumes overall responsibility in assuring that the HACCP procedures set forth in this document are implemented and modified, as appropriate, to keep it current and effective.

(Signature)

(Title)

(Date)

Updates

Updates to the HACCP Plan are verified below.

Name:

Date

Title:

Name:

Date

Title:

Name:

Date

Title:

****CONFIDENTIAL COMMERCIAL INFORMATION****

B. Description of the Company

Describe your products and markets. Include a statement of the company's mission, scope of operations, marketing territories, and customers.

EXAMPLE:

The XYZ Ice Company was established in 1908 and produces ice as its only product for the retail and commercial markets. The company markets cover the Eastern one-third of Massachusetts. We maintain ice storage freezers in three locations with one manufacturing facility. A fleet of modern trucks is used to distribute ice throughout our market area. The HACCP plan is based upon the previously implemented PIQCS program of the EPIA and a training program is continuously employed to meet the dynamic needs of the company. We maintain a full-time quality control technician to oversee these programs for the manufacturing plant and storage freezers.

C. Organization and Management of the HACCP Plan

In order to implement an effective HACCP Plan, it is essential to specifically define the organizational structure and describe how the plan will be managed. Appoint a HACCP Coordinator and a HACCP Team (Committee). The HACCP Coordinator should report to the CEO or appropriate management authority responsible for overall company/plant management. In some cases, the manager/owner will serve as the HACCP Coordinator. The HACCP Team will develop and implement the HACCP Plan. However, the Hazard Analysis should be guided by an individual trained in HACCP techniques. It is advisable for each ice plant to have at least one individual who has completed an accredited HACCP course.

The HACCP Team needs to schedule regular meeting to review pertinent data, problems, corrective actions, and to reassess the plan on an as needed basis.

Appointing the HACCP Team

The HACCP Team should include employees with a combined knowledge of the facilities, processes, equipment, and markets. The team will have the task to oversee the HACCP Plan in accordance with the objectives of the company, to develop and implement the HACCP Plan, and to create a HACCP training program for employees. In small plants, the HACCP Team may only be two persons.

Selection of a HACCP Coordinator

The HACCP Coordinator will have the responsibility of developing, organizing, and managing the HACCP program. This individual must be familiar with HACCP principles, have a knowledge of ice manufacturing operations, and possess good communication skills.

EXAMPLE (Listing of HACCP Team members and the Coordinator):



It is essential that all key management personnel be knowledgeable of the HACCP Concept and the importance of its role in the safe production of our products. The HACCP Plan is a key part of our Food Safety and Quality Assurance Programs. Training of personnel is an essential part of the plan and will include both classroom instruction and on-the-job application of the HACCP principles. In order to properly plan, develop, implement and maintain the HACCP Plan, the HACCP Coordinator and the HACCP Committee have been selected and are listed below:

HACCP Coordinator: _____

HACCP Committee: _____

D. Description of Products and Processes

Provide a brief description of the primary methods used to produce your line of products, a list of the products, and key marketing information. Include products in addition to packaged ice, if they are included in the producing and distributing systems for packaged ice (e.g., water treatment methods for bottled water, block ice production).

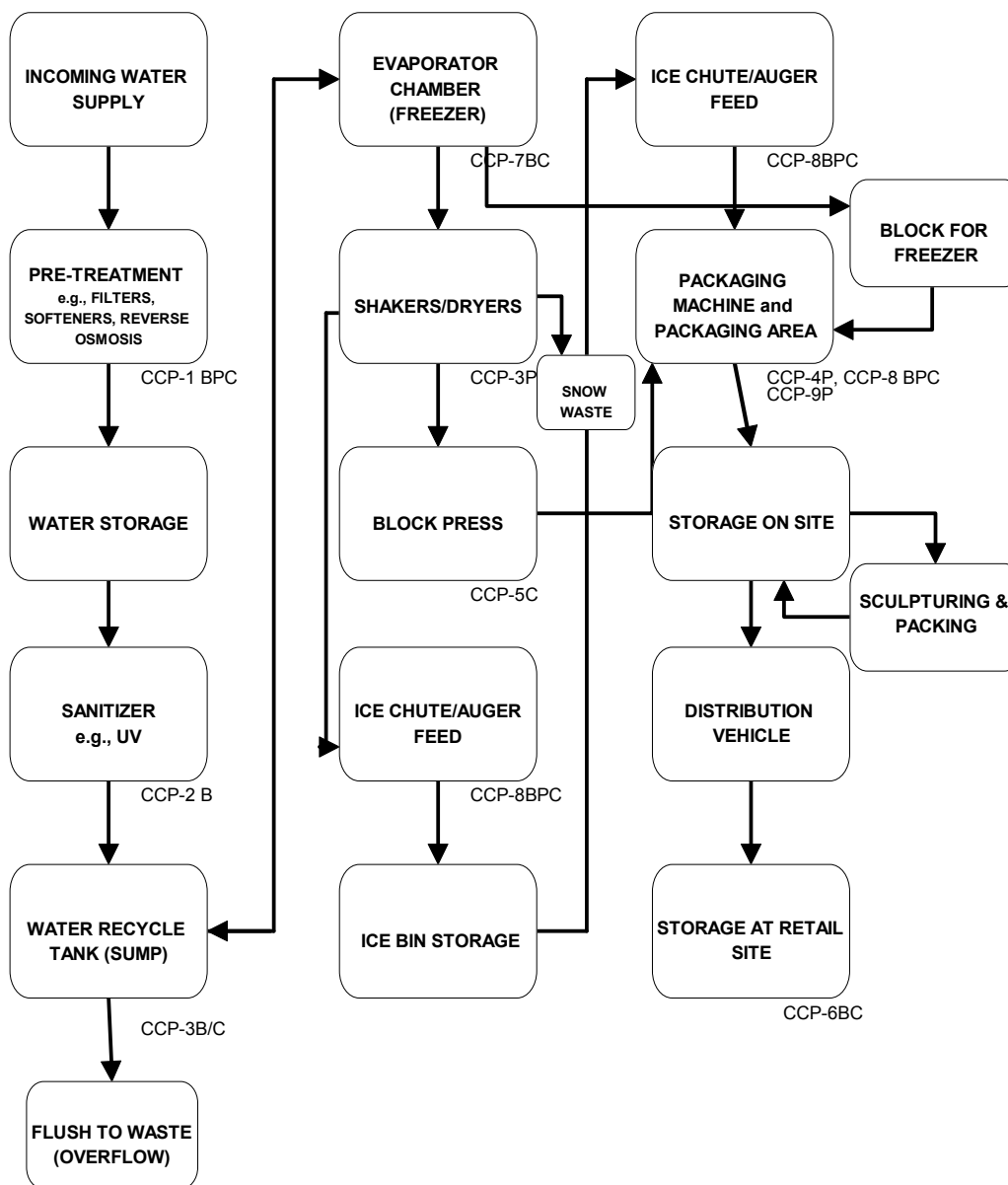
EXAMPLE:

The XYZ Company manufactures ice in a state of the art facility for sale to retail and institutional markets. The products include packaged ice in 7, 10, and 30 lb. Units. These are packaged in heat-sealed plastic bags for both our company branded and private labeled products. The bags are pre-printed and include the EPIA logo. Our firm also produces block ice for specialized customers, including ice sculpturing. We have developed separate HACCP Plans for packaged and block ice production.

E. Prepare a Process Flow Chart

As you complete the description of products and processes, develop a process flow chart showing a step-by-step representation of the process. Once the Critical Control Points are determined, they should be noted on the process flow chart.

Example of an ICE MANUFACTURING FLOW CHART



F. Conduct a Hazard Analysis

A hazard is defined as a biological, chemical, or physical agent that is reasonably likely to cause illness or injury in the absence of critical controls. The hazard analysis (HA) is focused only on food safety points.

The hazard analysis process consists of two stages:

- Identification of potential hazards
- Evaluation of hazards

Firstly, a list of potential hazards must be made for the specific product (ice) being manufactured by your plant at each step identified on the process flow chart. During the identification of potential hazards, information as to previous history of any adverse health-related events for either water or ice should be considered, such as:

- Raw materials defects
- Equipment failures
- Process failures (e.g., unclean rake bins, inadequate water filters)
- Operational sanitation, PIQCS training
- Problems with storage and distribution
- Consumer abuse

Secondly, use the list of potential hazards you have identified for each process step to determine the severity of the hazard (e.g., potential for serious illness from E.coli) and the likelihood of occurrence. Such factors as the effectiveness of the training personnel for the PIQCS requirements, conditions of transportation vehicles, potential abuse by consumers will influence likelihood of occurrence for your company.

Based upon these factors, determine which hazards must be addressed at each process step for your particular ice plant. This will determine your Critical Control Points (CCP). No two ice plants will necessarily have identical HACCP Plans.

