

Slaughter Plant Standards

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PREAMBLE

These standards, applicable to health authority licensed slaughter plant operations, should be read in conjunction with *The Food Safety Regulations*.

Meat and meat products are considered to be potentially hazardous foods, i.e. food that may cause food borne illness. Consumption of improperly handled or processed meat may not only cause food borne illness but also poisoning or injury. Properly designed, constructed and equipped slaughter plants, healthy animals, hygienic slaughter and dressing procedures, safe food handling practices and adequate refrigeration, all contribute to the production of meat and meat products that are safe for human consumption.

A slaughter plant shall be designed, maintained and operated to facilitate the safe and hygienic production of meat and meat products. These standards have been developed to assist operators of slaughter plants in meeting the regulatory requirements contained in *The Food Safety Regulations*.

Slaughter plant operators should note that while the standards in themselves are not considered law, provisions of the standards become legally binding when they are attached as a condition of a licence to operate. Existing slaughter plants which do not meet the standards may continue to operate provided that the facility is operated in compliance with *The Food Safety Regulations* and that a health hazard does not exist. It is expected that all new slaughter plants be constructed and operated in accordance with these standards. There may be, however, situations to which the standard may not be reasonably applied or there may be cases where the operator demonstrates an alternative method of meeting food safety requirements. Where supported by sufficient evidence submitted by the operator, a public health officer may deem a proposed alternative as equivalent to the prescriptive requirements provided that:

- (a) the alternative is capable of performing at least as well as the prescribed standard; and
- (b) the operator clearly demonstrates and supports how their proposed alternative will achieve the same outcome(s) as the prescribed standard. An appropriate level of evidence, which may include verification of performance by a qualified professional, is required.

Anyone requiring clarification on any aspect of *The Food Safety Regulations* or the Slaughter Plant Standards is advised to contact their local public health officer. Contact information for health authority public health inspection offices is available at:

<http://www.saskatchewan.ca/residents/health/public-health/public-health-inspectors>

The most current versions of *The Food Safety Regulations* and the Slaughter Plant Standards are available at:

<http://www.saskatchewan.ca/residents/environment-public-health-and-safety/environmental-health>

Note: Where there is conflict in wording between the standards and regulations, the regulations will prevail.

DEFINITIONS

Approved means approved by a public health officer appointed pursuant to *The Public Health Act, 1994*.

Chronic Wasting Disease (CWD) means a contagious and fatal brain disease that affects deer, elk and moose.

Clean-in-place means a cleaning and sanitizing process for food processing equipment that works by flushing detergent, water and a sanitizing solution through the equipment by contacting all interior food contact surfaces before being completely drained of cleaning and sanitizing solution.

Corrosion-resistant material means material that maintains acceptable cleanable characteristics under prolonged exposure to food, soil, moisture, heat and the normal application of cleaning compounds and sanitizing solutions.

Custom cut and wrap arrangement means an arrangement between the operator and a customer whereby the operator agrees to cut and possibly process and wrap the meat from any domestic or wild animal belonging to the customer and returns the meat to the customer.

Food grade material means a material that is used in the construction of utensils, equipment and food contact surfaces that does not allow the migration of deleterious substances or imparts colours, substances, tastes or odours to the food and is safe, durable, corrosion-resistant, smooth, easily cleanable and resistant to pitting, chipping and scratching.

Impervious means a surface that is constructed of a material that prevents the passage or entry of moisture.

Local Authority means the Saskatchewan Health Authority appointed under *The Public Health Act, 1994*.

Operator means a person who is temporarily or permanently managing, supervising or in control of the operation of a slaughter plant and includes the owner.

Potable water means water that is suitable and safe for human consumption.

Processing means, in respect of a meat product, to substantially change the appearance or nature of a meat product, and includes but is not limited to: deboning, slicing, grinding, cooking, preserving, dehydrating, fermenting, rendering or combining with ingredients other than a meat product but does not include dressing, trimming, refrigerating, freezing or defrosting.

Public health officer means a person, employed by or on contract with a local authority and who has been delegated board powers to administer *The Public Health Act, 1994* and related regulations. Public health officers may also be referred to as public health inspectors or environmental health officers.

Sanitize means a process that provides enough accumulative heat or concentration of chemicals for a sufficient length of time to reduce the number of micro-organisms on food contact surfaces to a level that does not compromise food safety.

Specified Risk Material (SRMs) means the skull, brain, trigeminal ganglia (nerves attached to the brain), eyes, tonsils, spinal cord and dorsal root ganglia (nerves attached to the spinal cord) of cattle aged 30 months or older and the distal ileum (part of the small intestine) of cattle of all ages.

Utensils and equipment means any implement, stationary or mobile, manual or mechanical, used in the slaughtering, dressing, trimming, processing, preparation, storage and transportation of food.

Viscera means the internal organs of an animal.