Table 1 provides an example of how the two stages of hazard analysis are used to determine the need to address the hazard in the HACCP Plan.

Table 1. Examples of Stages of Hazard Analysis for Plant A

| Stage | Packaged Ice for Retail Sales |
|--|--|
| 1. Hazard identification | Pathogens (i.e., <i>E.coli</i> , <i>Salmonella</i> , <i>Cryptosporidium</i>) |
| 2. Hazard evaluation a. Assess severity of health consequences. b. Determine likelihood of occurrence of the hazard. | Historical evidence indicates these pathogens cause <u>severe health effects</u> , including death among children and the elderly. Thus, the <u>severity</u> rates high. <u>Likelihood of occurrence</u> is low due to excellent rating of city water treatment plant. |
| Using above information, determine if this hazard is to be addressed in the HACCP Plan. | HACCP Team determines that control of the pathogen hazard is acceptable and it is not necessary to address this hazard in the HACCP Plan at this plant. Therefore, no preventative measures need be stated on our HA worksheet. |

It can be helpful to construct a grid for ranking the severity and likelihood of occurrence as shown in Table 2.

Table 2. Ranking System for Hazards

| Severity | Likelihood of Occurrence | | |
|----------|--------------------------|--------|------|
| | Low | Medium | High |
| High | H-L | H-M | H-H |
| Medium | M-L | M-M | M-H |
| Low | L-L | L-M | L-H |

Example:

Plant B.

In this plant, the municipal water treatment plant is not highly rated. The severity of a failure to destroy *E.coli* would be rated as high, and the likelihood of occurrence would be rated as medium. We then must determine if this ranking (High-Medium) is a risk likely to occur and warrants special water treatment steps and a CCP. In conclusion, in Plant A illustrated in Table 1, we indicated that this hazard (pathogenic bacteria) such as *E.coli* does not require a CCP in the HACCP Plan. However, the grid system (Table 2) for the hazard analysis in Plant B clearly indicated that this hazard (pathogenic bacteria) must be addressed because of the severity (possibility of death) if a failure occurs.

It is important to list the preventative measures on your HA work sheet which must be implemented to control a potential hazard which has been determined to need addressing in this plant's HACCP Plan (see Table 2). However, if our preventative measures are adequately covered by prerequisites or the Good Manufacturing Practices (GMP's), which means you have adequately implemented the PIQCS Quality Control Standards, a specific process step will not need to be a CCP.

Table 3 - Biological Hazards - Hazardous Microorganisms Grouped On The Basis Of Risk Severity

| | Pathogens |
|--|--|
| Severe Hazards | <ul style="list-style-type: none"> • Clostridium botulinum types A, B, E and F • Listeria monocytogenes • Shigella dysenteriae • Salmonella typhi: paratyphi A, B • Hepatitis A and E • Brucella abortis: B. suis • Vibrio cholerae 01 • Vibrio vulnificus |
| Moderate Hazards <ul style="list-style-type: none"> • Potentially Extensive Spread | <ul style="list-style-type: none"> • Salmonella spp. • Shigella spp. • Enterovirulent Escherichia coli (EEC) • Streptococcus pyogenes • Rotavirus • Norwalk virus group. |
| Severe Hazards <ul style="list-style-type: none"> • Limited Spread | <ul style="list-style-type: none"> • Bacillus cereus • Campylobacter jejuni • Clostridium perfringens • Staphylococcus aureus • Vibrio cholerae, non-01 |

^a Adapted from ICMSF 1986. Vol. 2, pp. 48-50

^b Although classified as moderate hazards, complications and sequelae may be severe in certain susceptible populations

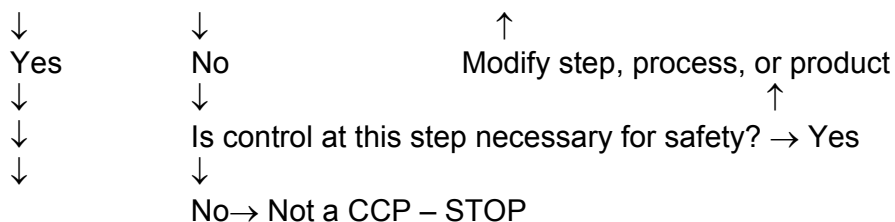
G. Identify the Critical Control Points

In the previously discussed examples, we determined that the process step for receiving water at the ice plant required a CCP for Plant B, but not for Plant A. A Critical Control Point is a point at which control must be applied to prevent or eliminate a food safety hazard or reduce it to an acceptable level. If you determine that the hazard in your plant is not reasonably likely to occur, then it should not be designated as a CCP.

The hazards identified in the Hazard Analysis must be evaluated at process step to determine if the processing step is a Critical Control Point or the preventative measures by prerequisites and/or GMP's are adequate to prevent the hazard. The "Decision Tree" is an acceptable method which can be used to determine or confirm if the hazard at any process step should be designated as a CCP (See Figure 4).

Figure 4. Example of a CCP Decision Tree

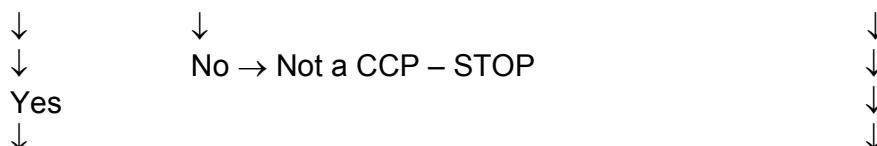
Q1. Do control measure(s) exist for the identified hazard?



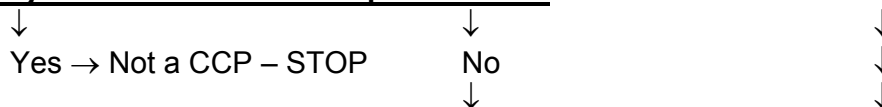
Q2. Does this step eliminate or reduce the likely occurrence of a hazard to an acceptable level?



Q3. Could contamination with the identified hazard(s) occur in excess of acceptable levels(s) or could it increase to an unacceptable level?



Q4. Will a subsequent step eliminate the identified hazard(s) or reduce its likely occurrence to an acceptable level?



Based on outcome; establish CRITICAL CONTROL POINT

H. Establish Critical Limits

When a CCP is identified, parameters (limits) need to be established to signify whether the control measure at a CCP is “in” or “out” of control. These parameters are referred to as critical limits (CLs). The CL is a maximum and/or minimum value in which a biological, chemical, or physical measurement, which must be controlled to produce a safe product. Examples of parameters that may require CL’s are: time, temperature, pH, bacterial levels, metal fragments, flow rate, etc. Note that the control limits mean that you can be either too low or too high or only one of these to indicate the process must be corrected.

Food safety criteria may be established by regulatory standards or guidelines and are often referred to as performance standards. Also, recommendations from industry suppliers can aid in establishing CL’s.

In most cases, the ice manufacturing company’s HACCP Team will know the operating systems sufficiently to establish control limits for the CCP’s.

I. Establish Monitoring Procedures for each CCP

Monitoring involves determining what, how, and when the CCP will be monitored, and who will perform the monitoring procedures. Monitoring must determine if a specific process is being conducted in a manner sufficient to control the identified hazards (e.g., visual observations and measurements of temperature, time, sanitation standards, etc.). The results of monitoring must be accurate, the selection of an appropriate monitoring device must be precise and calibrated, and the training of employees needs to be thorough to make correct observations. The results must be recorded at the time observed. Monitoring activities must be conducted with sufficient frequency to detect and prevent potentially hazardous situations. Continuous monitoring, such as metal detectors, is preferred when practical. Discontinuous monitoring, such as daily inspections, must be performed frequently enough to detect any major deviations from the specified CL.

Assignment of the responsibility for monitoring activities to a specific individual is necessary and the individual conducting the monitoring must:

- Be designated in the HACCP Plan.
- Be adequately trained to perform the monitoring procedures (including keeping accurate records).
- Be empowered to take immediate and appropriate corrective actions.
- Record, date, and sign all data/observations.

J. State the Corrective Actions when Critical Limits are Exceeded

The monitoring system must test the specified parameter for the designated CCP, so that the operation can proceed when the critical limits are being met. However, when the critical limit(s) is exceeded, a corrective action must be taken to avoid producing out-of-specification ice. This may involve an immediate adjustment in the process to bring the product within the Critical Limits, or it may involve a complete stoppage of production until the problem is corrected. In some cases, a recall may be required in conjunction with the corrective action(s).

K. Establish an Accurate Record Keeping System

HACCP is a system that relies on documentation to provide written evidence of compliance within established requirements (CLs). All measurements and observations at a CCP, and any corrective action on deviations and final disposition of the product must be correctly documented and filed. Records for CCP monitoring must be reviewed on a regular basis (usually daily or weekly) by a competent member of management.