Wild game includes, but is not limited to, wild antelope, bear, bison, caribou, elk, deer, moose or any other animal hunted for the purpose of meat for human consumption.

SECTION 1 – CONSTRUCTION and FACILITY REQUIREMENTS

1.1. Location

Unless otherwise approved by the local public health officer, slaughter plants shall be located away from or protected from potential sources of external contaminants that may affect the hygienic operation of the facility and/or may compromise the safety of the food.

1.2. Design and Construction

1. New slaughter plants or existing operations undergoing renovations or alterations shall be designed, constructed and equipped to provide for:
 - a. their operational needs and the requirements of the regulations; and,
 - b. the hygienic production, handling and storage of meat and meat products. Provisions shall include:
 - i. livestock holding pens;
 - ii. slaughter areas;
 - iii. separation of incompatible activities;
 - iv. sequential slaughtering and processing operations;
 - v. a separate edible and inedible viscera truck or table and hoist (except if handling poultry and/or domestic rabbits only);
 - vi. in the case of poultry, equipment for scalding, plucking and chilling poultry;
 - vii. provisions for hygienic handling and storage of animal hides, offal and wastes;
 - viii. chill rooms, refrigerated units and freezers;
 - ix. adequate shipping and receiving areas;
 - x. provisions for cleaning and sanitizing equipment and surfaces; and,
 - xi. the construction of the roof, air intakes, foundation, walls, doors and windows in a manner that prevents leakage and/or the entry of contaminants or pests.

Recommendation

Operators are encouraged to discuss their renovation plans with the public health officer prior to having plans drafted.

1.3. Plan Approval

1. Anyone considering establishing, constructing, extending, renovating, or altering a slaughter plant shall submit detailed plans and receive approval from the public health officer prior to commencement of work. Contact information for local public health officers is available at:

<http://www.saskatchewan.ca/residents/health/public-health/public-health-inspectors>

Recommendation

Plans for the slaughter plant should be prepared by consulting companies specializing in establishment design, e.g. professional architects or engineers.

2. As a minimum, the plans shall:
 - a. include a complete set of drawings and specifications including a site plan;
 - b. contain the legal address;
 - c. be drawn to scale with a compass north point;
 - d. identify the type of animals to be slaughtered and expected number of animals to be slaughtered on a weekly basis;
 - e. include the flow of operations from live animal holding through to the shipping and/or retail area;
 - f. identify the purpose of each room or area to be used;
 - g. identify the equipment layout in relation to product flow;
 - h. identify the location of hand wash stations throughout the facility;
 - i. identify the location and number of sinks for cleaning equipment;
 - j. identify the location of hose bibs for cleaning floors, walls, etc.;
 - k. include construction material details for floors, walls, ceilings and work surfaces such as counters;
 - l. include details regarding the potable water supply;
 - m. include a plumbing plan* if required by the local public health officer; and,
 - n. include details regarding sewage disposal*.

***Note:** permits are required for plumbing and private sewage disposal systems; consult with the local public health officer for more information.

3. Applicants shall ensure that the facility is built in accordance with the plans and specifications submitted and approved by the local public health officer.

Note: Anyone considering establishing, constructing, extending, renovating, altering or operating a slaughter plant should be aware that in addition to the requirements of *The Food Safety Regulations* and these standards, approvals from other ministries, agencies and/or local municipalities may also be required. These approvals may include, but are not limited to, building and fire.

1.4. Water Supply

Operators of slaughter plants shall ensure that there is an adequate supply of potable hot and cold water under pressure for animal slaughter, meat processing, hand washing, cleaning purposes and washroom facilities. Hose bibs shall be equipped with vacuum breakers to protect the water supply.

1.5. Livestock Holding Pens

1. Live animal pens, of sufficient size and number, shall be provided for the holding of animals received for slaughter.
2. Separate areas shall be designated for:
 - a. housing animals of different species;
 - b. the segregation of animals considered a danger to other animals; and,
 - c. holding animals that are injured, sick or suspected of being sick.

1.6. Stunning and Bleeding Areas

1. A designated area for the stunning and bleeding of animals and subsequent dressing operations shall be provided.
2. The stunning area shall be constructed of easily cleanable and durable surfaces.
3. The design and construction of the bleeding area shall allow for proper cleaning and drainage with drains of sufficient size to prevent blockage due to blood clotting.
4. The area shall be equipped with hand washing and equipment washing/sanitizing facilities, e.g. knife sanitizers.

1.7. Poultry Scalding and De-feathering Rooms (if Slaughtering Poultry)

1. Scalding and de-feathering processes shall be conducted in a separate room to ensure the carcasses are not contaminated by feathers, steam or condensation from the scalding tank.
2. The scalding tank shall be adequately vented, temperature monitored and equipped with an overflow drain.

1.8. Ceiling Heights and Rail Heights

1. Ceilings throughout the facility shall be of sufficient height to ensure:
 - a. adequate ventilation and air circulation;
 - b. adequate clearance for cleaning of equipment;
 - c. carcasses are suspended at a height of at least 45cm (18 inches) off the floor; and,
 - d. sequential flow of product and equipment through the facility.
2. Rails, racks and hooks shall be constructed of rust resistant metal or galvanized material.
3. Rails shall be of sufficient height (refer to recommendations below) and arranged to prevent contamination of suspended carcasses, i.e. from other carcasses, walls or pillars.

Recommendation:			
<i>Ceiling heights¹ for various species should be:</i>			
Species	Bleeding Area	Dressing Area	Coolers
<i>Cattle/bison/elk</i>	<i>3.7m</i>	<i>3.1m</i>	<i>3.1m</i>
<i>Calves</i>	<i>2.7m</i>	<i>2.4m</i>	<i>2.4m</i>
<i>Horses</i>	<i>4.3m</i>	<i>3.4m</i>	<i>3.4m</i>
<i>Sheep/goats</i>	<i>2.4m</i>	<i>2.0m</i>	<i>2.0m</i>
<i>Swine</i>	<i>3.1m</i>	<i>2.6m</i>	<i>2.4m*</i>
<i>*2.7m is recommended when heads are not removed from dressed carcasses</i>			

¹ Saskatchewan's Domestic Meat Inspection Standard, July 18, 2014, Saskatchewan Ministry of Agriculture

1.9. Inedible Wastes/SRM Rooms

1. Inedible wastes, e.g. viscera, skin, feathers, SRMs, shall be stored in clean containers, legibly marked to identify their purpose. Alternatively, a separate room, in close proximity to the slaughter area, may be provided for the holding of inedible wastes provided its location and access to the room does not affect the hygienic operation of the slaughter plant.
2. Should inedible wastes be stored for more than 24 hours, the inedible waste room shall be equipped with refrigeration units capable of maintaining the room temperature at 10°C or lower.

1.10. Hide Storage Room

1. If hides are stored in the facility, the hide storage room shall be:
 - a. located in close proximity to the slaughter area;
 - b. located such that traffic to and from the room does not affect food processing operations and/or the quality of meat being processed;
 - c. constructed of easily cleanable and durable surfaces;
 - d. adequately ventilated and refrigerated unless hides are salted to control hide odours; and,
 - e. cleaned frequently to minimize biological growth.
2. Where approved by the local public health officer, hide storage facilities located in a separate building outside the slaughter plant shall be ventilated and measures shall be in place to control pests.

1.11. Utility Services

1. Exposed service lines for gas, water, plumbing, sewer and electrical utilities that are located within a slaughter plant shall be installed in a manner that allows for easy access for cleaning purposes.
2. Permanently mounted equipment shall be completely sealed to the wall or ceiling.
3. Floor mounted equipment, unless easily moveable, shall be sealed to the floor or elevated 15cm and installed in a manner to facilitate cleaning in and around the equipment.

1.12. Ventilation

Unless otherwise approved by the local public health officer, adequate ventilation shall be provided to ensure sufficient air exchanges to prevent unacceptable accumulations of steam, condensation, dust or other contaminants.

1.13. Finishing Materials

1. In areas where animals are slaughtered and dressed, carcasses are hung and/or meat or meat products are processed, packaged, stored, received or sold and where equipment is kept or cleaned, the floors, walls and ceilings shall be constructed of materials that are:
 - a. suitable for their intended purpose;
 - b. easy to clean;
 - c. durable;
 - d. impervious to moisture;
 - e. light in colour (to reflect light and facilitate proper cleaning);
 - f. smooth;
 - g. non-toxic; and,
 - h. non-corrosive.
2. The floors shall be constructed to drain toward the floor drain and in a manner that prevents the pooling of liquids on the floor.
3. The joints between the floors and walls throughout the slaughter plant shall be coved and sealed to facilitate cleaning.

1.14. Lighting

1. Adequate and appropriate lighting shall be provided throughout the premises to facilitate cleaning. The intensity in the various areas should be no less than:
 - a. 110 lux (at a distance of 90cm above the floor) in drip coolers, walk-in coolers, walk-in freezers, dry food storage areas and in all other areas and rooms during periods of cleaning;
 - b. 220 lux (at a distance of 90cm above the floor) in areas used for animal dressing, food processing and packaging, hand washing, equipment cleaning, and equipment storage; and,
 - c. 540 lux in areas used for animal slaughter and at the surface where a food handler is working with food and equipment such as knives, slicers, grinders or saws where food handler safety is a factor.
2. Lighting fixtures shall be located and be of a safety type or protected to prevent contamination of meat and meat products and packaging material in the event of breakage.

1.15. Storage Areas

1. Slaughter plants shall have adequate storage space for all items required for its operation including, but not limited to, ingredients, equipment and non-food materials such as packaging materials, cleaning supplies and other chemical agents.
2. Shelving units, impervious to moisture, shall be of sufficient height to allow for easy cleaning of the floor and to allow for inspection for pests.