The records should be a reflection of the correct operating conditions. Personnel should never pre-record, erase, or postpone the documentation of data. HACCP records must be recorded on standardized forms. The following illustrates the essential information to record:

1. Product identification
2. Title and date
3. Process shift/line
4. Operations performed (process step)
5. Critical limits (note when exceeded)
6. Corrective actions taken and by whom (when necessary)
7. Operator identification/initials

8. Reviewer's signature/date for verification

All records should be retained for at least one year. An example of a total production ice HACCP form for the plant standard checklist is presented in the Verification Section (VII) of this manual. Also, the annual official EPIA Records and Documentation Binder has been provided for organization and permanent retention of all ice production monitoring and verifications.

L. Establish a Verification System for the HACCP Plan

Verification is designed to ensure that the HACCP Plan is being properly implemented (not to check the validity or adequacy of the HACCP Plan). Verification must confirm that all monitored measurements and observations were accurately completed and recorded. Documentation of all deviations, corrective actions, and changes must be confirmed during the verification process.

Verification should include assessing the following compliance checks:

Verification of Prerequisite Programs: This requires a review of written procedures for PIQCS, personnel training, etc. and evaluating the reports of these activities to ensure that the procedures are being operated correctly.

Verification of CCPs: This involves evaluating the day-to-day compliance at each CCP according to established control limits. Included in the verification process are:

- Calibration of processing and monitoring instrumentation
- Inspection of the procedure performed at each CCP
- Review of monitoring records and corrective actions records

Normally, the assigned individual (e.g., Process Operations Supervisor, HACCP Coordinator) will verify the HACCP records by the above-described procedures at the end of the shift and/or on a weekly basis. No ice should be shipped until verification of the production lot has been completed.

M. Validation of the HACCP Plan

Validation is the process of evaluating scientific and technical information to determine if the HACCP Plan will effectively control the hazards. The objective of validation is to make an overall review and evaluation of the HACCP Plan to determine if the plan will work to prevent a hazard. An initial validation should be performed when the HACCP Plan is first implemented. This should be completed by the HACCP team during the first few weeks of operation. Revalidation or reassessment is necessary any time changes are made that could affect the effectiveness of the HACCP Plan.

A periodic validation (at least annually) of the HACCP Plan includes:

- Review of the Hazard Analysis and the HACCP records and documentation
- Determine if the scientific information is still valid and if any new information changes the HACCP Plan

- On-site audits conducted by trained internal (HACCP team) or external auditors

Validation of the HACCP Plan can be easily incorporated into the third party audits.

Economic Process Control Points

We have emphasized Prerequisite Programs and Critical Control Points as essential to food safety (HACCP Plan). The Hazard Analysis system to select critical control points to prevent health hazards does not consider those process steps in ice manufacturing which are essential for a productive, profitable operation. These are important and must not be treated lightly in the process control system. Some of these process steps are covered by Prerequisite Programs and, thus, will be dually beneficial. Two major factors will greatly influence the productivity of your operation:

1. Continual monitoring of equipment performance at each process step.
2. The training of your personnel to be knowledgeable of what is expected at each process step to maintain the targeted specifications. This will pay long-term benefits by preventing problems.



HACCP Ice Plant Standards Check List

Blocks with Green areas are for numbers to be filled in.

| Inspected by: | | | Observed By: | | Date: | | |
|---------------|----|----|--|--|-------|--|--|
| Yes | No | 1 | CCP# | See that all HACCP procedures are followed to ensure the highest quality product. | | | |
| Yes | No | 2 | Trash and debris picked up around outside of plant. | | | | |
| Yes | No | 3 | Break room cleaned and neat | | | | |
| Yes | No | 4 | CCP-8 C | Sanitizer sprayer checked for correct operation. Test strip to show less than 200ppm to spray and food contact area without rinsing afterward. | | | |
| Yes | No | 5 | Air Compressor room | | | | |
| Yes | No | 6 | CCP-1 B/C/P CCP-2 B | RO room clean and neat | | | |
| Yes | No | 7 | Electrical room cleaned and neat | | | | |
| Yes | No | 8 | Snow melt room cleaned and neat | | | | |
| Yes | No | 9 | Tower deck free of trash and debris. | | | | |
| Yes | No | 10 | CCP-7 B/C | Morris #1 cleaned and free of trash | | | |
| Yes | No | 11 | CCP-7 B/C | Morris #2 cleaned and free of trash | | | |
| Yes | No | 12 | Reel room checked | | | | |
| Yes | No | 13 | CCP-3 P CCP-8 B/C | Roof screw checked | | | |
| Yes | No | 14 | CCP-3 P CCP-8 B/C | Snow reel checked | | | |
| Yes | No | 15 | CCP-3 P CCP-8 B/C | Inclined screw checked | | | |
| Yes | No | 16 | CCP-3 P CCP-8 B/C | Turbo Sizer Checked | | | |
| Yes | No | 17 | CCP-3 P CCP-8 B/C | Snow Shaker checked. | | | |
| Yes | No | 18 | Snow screw checked | | | | |
| Yes | No | 19 | Ice drop checked | | | | |
| Yes | No | 20 | Walking floor room checked | | | | |
| Yes | No | 21 | Keith Walking Floor Checked | | | | |
| Yes | No | 22 | CCP-3 P | Bagging screw checked | | | |
| Yes | No | 23 | Bagging room checked | | | | |
| Yes | No | 24 | CCP-4 P | Hamer 535 checked | | | |
| Yes | No | 25 | CCP-5 C | Turbo Block press checked | | | |
| Yes | No | 26 | Pallet Slacker checked. | | | | |
| Yes | No | 27 | Ice pallets cleaned and sanitized as needed | | | | |
| Yes | No | 28 | Loading dock room checked | | | | |
| Yes | No | 29 | Dock Leveler checked. | | | | |
| Yes | No | 30 | Dock Room sink checked | | | | |
| Yes | No | 31 | 7# ice storage room checked | | | | |
| Yes | No | 32 | 16# ice storage room checked | | | | |
| Yes | No | 33 | Block ice storage room checked | | | | |
| Yes | No | 34 | Bag Storage room checked | | | | |
| Yes | No | 35 | Ice trucks checked. | | | | |
| Yes | No | 36 | CCP-6 B/C | Ice boxes checked on routes and noted made to contact customers with problems. | | | |
| Yes | No | 37 | Inspect insect traps and replace as needed | | | | |
| Yes | No | 38 | Packaged ice is dry and loose | | | | |
| Yes | No | 39 | Personnel are neatly dressed with no loose jewelry or clothing. Clean gloves are worn at all times in the ice production area. | | | | |

Member “Best Practice” Ideas

Koldkist Beverage-Ice, Inc. Best Practices

Ice Security Preventive Measures Guide

This Ice Security Preventive Measures Guide adopted and modified from the guidelines presented in the FDA's Guidance for Industry. This guide represents the FDA's current thinking on the kinds of measures that food establishments may take to minimize the risk that food under their control will be subject to tampering or other malicious, criminal, or terrorist actions. It does not create or confer any rights for or on any person and does not operate to bind FDA or the public.

Purpose and Scope:

This guide is designed as an aid to Koldkist Beverage-Ice, Inc.'s employees and management.

This guide identifies the kinds of preventive measures Koldkist Beverage-Ice, Inc. takes to minimize the risk that ice under our control will be subject to tampering or other malicious, criminal, or terrorist actions. It is relevant to all departments of Koldkist Beverage-Ice, Inc. including manufacturing, processing and packaging, warehousing, and transportation operations.

In personalizing this guide Koldkist Beverage-Ice, Inc. had to review their current procedures and controls in light of the potential for tampering or other malicious, criminal, or terrorist actions and make appropriate improvements. FDA recommends that the review include consideration of the role that each department might have in a food security program. This guide is designed to focus operator's attention sequentially on each department from manufacturing through the distribution system that is within our control, to minimize the risk of tampering or other malicious, criminal, or terrorist action at each department. To be successful, implementing enhanced preventive measures requires the commitment of management and staff. Accordingly, FDA recommends that both management and staff participate in the development and review of such measures.

Limitations:

Not all of the guidance contained in the FDA document was practical for every department at Koldkist Beverage-Ice, Inc. In developing our Guide, Koldkist Beverage-Ice, Inc. had to review the FDA guidance in each section that relates to a component of our operation, and assess which preventive measures were suitable. The FDA recommends that operators consider the goal of the preventive measure, assess whether the goal is relevant to their operation, and, if it is, design an approach that is both efficient and effective to accomplish the goal under their conditions of operation. This is what Koldkist Beverage-Ice, Inc. did in preparing this guide.

Ice Manufacturing Operations - Structure:

This guide is divided into five sections that relate to individual components of an ice establishment operation: management; human element - staff; human element - public; facility; and operations.