1.16. Chill (Drip) Cooler/Holding Cooler

1. A drip cooler shall be provided for the purpose of removal of initial carcass heat.
2. Alternatively, for the purpose of chilling poultry or domesticated rabbits, clean food-grade containers may be used to hold a mixture of ice and water.
3. A holding cooler shall be provided for the purpose of storing/aging previously chilled carcasses before they are sectioned, cut and/or processed.
4. Coolers shall be of sufficient size to accommodate the intended volume of animals and to ensure carcasses are not in contact with other carcasses, floors, walls, pillars or other surfaces.

1.17. Storage Coolers/Refrigerators/Freezers

1. Slaughter plants shall be equipped with refrigerated and/or freezer space of sufficient size and/or number to accommodate the meat and meat products that must be refrigerated or frozen.
2. Storage coolers, refrigerators and freezers shall be designed and maintained to operate at the required temperatures.
3. Storage coolers shall be equipped with adequate shelving, impervious to moisture, to accommodate the food supplies that must be refrigerated. Shelving shall also be designed to permit proper air circulation and to facilitate cleaning.

Recommendation

Storage coolers and freezers should be equipped with direct reading thermometers of known accuracy.

1.18. Hand Washing Stations

1. Conveniently located hand wash basins, for the sole purpose of hand washing, shall be located in areas where animals are slaughtered, carcasses are sectioned, and meat or meat products are processed, handled and/or packaged.
2. Each hand washing station shall be equipped with:
 - a. hot and cold water under pressure;
 - b. liquid soap in a dispenser;
 - c. single use paper towels in a dispenser; and,
 - d. a waste container.

Recommendation

Hand washing stations should be equipped with hands-free water taps.

1.19. Equipment

1. Equipment used in a slaughter plant shall be designed, constructed, and located to ensure the hygienic operation of the plant and the hygienic processing of meat and meat products.
2. Unless otherwise approved by the local public health officer, the slaughter plant shall be equipped with a non-corrosive three-compartment sink of sufficient size to accommodate large food processing equipment. Some equipment, because of size or design, cannot be cleaned in sinks. (Refer to Section 3 for details).

Recommendation

Knife sanitizing stations, conveniently located at multiple locations, should be provided to make it easy for facility personnel to sanitize their knives frequently.

3. Provisions (e.g. drainage racks of corrosion-resistant material and of adequate size) shall be in place to allow for the drainage and drying of utensils and equipment.

For information on washing, rinsing and sanitizing processes, refer to section 3.

Recommendation

Hose bib stations, equipped with vacuum breakers, should be provided to facilitate cleaning and sanitizing of floors, walls and ceilings in areas from the holding pens through to the food processing areas.

1.20. Janitorial Facilities

1. To provide for the cleaning requirements of the slaughter plant, each facility shall be equipped with cleaning materials, equipment and facilities located so as to prevent contamination of food or food contact surfaces.

Recommendation

A service sink, janitor's sink, or curbed cleaning facility (equipped with a floor drain) should be provided for the cleaning of mops and the disposal of mop water and similar liquid waste.

2. Mops and similar floor cleaning tools shall be cleaned in such a manner so as not to contaminate food or food contact surfaces. Mop water and other liquid wastes shall be disposed of in a manner that prevents contamination of food or food contact surfaces.

3. If a hose is connected to any faucet within the slaughter plant, the water supply shall be protected from back-siphonage by a hose bib vacuum breaker.

1.21. Washroom Facilities

Washroom facilities may be required by *The Uniform Building and Accessibility Standards Regulations* and/or *The Occupational Health and Safety Regulations*. Contact your local municipality and the Ministry of Labour Relations and Workplace Safety for details.

1.22. Employee Dressing Rooms

Recommendation

Employee dressing rooms should be provided to allow employees to change their clothes before and after shift.

1. Where provided, dressing rooms shall be:
 - a. easily cleanable;
 - b. well ventilated;
 - c. well lit;
 - d. provided with lockers or other suitable facilities for the storage of employee possessions;
 - e. maintained in a hygienic manner and in good repair; and,
 - f. completely enclosed and provided with a lockable door unless separate facilities are provided for each sex.

SECTION 2 - OPERATIONAL REQUIREMENTS

2.1 General Operations

1. The operator shall ensure that the slaughter plant is operated and maintained in a manner that facilitates the hygienic operation of the facility, and the hygienic slaughter, dressing, processing, packaging, labeling, handling and storing of carcasses, parts of carcasses, and meat products.
2. If any animal dies in the slaughter plant from natural causes or accidentally, it shall be removed promptly from the facility and disposed of in a manner satisfactory to the local public health officer.

2.2 Slaughter and Dressing Operations for Animals Other than Poultry and Domesticated Rabbits

1. The operator shall ensure that:
 - a. after the animal is stunned, it is prepared and dressed in a hygienic and timely manner;
 - b. carcasses are decontaminated, e.g. trimmed with a knife or rinsed with water;
 - c. dedicated knives are used in the slaughtering area only;
 - d. the meat of an animal found to be unfit for human consumption does not enter the human food chain;

- e. cross contamination does not occur by dedicating knives to specific processes, e.g. hide and SRM removal, and by sanitizing the knives and hooks between carcasses;
- f. SRMs are removed from slaughtered cattle;
- g. skins and hides are removed in such a manner so that no parts of the outer skin surface comes into contact with any part of that carcass or any other carcass;
- h. skins and hides are promptly removed from the slaughter floor;
- i. carcasses are placed in a drip cooler within two hours of death to remove the initial heat, condensate and blood;
- j. the surface temperature of carcasses in the drip cooler reach 7°C or less within 24 hours of dressing the carcass;
- k. after reaching a surface temperature of 7°C or less, the carcass is relocated to the holding cooler where its internal temperature continues to be reduced in a continuous manner to 4°C as quickly as possible; and,
- l. warm carcasses are not brought into the drip cooler until the cooled carcasses are relocated to the holding cooler.

2.3 Slaughter and Dressing Operations for Poultry and/or Domesticated Rabbits

1. The operator shall ensure:
 - a. rooms are provided for unloading and holding of the animals;
 - b. provisions are in place to clean and disinfect the unloading and holding areas including crates, and vehicles;
 - c. clean containers, legibly marked to identify their purpose, are provided for animals found dead on arrival or for those deemed unfit for processing for food for human consumption and euthanized; and
 - d. the chilling process commences immediately after evisceration by submersion in food-grade chill tanks or by air chilling where the cooler temperature is 2°C.

Recommendation

The chilling process should lower the carcass temperature to, and maintain the temperature at, 4°C or lower within the times² described below:

Weight of Dressed Carcasses	Initial Time (hours) to Reach ≤ 14°C*	Additional Time (hours) to Reach ≤ 6°C*	Additional Time (hours) to reach ≤ 4°C*
<i>Under 1.8 kg</i>	2	2	4
<i>1.8 kg to 3.6</i>	2	4	4
<i>3.6 kg to 5 kg</i>	2	6	4
<i>5 kg to 7 kg</i>	2	8	4
<i>7 kg to 12 kg</i>	2	10	4
<i>Over 12 kg</i>	2**	10	6

**Internal temperature*

***In this weight category, carcasses should reach 16°C or less within the first two hours of evisceration.*

² Saskatchewan's Domestic Meat Inspection Standard, July 18, 2014, Saskatchewan Ministry of

2. Water in chill tanks shall be frequently replaced to chill the carcass in a timely manner.

3. If vacuum guns are used to eviscerate poultry, the contents of the vacuum guns shall be disposed of with the inedible wastes.

Recommendation

If the health of an animal or the quality of the meat of a slaughtered animal or any part of a carcass or an organ is in question, it is recommended the operator seek the expertise of a veterinarian to determine if the meat or organs are safe for human consumption.

2.4 Other Processing Operations

1. Where edible animal parts, e.g. heart, liver, feet, blood, are collected for human consumption, the operator shall ensure that the edible animal parts are derived from healthy animals, harvested under hygienic conditions, and free of pathological lesions.
2. Operators shall ensure that the handling of wild game does not lead to the contamination of other food products.
3. Where wild game is processed in a slaughter plant, the operator shall ensure:
 - a. that the processing takes place after all other meat or meat products have been processed for the day;
 - b. the carcass is skinned, trimmed and rinsed before entering the cooler or processing area;
 - c. wild game carcasses do not contact the carcasses of other animals;
 - d. precautionary measures related to Chronic Wasting Disease are taken when handling deer, elk and moose carcasses. (Refer to Appendix I); and,
 - e. all rooms, areas, and equipment used in processing of wild game are completely cleaned and sanitized before resuming the handling of domestic meat or meat products for human consumption.
4. Where pet food is produced in the slaughter plant, the operator shall ensure that:
 - a. at no time shall it come in contact with other meat or meat products processed in the facility for human consumption;
 - b. SRMs are not harvested for pet food;
 - c. all material collected for animal food is placed in containers, legibly marked to identify their purpose; and,
 - d. all rooms, areas, and equipment used in processing of pet food are completely cleaned and sanitized before resuming the handling of meat or meat products for human consumption.

2.5 Food Safety

1. Unless exempted in writing by the local public health officer, all food and ingredients that will be used in the processing of meat and meat products sold to the public shall be from approved sources. i.e. sources subject to inspection by a government agency or the health authority.