Section 1 - Management

Koldkist Beverage-Ice, Inc. management has implemented the following:

Preparing for the Possibility of Tampering or other Malicious, Criminal, or Terrorist Actions

- Ricky Hayter is assigned responsibility for security. He is a knowledgeable and reliable individual.
- He has conducted an initial assessment of ice security procedures and operations, which management will keep confidential.
- Koldkist Beverage-Ice, Inc. has a security management strategy to prepare for and respond to tampering and other malicious, criminal, or terrorist actions, both threats and actual events, including identifying, segregating and securing affected ice products. This is available in this binder under the tab heading ***“Crisis Management Strategy”***.
- A plan for emergency evacuation, including preventing security breaches during evacuation has been written and is attached in the appendix under the heading ***“Emergency Evacuation Plan”***.
- Management is familiar with the 911 emergency response systems in the area.
- Management is aware of 24-hour contact information for local, state, and federal police/fire/rescue/health/homeland security agencies. A list is also attached in the appendix under the heading ***“Emergency Contact Information”***.
- The staff has been trained and made aware of whom in management they should alert about potential security problems (24-hour contacts). A list is also attached in the appendix under the heading ***“Emergency Contact Information”***.
- Koldkist Beverage-Ice, Inc. promotes ice security awareness to encourage all staff to be alert to any signs of tampering or other malicious, criminal, or terrorist actions or areas that may be vulnerable to such actions, and reporting any findings to identified management by providing training, and building security into job performance standards.
- Koldkist Beverage-Ice, Inc. has an internal communication system to inform and update staff about relevant security issues in place.
- Koldkist Beverage-Ice, Inc. has a strategy for communicating with the public and handling a crisis (for example, identifying a media spokesperson, preparing generic press statements and background information, and coordinating press statements with appropriate authorities). A copy of this is also attached in this binder under the tab heading ***“Crisis Management Plan”***.

Supervision



- Koldkist Beverage-Ice, Inc. provides an appropriate level of supervision to all staff, including cleaning and maintenance staff, contractor workers, inbound and outbound freight drivers, data entry and computer support staff, and especially, new staff hired.
- Koldkist Beverage-Ice, Inc. conducts routine security checks of the premises, including automated manufacturing lines, utilities and critical computer data systems (at a frequency appropriate to the operation) for signs of tampering or malicious, criminal, or terrorist actions or areas that may be vulnerable to such actions

Recall Strategy

- Koldkist Beverage-Ice, Inc. has a written recall plan that identifies the person responsible, and a backup person.
- Our plan provides for proper handling and disposition of recalled ice product.
- Koldkist Beverage-Ice, Inc. has a computerized data base that identifies customer contacts, addresses and phone numbers.
- A copy of our recall strategy is also attached in the binder under the tab heading “Recall Guide”.

Investigation of Suspicious Activity

- Koldkist Beverage-Ice, Inc. will diligently investigate threats or information about signs of tampering or other malicious, criminal, or terrorist actions.
- Koldkist Beverage-Ice, Inc. will alert appropriate law enforcement and public health authorities about any threats of or suspected tampering or other malicious, criminal, or terrorist actions.

Evaluation Program

- Koldkist Beverage-Ice, Inc. has not yet experienced any tampering or other malicious, criminal, or terrorist actions and threats. Should they occur we intend to evaluate this Ice Safety Preventive Measures Guide and the lessons learned to be able to revise our plan accordingly.
- Koldkist Beverage-Ice, Inc. will review and verify, at least annually, the effectiveness of the security management program (for example, using knowledgeable in-house or third party staff to conduct tampering or other malicious, criminal, or terrorist action exercises and mock recalls and to challenge computer security systems), revising the program accordingly, and keeping this information confidential.
- Koldkist Beverage-Ice, Inc. performs random ice security inspections of all appropriate areas of the facility (including receiving and warehousing, where applicable) using knowledgeable in-house or third party staff, and keeping this information confidential.
- Koldkist Beverage-Ice, Inc. verifies that our security contractor “ADT” is doing an appropriate job.

Section 2 - Human Element – Staff

Under Federal law, food establishment operators are required to verify the employment eligibility of all new hires, in accordance with the requirements of the



Immigration and Nationality Act, by completing the INS Employment Eligibility Verification Form (INS Form I-9). Completion of Form I-9 for new hires is required by 8 USC 1324a and nondiscrimination provisions governing the verification process are set forth at 8 USC 1324b.

Koldkist Beverage-Ice, Inc. has implemented the following:

Screening (pre-hiring, at hiring, post-hiring)

- Koldkist Beverage-Ice, Inc. will examine the background of all staff (including seasonal, temporary, contract, and volunteer staff, whether hired directly or through a recruitment firm) as appropriate to their position, considering candidates' access to sensitive areas of the facility and the degree to which they will be supervised and other relevant factors (for example, obtaining and verifying work references, addresses, and phone numbers, participating in one of the pilot programs managed by the Immigration and Naturalization Service and the Social Security Administration [These programs provide electronic confirmation of employment eligibility for newly hired employees. For more information call the INS SAVE Program toll free at 1-888-464-4218, fax a request for information to (202) 514-9981, or write to US/INS, SAVE Program, 425 I Street, NW, ULLICO-4th Floor, Washington, DC 20536. These pilot programs may not be available in all states], our application requires a declaration of criminal activity.

Note: screening procedures are applied equally to all staff, regardless of race, national origin, religion, and citizenship or immigration status.

Daily Work Assignments

- Supervisors must know who is and who should be on premises, and where they should be located, for each shift.
- This information should be kept updated.

Identification

- Koldkist Beverage-Ice, Inc. will establish a system of positive identification and recognition that is appropriate to the nature of the workforce (for example, issuing uniforms to all delivery drivers), when appropriate.
- Since Koldkist Beverage-Ice, Inc. has a relatively small work force at this time, and the employees are well known to their supervisors it has been determined that office workers and production workers will not be required to wear uniforms or name tags, etc. Their authorized access will be limited as currently determined by their supervisor.
- Koldkist Beverage-Ice, Inc. insures that collecting the uniforms, keys, and fuel cards, when a staff member is no longer associated with the establishment is accomplished.

Restricted Access

- Only the Management Team and the Maintenance Personnel has unlimited access to all areas of the facility.

- The reassessing of the levels of access for all staff will be conducted periodically.
- Signs are posted limiting access so the staff enters only those areas necessary for their job functions and only during appropriate work hours. Supervisors and other key employees monitor and have been trained to enforce the policy.
- One policy under consideration is the changing of combinations, re-keying locks and/or collecting the retired key card when a staff member who is in possession of these is no longer associated with the establishment, and additionally as needed to maintain security.

Personal Items

Koldkist Beverage-Ice, Inc. restricts the type of personal items allowed in establishment. These restrictions are covered in the initial orientation.

- Koldkist Beverage-Ice, Inc. allows in the establishment only those personal use medicines that are necessary for the health of staff and ensuring that these personal use medicines are properly labeled and stored away from ice manufacturing, processing, packaging, and storage areas.
- We also prevent staff from bringing personal items (for example, lunch containers, purses) into the ice manufacturing, processing, packaging, or storage areas.
- We provide for random inspection of contents of staff storage areas, bags, packages, and vehicles when on company property. We do this with the employee's permission and while the employee is present.

Training in Ice Security Procedures

- Koldkist Beverage-Ice, Inc. has incorporated a ice security awareness training program, including information on how to prevent, detect, and respond to tampering or other malicious, criminal, or terrorist actions or threats, into training programs for all employees, including seasonal and temporary staff.
- The Management Team must provide periodic reminders of the importance of security procedures (for example, scheduling meetings, providing brochures or payroll stuffers).
- The Management Team must encourage staff support (for example, involving staff in ice security planning and the ice security awareness program, demonstrating the importance of security procedures to the staff).

Unusual Behavior

- Part of our training program covers the watching for unusual or suspicious behavior by staff (for example, staff who, without an identifiable purpose, stay unusually late after the end of their shift, arrive unusually early, access files/information/areas of the facility outside of the areas of their responsibility; remove documents from the facility; ask questions on sensitive subjects; bring cameras to work).

Staff Health

- All supervisors and management are encouraged to be alert for atypical staff health conditions that staff may voluntarily report and absences that could be an early indicator of tampering or other malicious, criminal, or terrorist actions (for example, an unusual number of staff who work in the same part of the facility reporting similar symptoms within a short time frame), and reporting such conditions to local health authorities.