2. When it is determined that any part of a carcass, including organs, are unfit for human consumption, the carcass, part of the carcass or organs shall be disposed of in a manner that does not affect the quality of any other meat or meat product in the slaughter plant.
3. All meat and meat products that are processed in a slaughter plant shall be clean, free from contamination and spoilage and prepared so as to be safe for human consumption.
4. Carcasses presented to the slaughter plant under a custom cut and wrap arrangement shall be clean and wholesome and protected from contamination. Operators shall not accept contaminated carcasses or those otherwise unfit for human consumption. All meat and meat products handled under a custom cut and wrap arrangement shall be returned to the owner.
5. When handling elk, deer or moose, i.e. wild or game farm animals, the operator shall take certain precautions related to Chronic Wasting Disease. (Refer to Appendix I for details.)
6. The operator shall ensure that if persons, engaged in the slaughter of animals, are subsequently tasked with processing meat or meat products, the persons change their protective clothing to ensure meat and meat products are not contaminated.
7. Caution shall be exercised to ensure cross contamination does not take place between raw meats and ready-to-eat foods.
8. Equipment shall be maintained in good repair, calibrated as necessary and operated so that it functions in accordance with its intended use.
9. Equipment used in a slaughter plant shall be kept in a clean and hygienic condition to minimize the risk of contamination of food.
10. Surfaces such as cutting blocks and boards that are subject to scratching and scoring shall be resurfaced if they can no longer be effectively cleaned and sanitized, or discarded if they are not capable of being resurfaced.
11. Where any part of the slaughter plant or equipment is used to slaughter/process mammals and poultry, the facility and equipment shall be thoroughly cleaned and sanitized between handling the different species.
12. Food contact surfaces, e.g. tables, counters, shall be constructed of a durable rust-resistant material that can be effectively cleaned and sanitized.
13. Carcasses in drip/holding coolers shall not touch other carcasses, walls, floors or other sources of potential contamination.
14. Except for public access to the food retail portion of the slaughter plant, only authorized personnel shall be allowed in the slaughter plant unless otherwise approved by the local public health officer.

15. Overhead rail systems shall be kept free of rust by the application of food grade lubricants. Rail systems shall not be painted.
16. Stairways shall be:
 - a. located so as to prevent direct or indirect contamination of food; and,
 - b. constructed of materials that are impervious to moisture and easily cleanable.
17. Catwalks and mezzanines shall:
 - a. not be located over animal slaughter, food storage, processing or packaging areas, or where splashing or dripping could pose a contamination risk; and,
 - b. be constructed of suitable materials.
18. Ice shall be made from potable water and stored and handled in a hygienic manner.

2.6 Food Temperatures

1. Operators shall:
 - a. provide an accurate (to 1°C) thermometer to monitor food temperatures;
 - b. sanitize thermometers used to determine internal food temperatures between uses;
 - c. ensure temperatures in drip coolers are set in the range of -2°C to 2°C with a maximum temporary allowable upper limit of 10°C after the introduction of warm carcasses;
 - d. ensure the introduction of warm carcasses does not cause sweating (condensation) on surfaces of walls, ceilings or equipment;
 - e. ensure coolers are capable of reducing the temperature of a warm carcass to less than 7°C within 24 hours and reaching an internal temperature of 4°C or lower as soon as possible.
 - f. monitor the temperatures of potentially hazardous foods to ensure that the food is stored or displayed at 4°C or lower; and,
 - g. ensure when carcasses are being sectioned or meat is being processed, handled or packaged, the meat is kept in a room or area:
 - i. at a temperature of 10°C or less, or,
 - ii. for a period of no more than 2 hours at room temperature.

Recommendation

Thermometers should be calibrated against a known standard prior to initial use and as necessary to ensure accuracy.

Recommendation

Frozen food should be stored at -18°C or lower.

Recommendation

Unless refrigerated units and freezers are equipped with built-in temperature monitoring devices, thermometers should be placed in each refrigerator, drip cooler, walk-in cooler and freezer to ensure correct temperatures are maintained.

Recommendation

Refrigerator, walk-in cooler and freezer temperatures should be checked at least daily and written records of the temperatures should be maintained to verify the temperature of coolers and freezers are being monitored regularly.

2. Frozen potentially hazardous foods shall not be thawed at room temperature. Potentially hazardous foods shall be thawed safely using one of the following methods:
 - a. in refrigerated units at a temperature of 4°C or lower;
 - b. completely submerged in potable cold running water;
 - c. in a microwave oven only when the food will be immediately subjected to a cooking process; or,
 - d. as part of a cooking process.
3. When thawing raw meat, or poultry in a refrigerated unit, operators shall ensure that:
 - a. the products are placed in a container that will collect any liquid that may be produced as the product thaws; and,
 - b. containers with thawing food are placed on the lowest shelf of the refrigerator or walk-in cooler to prevent the raw liquid from contaminating other food.
4. Cooking shall take place in one continuous process. Food must never be partially heated, cooled and then reheated to complete the cooking process.
5. Internal temperatures of cooked potentially hazardous food shall be reduced:
 - a. to 20°C or less within 2 hours; and,
 - b. from 20°C to 4°C or less within the next 4 hours.