Section 3 - Human element - public

Koldkist Beverage-Ice, Inc. management has implemented the following:

Visitors (for example, inspectors, contractors, supplier representatives, delivery drivers, customers, couriers, pest control representatives, third-party auditors, regulators, reporters, tours)

- Koldkist Beverage-Ice, Inc. will inspect suspicious looking incoming and outgoing vehicles, packages and briefcases for suspicious, inappropriate or unusual items or activity, to the extent practical. This is not to imply that inspections will take place on all vehicles or packages.
- Koldkist Beverage-Ice, Inc. restricts entry to the facility. We will check visitors in and out at our reception, requiring proof of identity, issuing visitors badges that are collected upon departure, and accompanying visitors during their visit of restricted areas. A copy of the form used for this purpose is available in the appendix.
- We ensure that there is a valid reason for the visit before providing access to the facility – we will beware of unsolicited visitors.
- We must verify the identity of unknown visitors.
- We restrict access to ice manufacturing, processing, packaging, or storage areas, accompanying visitors, unless they are otherwise specifically authorized.

Section 4 - Facility

Koldkist Beverage-Ice, Inc. has implemented the following:

Physical Security

- We have protected perimeter access with fencing and razor wire as another deterrent, where appropriate.
- We have begun securing doors (including freight loading doors, when not in use and not being monitored, and emergency exits), windows, roof openings/hatches, vent openings, ventilation systems, utility rooms, ice manufacturing, processing, packaging, and storage rooms, and compressed gases, to the extent possible (for example, using locks, alarms, intrusion detection sensors, steel bars and guards, monitored video surveillance - our video surveillance system now has fourteen cameras).
- We use metal or metal-clad exterior doors to the extent possible when the facility is not in operation, except where visibility from public thoroughfares is an intended deterrent (these door have steel bars on their window portions).
- We have minimized the number of entrances to restricted areas and have posted “Authorized Personnel Only” signs.

- Koldkist Beverage-Ice, Inc. accounts for all keys to the facility (Jim Porcelli has responsibility for issuing, tracking, and retrieving keys).
- Our method of monitoring the security of the premises uses video surveillance.
- Koldkist Beverage-Ice, Inc. has undergone an extensive lighting remodel to provide a more adequate interior and exterior lighting, including emergency lighting, to facilitate detection of suspicious or unusual activities.
- Koldkist Beverage-Ice, Inc. has implemented a system of segregating vehicles authorized to park on the premises. This is done by having an area for management to park, employees to park, and a separate section for visitors to park, where they can be monitored easily.
- We have also laid out the parking lot so as to keep the majority of the spaces away from and separate of the building area, thereby keeping parking areas separated from entrances to ice manufacturing, processing, packaging, and storage areas, and utilities, were practical. There are no parking areas that visitors or employees can park that are near our main electrical transformers.

Storage and Use of Poisonous and Toxic Chemicals (for example, cleaning and sanitizing agents, pesticides)

- Koldkist Beverage-Ice, Inc. limits poisonous and toxic chemicals in the establishment to those that are required for the operation and maintenance of the facility.
- We store poisonous and toxic chemicals as far away from ice handling and storage areas as practical.
- We also limit access to and secure storage areas for poisonous and toxic chemicals.
- We ensure that poisonous and toxic chemicals are properly labeled.
- Koldkist Beverage-Ice, Inc. has a pest control plan that utilizes an outside contractor licensed to handle and use pesticides in accordance with the Federal Insecticide, Fungicide, and Rodenticide Act (for example, maintaining rodent bait that is in use in covered, tamper-resistant bait stations). A copy of our pest control plan is attached under a separate tab heading labeled “Pest Control Plan/Records”.
- We know what poisonous and toxic chemicals should be on the premises and we keep keeping track of them in a separate binder labeled “Hazard Communication Plan – MSDS”.
- We have a plan in place for investigating missing stock or other irregularities outside a normal range of variation and alerting appropriate law enforcement and public health authorities about unresolved problems, when appropriate. Our inventory control personnel have a form for this and maintain it regularly. This is also detailed in a separate binder “Hazard Communication Plan – MSDS”.

Section 5 - Operations

In preparing this plan Koldkist has considered the following:

Incoming Materials and Contract Operations:



- Koldkist Beverage-Ice, Inc. uses only known, appropriately licensed or permitted (where applicable) contract manufacturing and packaging operators and sources for all incoming materials, including gel ice, compressed gas (refrigerant, nitrogen, oxygen, and acetylene), packaging, ice bags and roll stock, and materials for wrapping and shipping.
- We also take reasonable steps to ensure that suppliers, contract operators and transporters practice appropriate food security measures (for example, auditing, where practical, for compliance with food security measures that are contained in purchase and shipping contracts, or using a vendor approval program).
- We require our ice bag suppliers to authenticate labeling and packaging configuration and product coding/expiration dating systems (where applicable) for our incoming materials in advance of our receipt of shipment, especially for new products and new suppliers.
- We request our suppliers to ship on their own trucks or to use reputable common carriers or by making arrangements to maintain the chain of custody.
- Our suppliers should be requesting that the transporter have the capability to verify the location of the load at any time, when practical.
- Koldkist Beverage-Ice, Inc. has a policy for establishing delivery schedules, not accepting unexplained, unscheduled deliveries or drivers, and investigating delayed or missed shipments where practical.
- Within Koldkist Beverage-Ice, Inc. HACCP Plan there are provisions for the supervising off-loading of incoming materials, including off-hour deliveries. The forms used are available in this binder under the tab heading "HACCP Plan" sub-heading "Appendix B HACCP Forms".
- We also reconcile the product and amount received with the product and amount ordered and the product and amount listed on the invoice and shipping documents, taking into account any sampling performed prior to receipt.
- Our receiving clerk has been trained to investigate shipping documents with suspicious alterations.
- They also inspect incoming materials, including gel ice, ice bags, roll stock, packaging materials, and product returns, for signs of tampering, contamination or damage (for example, abnormal powders, liquids, stains, or odors, evidence of resealing, compromised tamper-evident packaging) or "counterfeiting" (for example, inappropriate or mismatched product identity, labeling, product lot coding or specifications, absence of tamper-evident packaging when the label contains a tamper-evident notice), when appropriate.
- Koldkist Beverage-Ice, Inc. watches for signs of tampering or other malicious, criminal, or terrorist action.
- Our receiving clerk has been given authority for rejecting suspect ice or materials.
- Our Crisis Management Team is trained to alert appropriate law enforcement and public health authorities about evidence of tampering, "counterfeiting" or other malicious, criminal, or terrorist action discovered.

Storage



- Koldkist Beverage-Ice, Inc. has a system for receiving, storing, and handling distressed, damaged, returned, and rework ice products that minimizes their potential for being compromised or to compromise the security of other ice products (for example, destroying ice products that are unfit for human consumption, ice products with illegible codes, ice products of questionable origin, and ice products returned by consumers to retail stores).
- Our receiving clerk keeps track of incoming materials and materials in use, including roll stock, ice bags, slip sheets, packaging materials, and ice product returns.
- Koldkist Beverage-Ice, Inc. investigates missing or extra stock or other irregularities outside a normal range of variability and will report unresolved problems to appropriate law enforcement and public health authorities, when appropriate, based on criteria in our “Crisis Management Plan”. This plan is available for review in this binder under the tab heading with the same name.
- We store our ice bags and roll stock in a secure location and we destroy old outdated or discarded ice product labels.
- Our company policy prohibits the reuse of ice bags.

Security of Water and Utilities

- Koldkist Beverage-Ice, Inc. limits, to the extent practical, access to controls for airflow, water, electricity, and refrigeration.
- We also ensure that our water systems are equipped with backflow prevention.
- Our HACCP Quality Control Monitor, Denis Corona, tests our ice source water for potability regularly, as well as randomly, and is alert to changes in the profile of the results.
- Charlie Porcelli, our recall coordinator, stays attentive to the potential for media alerts about public water provider problems, and is a member of the City of Portland “Public Utilities Review Board”.
- Koldkist Beverage-Ice, Inc. has identified an alternate source of potable water for use during emergency situations where normal water systems have been compromised. Our first source is Culligan Bottled Water of Portland where they can supply a temporary feed to our ice makers, while we set up for treating water on-site. (Another source could be trucking from an approved source).

Finished Products

- Koldkist Beverage-Ice, Inc. ensures that storage, warehousing, and shipping/distribution operations (vehicles and trailers) practice appropriate security measures (for example, auditing, where practical, for compliance with ice security measures that are contained in our “Security for Distribution Plan” attached).
- We perform random inspections of our storage facilities, vehicles, and trailers.
- Within our health and safety requirements we evaluate our finished ice product testing for detecting tampering or other malicious, criminal, or terrorist actions.
- Our dispatcher has the capability to verify the location of the load at any time, through our company owned cell phones supplied to our ice drivers.