Recommendation

Cooling time may be reduced by:

- *the use of ice baths, ice wands and/or shallow pans;*
- *cutting large items into smaller portions;*
- *portioning large quantities of food into smaller containers;*
- *stirring the food frequently; or,*
- *placing the food items in a blast chiller.*

2.7 Packaging

1. Meat or meat products shall not leave the slaughter plant unless these products are adequately protected from contamination.
2. Food grade packaging material shall be of the type that can protect the product from contamination in the conditions under which it will be handled, transported and/or stored.
3. Packaging material for food products shall be stored in a clean and hygienic manner.

4. Packaging shall be done under conditions that prevent the contamination of the meat and meat product(s).

Note: Operators should be aware of the federal labelling legislation applicable to the product(s) they produce. For information on labelling requirements, contact the Canadian Food Inspection Agency (CFIA). (Refer to Appendix II for contact information).

2.8 Records and Recalls

1. Operators shall maintain a written record of the identification, removal, handling and disposal of specified risk materials as required by the CFIA.
2. As soon as possible after becoming aware that meat or meat products produced in the slaughter plant may be unsafe for human consumption, the operator shall conduct a risk assessment to determine whether or not the product needs to be recalled. Should it be determined that the meat or meat products are unsafe for human consumption, the operator shall initiate a recall of the product that was distributed to the public, or to a retail or wholesale food establishment.
3. The operator shall maintain a written record of details relating to any recall that was initiated.

Recommendation

To assist in the effective recall of meat or meat products, operators should create a record with respect to an animal or carcass purchased or otherwise acquired that includes:

- a. the date it was purchased or otherwise acquired;*
- b. the name and address of the person from whom it was purchased or otherwise acquired;*
- c. the number and kind of animals or carcasses purchased or acquired from that person;*
- d. in the case of a live animal, the date it was slaughtered;*
- e. sufficient identification to enable effective origin tracing; and,*
- f. sufficient information with respect to the distribution of the meat or meat product to enable an effective recall of the products.*

4. Recalled products shall be separated from other products and access controlled until appropriate disposition of the product has been determined. This can be achieved by using hold tape, tags, or a designated storage area.

SECTION 3 – CLEANING and SANITIZING of EQUIPMENT, UTENSILS and SURFACES

Food contact surfaces shall be washed, rinsed and sanitized. Washing removes gross debris, rinsing removes detergent residue, oils and food particles and sanitizing destroys the microorganisms that may cause food borne illness.

Recommendation

Equipment and utensil washing, rinsing, and sanitizing procedures should be posted for easy reference.

3.1 Manual Equipment and Utensil Washing/Sanitizing

1. Equipment and utensils shall be washed, rinsed and sanitized in the following manner:
 - a. wash in the first compartment with an effective detergent at a wash temperature not less than 44°C ;
 - b. rinse in the second compartment in clean water at a temperature not less than 44°C ;
 - c. sanitize in the third compartment using one of the following treatments:
 - i. immersion for at least one minute in clean hot water at a temperature of at least 82°C;
 - ii. immersion for at least two minutes in a warm 24°C – 44°C chlorine solution of not less than 100 parts per million (ppm) concentration;
 - iii. immersion for at least two minutes in a warm 24°C – 44°C quaternary ammonium solution having a concentration of 200 ppm;
 - iv. immersion for at least two minutes in a warm 24°C – 44°C iodine solution of between 12.5 and 25 ppm concentration; or,
 - v. immersion in any other product if it can be demonstrated to the local public health officer that the product can safely achieve the desired results.
2. Sanitizers shall be effective in reducing microbial contamination, used only for their intended purpose and used according to manufacturer's instructions (i.e. use at recommended concentrations, temperature, pH, and contact time).
3. Where chemicals are used for sanitizing, testing equipment shall be available for checking the concentration of the sanitizers and the concentrations shall be checked regularly.
4. If sanitizer concentrations exceed the concentrations noted above, an additional warm water rinse is required to remove the sanitizer residual.
5. Equipment and utensils shall be:
 - a. air dried after being washed, rinsed and sanitized; and,
 - b. handled and stored in a hygienic manner.

3.2 Cleaning and Sanitizing Large Equipment and Clean-in-Place (CIP) Equipment

1. Equipment too large to be cleaned in sinks shall be cleaned where the equipment is situated. The following process shall be followed:
 - a. remove any portions of the equipment that may be disassembled and wash, rinse and sanitize them in the sink;

- b. clean food contact surfaces either by using a cloth immersed in a detergent solution or a pressure washer with detergent;
 - c. rinse food contact surfaces with clean water in a spray bottle or pressure washer; and,
 - d. sanitize food contact surfaces with a spray bottle containing a sanitizer or a pressure washer with a sanitizer. The concentration of the sanitizer shall be as specified in subsection 3.1. Follow the manufacturer's recommendation regarding sanitizer contact time.
2. Clean-in-place equipment shall be cleaned and sanitized as per manufacturer's instructions.