- Our shipping/receiving clerk establishes scheduled pickups, and not accepting unexplained, unscheduled pickups without further scrutiny.
- Our production supervisor maintains production records for keeping track of finished products.
- Our inventory control procedures provide for investigating missing or extra stock or other irregularities outside a normal range of variation and alerting appropriate law enforcement and public health authorities about unresolved problems, when determined appropriate by the Crisis Management Team.
- Lee Porcelli, responsible for sales policies has advised the sales staff and delivery drivers to be on the lookout for counterfeit products and to alert management if any problems are detected.

Mail/Packages

- Koldkist Beverage-Ice, Inc. is implementing procedures to ensure the security of incoming mail and packages (for example, we assigned the mail processing area to be away from the ice processing and storage areas, to prevent any ice product contamination).

Access to Computer Systems

- Koldkist Beverage-Ice, Inc. restricts access to computer process control systems and critical data systems to those with appropriate clearance (for example, we use passwords, and have updated our firewalls).
- We eliminate computer access when a staff member is no longer associated with Koldkist Beverage-Ice, Inc.
- We have an established system of traceability of computer transactions (we can track when an ice product is delivered and who signed for it, etc.).
- We have an outside computer software company that reviews the adequacy of virus and firewall protection systems and procedures for backing up critical computer based data systems.
- Our outside computer software company has validated our computer security system.

Emergency Point of Contact:

U.S. Food and Drug Administration
5600 Fishers Lane
Rockville, MD 20857
301-443-1240



Guide for Security Practices in Transporting Ice by Koldkist

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Introduction

This guide is the result of a voluntary cooperative effort with the United States Department of Agriculture (USDA). Ice, food, and transportation components of the American economy are vital to the Nation's economy and public health. Since September 11, 2001, we are more aware of the possibility of a terrorist attack on our domestic infrastructure -- including the food and agricultural sector. The protection and integrity of America's agricultural production and food supply are essential to the health and welfare of the domestic population. Products in transport provide significant opportunities for access to terrorist. Therefore, planning for and implementing security management practices in the commercial transportation of packaged ice products will enhance efforts to ensure the continued safety and security of those ice products.

A company policy has been established to designate authorized personnel for the development and maintenance of transportation security plans. (See also our **"Security Preventive Guide"** under separate tab heading that covers our manufacturing and packaging operations). This policy document is maintained in company files in accordance with company policy. In addition to these guidelines, our company has provided employees with additional information and forms for use in operation of transportation equipment. Pre-trip inspection forms and route sheets identifying the stops are both an important step toward having a safe trip.

Information and recommendations contained in this document are intended as guidelines for the safe and secure transport and handling of our ice products delivered by our delivery drivers and over-the-road refrigerated transporters.

Management Practices

Koldkist Beverage-Ice, Inc. feels that a risk-based security management system for people, property, commodities, processes, information, and information systems throughout the International Packaged Ice Association is essential for the industry. Koldkist Beverage-Ice, Inc. leads the industry with its security management system that contains the following management practices:

1. **Leadership Commitment:** Koldkist Beverage-Ice, Inc. management is committed to continuous improvement through accountability, published policies, and provisions for sufficient and qualified resources.
2. **Threats, Vulnerabilities, and Exposures Assessment:** Koldkist Beverage-Ice, Inc. uses approved Vulnerability and Threat Assessment Tool (VTA) methodologies, and prioritize and periodically analyze potential security threats, vulnerabilities, and consequences. (*See the attached AFTC Resources Directory for specific information on the VTA.* Under the tab heading “**Security Appendix**”)
3. **Security Plan:** Koldkist Beverage-Ice, Inc. has developed and implemented these security plans based on identified exposures, utilizing the recommended practices in the AFTC Resources Directory and other approved methodologies.
4. **Communications and Information Sharing:** The International Packaged Ice Associations shares information on industry sanitization, operating procedures and quality control programs such as HACCP and PIQCS. Since Koldkist Beverage-Ice, Inc. management serves on the board of directors and sub committees; this guide may be shared with the association. This may be helpful in the spreading of effective security practices within the industry and with external, qualified security professionals. The packaged ice industry should continue to expand the awareness of and commitment to enhanced security practices throughout the ice industry.



General Guidelines for Drivers

This guide provides a list of security tips and checklists that will be utilized to prevent contamination or disruption during the transportation and distribution of our packaged ice products. These guidelines also encourage controls for ensuring the safe condition of our packaged ice products shipped throughout the delivery process. Not all of these measures, or the degree to which they are implemented, will be appropriate or practical for every driver or outside transporter.

Security Watchwords for Drivers

1. **Awareness** – Learn how terrorists act and the types of behaviors and events that can precede an attack. Know Koldkist Beverage-Ice, Inc.'s security procedures and emergency response plans as they apply to you. Look for behaviors or events that might be tip-offs to a terrorist operation in progress.
2. **Recognition** – When you see behavior or events that match the profiles you have been taught, make the mental connections between what you see and what it may mean to you if indeed it is a terrorist activity.
3. **Communication** – Know who to call no matter where you are. Use 911 in emergencies, and use your company dispatcher and local FBI or law enforcement numbers if not an emergency. If you are a Highway Watch® trained driver, use the national Call Center number.
4. **Action** – Don't keep information to yourself. Report it to the people and agencies that have the expertise and training to react to information or to emergencies. If you are affected by an attack, take immediate action to protect yourself, your cargo, and your equipment.

Driver Security Checklists*

I. Driver Pre-Departure Checklist

1. Observe the loading of your vehicle.
2. Note suspicious onlookers during the ice loading and contact your dispatcher immediately.
3. Using established communications, ensure that route and immediate staging area appear clear.
4. Clean your cargo area of your truck – foreign animal disease and food contaminants can spread to the ice on contact.
5. Conduct a safety inspection; inspect tires, brakes, and radiator for damage. Utilize your Driver and Truck Condition Report form, don't just skip over it.
6. Check to ensure that all tractor/trailer access panels/doors are secured.
7. Establish an overdue time at your destinations and have dispatcher follow up if you are overdue.



II. Driver on-the-Road Checklist

1. When leaving the ice plant, be aware of any possible surveillance of our facility or your truck. Criminal surveillance often begins at, or within a mile of, your origin.
2. Follow Koldkist Beverage-Ice, Inc. stopping and parking procedures. No animals are allowed in our trucks at anytime.
3. Do not make any unscheduled stops.
4. Be aware of possible “Ruses.” If you are unsure if a police officer is real, call 911 and ask.
5. Report any suspicious activities or emergencies to local police by calling 911, then follow up with a call to Highway Watch® at 1-877-USA-SAFE.
6. Also report any suspicious activities to dispatch.
7. Remain particularly observant for suspicious activities in and around refueling locations, railroad facilities, bridges, and tunnels.
8. Keep all tractor/trailer doors and access panels locked and windows rolled up or in a position to be raised rapidly.
9. Maintain regular communications with your dispatcher as required.
10. Vary your route when possible. If relevant, this should be a part of your pre-trip planning.
11. Do not discuss your cargo, destination, or trip specifics with people you don't know or on open channels -- even with other drivers.
12. Do not discuss your route with any shipper personnel unless instructed to by your dispatcher.
13. When stopped at a traffic light or in traffic, be aware of anyone approaching your vehicle.
14. Go directly to your delivery point without making any stops.
15. Avoid being boxed in. Leave room in front and behind your truck to permit escape.
16. Do not pick up hitchhikers.
17. Be aware of vehicles that are following your truck and of strangers asking questions about your cargo, route, or destination.

III. Driver Stopping Checklist

1. Leave your truck in a secure parking lot or truck stop. Park units in a reputable truck stop or secure yard at all times. Facilities with video surveillance are recommended. Be especially vigilant when operating in “hot spots” -- unsafe or high-crime areas.
2. When you stop or leave your vehicle, ensure that the rig is turned “OFF” and that all doors and access panels remain secure.
3. Before leaving/exiting your vehicle, look around and become familiar with your surroundings. Have a trusted person watch your vehicle.



4. If team driving, always leave one person with the truck.
5. Watch for individuals with spraying equipment or other possible contaminants (even a rag can spread a foreign animal disease and a small capsule can contaminate food).
6. Never leave your vehicle running with the keys in it; shut off the engine and lock the doors.
7. Do not stop in “hot spots” -- unsafe or high-crime areas.
8. Park in areas where other truckers are present.
9. Do not stop on dark roadways or in deserted areas while waiting to make deliveries.
10. Don't take your load home or park in an unsecured area such as a parking lot or mall.
11. Drivers should check and use seals, padlocks, and other locks where appropriate.
12. Perform a quick walk-around to check your vehicle for foreign objects after all stops.
13. Drivers should never leave extra keys in the vehicle.
14. Drivers should utilize a “no-stop” policy while making local deliveries.
15. Drivers should have a 24-hour phone number for dispatch or management personnel who can be called in case of an emergency.
16. Keep your doors locked and windows up at all stops, until the very instant you exit the vehicle. Then relock immediately. Upon returning to the vehicle, lock your doors immediately behind you.

IV. Driver Destination Checklist

1. Check to make sure the location of loading/unloading docks/warehouse looks safe.
2. Report your arrival time and location.
3. Note any “suspicious” onlookers observed during off-loading.
4. Confirm that recipient of the cargo is the intended recipient. Ask for identification.
5. If you exit your vehicle, ensure that all doors and access panels are locked and secured. Turn your tractor motor “OFF.”
6. Keep your doors locked and windows up at all stops until the very instant you exit the vehicle. Then relock immediately. Upon returning to the vehicle, lock your doors immediately behind you.
7. Observe the off-loading of your trailer and keep your tractor under observation at all times.
8. Have a communications device with you at all times.

V. Hijacking Prevention Tips for Drivers



1. Be watchful immediately after picking up a load. Most hijackings occur within a few miles of a pickup location. Interstate on-ramps and off-ramps are locations most often used by hijackers.
2. Look for vehicles following you, especially if there are 3 or more people in the car. If you believe you are being followed, call 911 and your dispatcher immediately.
3. Be suspicious of individuals asking you to stop as a result of an alleged traffic accident. If unsure whether an accident has occurred, call the police or drive to a police station before stopping.
4. If you believe you are being hijacked, try to keep your truck moving.
5. If you think you are being followed, call 911. Keep moving and try to get to a public area.
6. When appropriate, keep windows secure and doors locked while in transit.
7. Avoid being boxed in. Where possible, leave room in front of and behind your truck.
8. Be aware of possible “Ruses.” If you are unsure if an individual is a real police officer, call in and report it.
9. When stopped at a traffic light or in traffic, be aware of anyone approaching your vehicle.
10. If you are hijacked, watch and listen to the hijackers. You are law enforcement’s best witness.
11. Drivers should carry information concerning the identification of the equipment they are driving. You will need license numbers, and/or trailer numbers, and descriptions if equipment is stolen. (Law enforcement cannot make a stolen-vehicle report or cargo-theft report without this information.)

*** Drivers are encouraged to retain this portion of the Security Guide in their vehicles.**



General Guidelines for Ice Companies

This guide provides a list of security tips and checklists that will be utilized to prevent contamination or disruption of our packaged ice products.

Security Watchwords for Companies

1. **Awareness** – Accumulate and organize a knowledge base regarding the exposure of the trucking industry to terrorist acts and the types of behaviors and events that can warn of an event, and teach the workforce to be alert and observant.
2. **Recognition** – Train employees and managers to make the logical connections between observed indicators and a specific company's operations that may signal an imminent act or increase a company's exposure to consequences.
3. **Communication** – Build a network of time-sensitive systems through which information is routed to and among the internal and external decision-makers who need critical information in order to prevent or respond to terrorist actions.
4. **Action** – Proactively deploy the correct measure of activity relating to the nature of the threat, the overall Homeland Security Advisory System (HSAS) threat condition level, and the trucking operation's potential exposure.

Security Tips for Commercial Ice Transporters

In the transportation of our packaged ice products, we consider the following steps to help prevent problems before they occur.

1. Our security measures make it as difficult as possible for a troublemaker to tamper with our packaged ice products.
2. When we hire someone from an outside vendor to work in the plant (e.g., plumber, pesticide applicator, maintenance), we attempt to verify that he or she works for the company we hired.
3. We plan on establishing contact with the local law enforcement officers so you know a specific contact in case of emergencies or disasters.
4. We are relatively sure that our water supply system is secure as it is supplied by the City of Portland.
5. We have assessed our facility for potential sabotage of our incoming water.
6. We try to keep entry doors and other entrances secure and locked where fire codes permit.
7. We restrict movement of non-employees (deliveries, outside repair, and maintenance personnel) to areas where they cannot contaminate our packaged ice products.
8. We have visitors sign in and show identification and wear visitor passes. We also maintain the visitor roster for 6-12 months.
9. Personnel who move freely throughout the facility are requested to watch for signs of sabotage. We make sure protective equipment such as screens, shakers, magnets, or hopper covets are in place and functioning.
10. We remind employees to report anything unusual to their supervisors.
11. If a telephone threat is received about a specific ice product, we are trained to record or write down as nearly as possible every word said. Then we will

- segregate that ice product completely until the threat has been reported to the authorities, investigated, and confirmed or eliminated.
12. We inventory potential hazardous chemicals and maintain the security for the same. We try to make it difficult for a disgruntled employee, copycat tamperer, or terrorist to obtain chemicals and potentially add them to the packaged ice products we transport?
 13. We restrict all personal items such as carry bags, extra clothing, purses, etc., from the loading and docking areas.
 14. We welcome the local law enforcement agency to review your security measures.
 15. We will routinely review, update, and exercise your emergency response plan and procedures.
 16. We encourage our drivers to frequently inspect their trucks for signs of tampering.
 17. We have established security policies and procedures.
 18. Our ice manufacturing facility has been fenced, and our trucks are parked within the fenced area.
 19. We close and secure entrance/exit gates when the facility is closed.
 20. Our parking lots are well-lit.
 21. We use surveillance and recording equipment at the front and rear parking lots.
 22. Drivers are instructed to lock all equipment parked in our facility.
 23. Our employee parking lot is under surveillance.
 24. We limit visitors and escort them when touring our facility. We attempt to know who you're letting in by having a sign in/out log that verifies and records who is allowed to be issued a visitor's pass.
 25. We minimize who has access to computers. We use passwords and have installed firewalls.
 26. We are diligent regarding our hiring practices. We recommend that we must beware of who we hire – we try to verify as much information as possible, such as employment history, education history, driving records, criminal records check, and social security numbers on all potential employees (including permanent, temporary, seasonal workers, and cleaning crews).

Advance Planning for Emergency Management

- We have established a Crisis Management Team and identified a Crisis Coordinator or Team Leader with backup. A copy of which is under the tab heading "Crisis Management Plan".
- As mentioned, we have also developed a Crisis Management Plan in case of a terrorist threat or tampering. Include an evacuation plan for facility employees and have a copy available in a secure compartment outside the facility for reference.
- We have a list, 24/7 contact information for internal and external communication in case of an emergency, identifying who should be notified, what triggers the notification, and in what order they are notified, including who/when to contact law enforcement officials, regulatory inspectors, etc.
- We have Identified a list of resources we may need in a crisis situation: testing labs, medical experts, packaging consultants, legal counsel, public relations firm, insurance company, alternate suppliers, inspection agency, police, fire and emergency medical personnel, etc.



- Our recall plan will allow us to trace our packaging supplies back and trace finished product forward.
- Through mock recalls we practice using the plan.
- We have built security into our company's operations plan so it is routinely monitored.

Security Measures for Truck Cleaning

Vehicle cleanliness is an important security factor in the transportation of our packaged ice products. Vehicles, accessories, and connections must be kept clean from any substances that may contaminate our packaged ice being transported. Cleaning and sanitation procedures are maintained in writing and used as required. Proper cleaning and sanitation can mitigate the effects of intentional contamination by terrorists by reducing an agent's transmission across to our ice products.

We consider the following factors important for vehicle cleanliness and sanitation:

- Use appropriate cleaning procedures for vehicles, based on the type of commodity being transported.
- Devices for loading vehicles, cargo pallets, and securing devices should be cleaned and sanitized, as necessary.
- Transfer equipment, such as lifts and hand trucks, should be regularly maintained, cleaned, and sanitized, as necessary.

Reporting Information

Call 911 with critical emergency information. Report non-emergency, suspicious activity to the appropriate local law enforcement agency and/or the FBI. For FBI offices use the list of field offices provided in the *AFTC Resources Directory for Security Practices in the Transportation of Agricultural and Food Commodities*. Also notify your dispatch and Highway Watch[®] of any suspicious activity.

Highway ISAC - Highway Watch[®] Program

All security-related information, including that which does not require any Active law enforcement intervention should be reported to the Highway Information Sharing and Analysis Center (Highway ISAC). The Highway ISAC utilizes transportation industry expertise and networks to perform analysis and additional research; it places information in the context of the Highway Sector, generating bulletins and analytical products for the benefit of motor carriers and related operating entities. All reports to the Highway ISAC are transmitted to major Homeland Security watch centers. The Highway ISAC maintains a duty watch officer 24/7/365.

Toll Free Number: 866-821-3468

Direct Dial Number: 703-838-1999

Watch Officer email: hwisac@trucking.org

See the *AFTC Resources Directory for Security Practices in the Transportation of Agricultural and Food Commodities* for complete details on the Highway Watch[®] Program.

First PIQCS Audit Recollections - Jerry Counsell

Our goal was to pass the inspection with flying colors; to receive a high score. We've always kept the plant in good physical and sanitary condition because:

#1, we ARE a food manufacturing facility, and

#2 we have many visitors, sometimes unannounced, so we need to keep it respectable looking at all times.

I think a good time to get inspected is in the spring. That way you have the Fall and Winter to get everything in order at your leisure.

Our first step to prepare for the inspection was to compile a list of “to do’s”. It included anything that needed: painting, dusting, power washing, organizing, etc. Anything that wasn’t that important before was now important. If you have ever hosted a convention, you know what I mean. The difference between your peers and the inspector is: white gloves, flashlights, and the repeated BIG question: Did you write it down or document it in a logbook? As you read this article, remember the words “**documentation**” and “**write it down**”.

The following is a partial list of the some of the “to do’s” we did:

1. The main freezer had a few crunches and dents in the wall from the lift truck. We purchased 4x8 sheets of plywood, painted them white, and attached them to the walls. It covered the dents and looked great.
2. We thoroughly wet mopped and cleaned the warehouse. Tossed out anything we hadn’t used in years. Merchandisers and pallets of bags, were pulled out, the floor swept clean, and put back into neatly stacked rows. Place looked great.
3. In the production area, we repainted or touched up the compressors. Washed all the walls from top to bottom. Re-inspected and sanitized the icemakers. Inspected all augers and troughs for any wear. Replaced any burned out fluorescent bulbs and cleaned the light fixtures. The tops of the ice-makers were wiped down, as well as the water storage tanks, and all piping.
4. In the packaging room we washed the walls from top to bottom. Touched up or repainted any safety barriers. Washed, wiped, inspected, and repaired the packaging equipment as needed. Any visible rust marks on anything were cleaned or repainted.
5. In the water filtration room, we washed and wiped down all the equipment and vacuumed any corners that couldn’t be swept. We even flash lighted any obscure areas that he might inspect.
6. The office needed some minor cleaning attention, but most importantly our HACCP Program, Employee Booklets, Recall Program, and any other records were reviewed and updated, then made readily available if asked for.
7. Let’s not forget the loading dock. That too was thoroughly cleaned. Every nook and cranny was swept. Then we power washed the loading dock approach and anything else that needed it.

Well, if our Plant was in good condition before, it was definitely in excellent condition now. You could ‘white glove’ any wall, floor, or piece of equipment! Sounds like we should pass with that high score, right? WRONG...Here comes the moment of truth. We passed with a ‘good’ rating. What did we do wrong? What didn’t we do?? Why the low score?

(Note: Audits today are not scored but are on a pass/fail system)

Remember when I said, “*write it down*”. We didn’t write anything down; how often we did it; when we did it; nothing; nada. Oh, we had a FEW things written down, not much though. We were cleaning and maintaining everything on a regular basis, *we just didn’t write it down*. Everything we did, we did right; *we just didn’t write it down!!*

For practical purposes, I’ll call the Inspector ‘Sam’ and the following is his list of “to do’s”/recommendations and Area’s for further Improvement:

1. The Main Freezer; That new plywood we installed, and painted white...Wrong Sam’s recommendation: In main freezer, cover wooden wall guard with a more readily cleanable surface, i.e., metal liner, milkboard, etc.
2. The Warehouse; we pulled out the skids of bags and swept the floor, etc Sam asked how often we rotated our bags. I told him once or twice a year depending on when the new supply of bags came in. I explained, when the new bags come in, we pull the old inventory, put the new bags in the back and the old bags in the front. He then asked if I wrote it down. I replied ‘no’ and that we just know to do it that way. That wasn’t a good answer, it needs to be documented.
3. Sam’s recommendation: Expand Master Sanitation Schedule to include less frequently done tasks. (Simply put; write it down with the date it was done)
4. The Production Area: We had painted or touched-up any areas that needed it, washed walls, cleaned lights, etc
5. Sam’s recommendation: In the off-season continue to eliminate non-food contact parts that are showing rust on the icemakers. (I think he found some rust on the frame) Also, a cigarette butt was observed on the floor AND two beer cans were observed in the trash can (which had a cover on it) by the exit door. In defense, we do not allow smoking in the production area; maybe it blew in from outside, (I don’t know) but for the two beer cans consumed after hours, well.....they were in the covered trashcan! I think he thought we were drinking on the job. Hey, in the summer, who would blame us!!
6. The Packaging Room: Everything fine, no comments. He went through that room in six minutes or less. We figured he would have spent more time in that room. Go figure! We did have some duct tape on a conveyor to prevent a rough edge from tearing the ice bags; duct tape is not readily cleanable and a permanent fix was needed.
7. The Water Filtration Room; Everything fine EXCEPT for some cobwebs on the side of the soda machine. (Remember that flashlight)
8. The Office: We need to trim the lilac bushes outside; they have the potential for pest nesting sites. Otherwise, the restrooms and everything else inside were in good order.
9. The Loading Dock: Add more pest control traps. There is supposed to be one trap by each door; we have seven doors and that would be an over kill, so we only had to add two more!

Other areas for improvement: More documentation to include;

1. Formally document that the outside grounds are inspected during the self-audit/inspection program.
2. Warehouse corners by overhead doors contain moderate cobwebs, more frequent cleaning is needed.
3. Recommend documenting the Annual Good Manufacturing Refresher meeting for employees.
4. Better detail is recommended on the maintenance list.
5. The following items are required for a complete pest control file: trap location map, copy of monthly service reports, and MSDS sheets for any pesticides used. You need copies of the Pest Control Company's permit, certificate of insurance, and technician's license. Also increase pest control servicing to monthly and supplement none contracted service weeks with in-house personnel trap inspections. Document the findings!

We thought we would receive an 'excellent' score, but instead received a 'good' rating. To say that we were upset and depressed at our score is an understatement.

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We passed, but not with the score we expected. We digested the comments for a couple of days, called Jane at EPIA to complain, in frustration we kicked the dog, drank some beer, (after hours) and then came to the realization of what was expected of us and what was needed to get a better score. It's *really* not that bad once you understand what they are trying to accomplish. It's all about DOCUMENTATION!!

Are you nervous yet? Don't be. Think this is all too much to do? It's not. In your EPIA PIQCS MANUAL there is a section labeled 'PIQCS Audit Manual' that lists the Majors (of which you must pass) and the Minors that should be addressed. Also, the following are some suggestions from our Company to help you get through the audit/inspection without any worries and hopefully with the least amount of 'comments' and frustration.

5 Tips for a Worry-Free Inspection

1. Buy about 10 clipboards; plastic clips if possible as the metal ones rust. You can also spray 'clear coat' on the metal and it will help retard the rust.
2. Put a copy of the same 'calendar month' on each clipboard. Number some things to 'check for' on the bottom of each month, such as;

Water Room

- Check to see if UV Light is on
- Is the floor swept and thoroughly clean
- Check filter weekly

**You then want to initial and write the 'number' of the item that you checked in the square box on the corresponding calendar day.*

3. Put a clipboard;
 - On the loading dock
 - By each ice-maker



- By your freezer
 - In the bathroom
 - **Anywhere you check anything should get a clipboard.*
4. Hire a pest control company.
 5. Hire someone to take a water sample and finished product each month especially in the summer. (You want to know if your water and water system is working properly so you can sleep at night without the fear of a tainted product entering the market.)

It probably seems like a lot of nit-picky things to document, but I think you will be amazed once you get into the habit of 'writing it down' how often you will refer to the clipboard sheets. When was the last time you greased those bearings? How often is someone checking or changing the water filter?

When was the last time you cleaned and sanitized your bagging equipment, greased the tier, greased the bearings on the bagger? Worst-case scenario is that you are checking each item **at least** once a month when you change the sheets on the clipboards. I know some of the details I mentioned don't pertain to sanitation, but the inspector wants to know what you are doing, how often and is it being done on a regular basis. That's why you document everything. Another way to think of the inspection/audit is to have a friend or fellow iceman come to your plant and have them give you an **honest** opinion of your facility. When your friend asks how often you do this or that: and you reply, "I don't know", what does that tell him? Once you have implemented the 'documentation program', he can ask you the same question(s) and you can look on your clipboard and give him an exact date of when it was done. Now he's impressed!!

*In conclusion, I hope you found this article to be informative and helpful and will consider joining the EPIA. The EPIA is a great group of dedicated icemen just like you and me. The EPIA is the only association that I know of that requires you to have **'Packaged Ice Quality Control Standards'** better known as PIQCS. We all have a common goal, which is to produce the purest and highest quality packaged ice available. The EPIA requires you to be audited by an outside firm every other year. The off year is a self-audit/inspection. We choose to be inspected every year and are happy to announce that we have received an 'excellent' score the past two years. It's all about documentation and lots of it!! Good Luck!*



THE END