Recommendation

Instructions should be posted respecting:

- *the procedures used for cleaning and sanitizing equipment;*
- *the chemicals used for cleaning and sanitizing;*
- *the strength of the chemical solutions used;*
- *the length of time the equipment is to be exposed to the sanitizer; and,*
- *disassembly and assembly instructions as required for cleaning and inspection purposes.*

3. Equipment that is used continuously at room temperature for handling or processing of potentially hazardous food such as mixers and meat slicers shall be disassembled, washed, rinsed and sanitized every four hours.

3.3 Cleaning and Sanitizing Floors and Walls

1. Extraneous material remaining on the floor after the slaughter and dressing processes shall be removed before commencing cleaning.
2. Walls and floors shall be cleaned and disinfected at the end of each operating day.
3. Packaging material shall be removed or covered and meat and meat products shall be removed from the area prior to commencement of cleaning processes to prevent cross contamination.
4. Surfaces shall be hosed down with a low pressure hose to remove organic material. High pressure spray may cause (contaminated) aerosol migration and/or overspray that may contaminate food contact surfaces nearby.
5. Surfaces shall be scrubbed with a brush and detergent to further remove organic material. Surfaces shall be rinsed with a hose to remove any food residual and detergent.
6. Surfaces shall be sanitized by the use of sanitizing solution, foam sanitizer or hot water. If using hot water, the hoses or hose bibs/stations shall be capable of providing water at temperatures of 82°C or greater.

SECTION 4 - MAINTENANCE and GENERAL SANITATION

1. Operators shall ensure that the slaughter plant is kept clean and in good repair.
2. Every slaughter plant shall have a detailed written cleaning schedule to ensure the safe and hygienic operation of the facility. The cleaning schedule should specify:
 - a. areas and equipment to be cleaned, e.g. slaughter, dressing and eviscerating areas, food storage and processing areas, refrigerators/coolers/freezers, washrooms and equipment;
 - b. methods of cleaning (including how to disassemble, clean, sanitize and reassemble the equipment);
 - c. cleaning frequencies;
 - d. cleaning and sanitizing agents, their concentration, contact time, water temperature (if applicable) and frequency of application;
 - e. equipment required to do the cleaning; and,
 - f. personnel responsible for cleaning.

The written cleaning schedule shall be monitored, verified and adjusted as necessary to ensure its effectiveness.

3. Cleaning compounds, toxic and poisonous substances shall be:
 - a. kept in a compartment separate from meat and meat products;
 - b. prominently and distinctly labelled for easy identification of contents; and,
 - c. used so that the substances do not contaminate food or endanger the health of any person.
4. Cloths, for the sole purpose for wiping food contact surfaces, shall be immersed in a sanitizing solution before each use. The sanitizing solution shall be changed frequently to ensure it remains effective.
5. Washrooms shall be equipped with:
 - a. liquid soap in dispensers;
 - b. paper towels in dispensers; and,
 - c. easily cleanable waste containers.
6. Washrooms shall be cleaned at least on a daily basis or more frequently to ensure they are clean at all times.
7. Materials and equipment not required for the operation of the slaughter plant shall not be stored in the premises.

SECTION 5 – WASTE DISPOSAL

1. Waste, including offal and food processing wastes, shall be handled, stored and disposed of in a hygienic manner and in accordance with requirements of the SK Ministry of Environment and/or local bylaws.

2. Waste containers shall be:
 - a. made of impervious, durable and leak proof material;
 - b. of sufficient number to accommodate the plant's operations;
 - c. equipped with tight fitting lids and covered where practical;
 - d. kept in a clean state and in good repair;
 - e. emptied daily, or more frequently if full;
 - f. cleaned and sanitized at a frequency to minimize contamination; and,
 - g. if located outside, covered when not in use and maintained in a manner that does not attract pests or creates a health hazard.
3. In addition to the above requirements, waste containers used for the storage of offal shall be:
 - a. legibly marked to identify their purpose;
 - b. used for no other purpose;
 - c. stored in such a manner so that the contents do not contaminate meat used for human consumption; and,
 - d. stored at a temperature of 10°C or lower if not emptied within 24 hours.
4. Operators shall ensure that wastes generated from the slaughter plant are disposed of in a manner that does not cause contamination or attract animals or pests.

SECTION 6 – PEST CONTROL

1. All slaughter plants shall be free of pests.
2. Areas surrounding the slaughter plant shall be maintained, adequately drained, kept free of rubbish, old equipment and any other potential pest harbourage.
3. All openings to the outside air shall be effectively screened. Where practical, doors should be self-closing, tight fitting and equipped with weather stripping to prevent pests from gaining access to the slaughter plant.
4. To prevent the entry of pests, an integrated pest management plan shall be developed. The plan should describe how to:
 - a. identify potential pests;
 - b. monitor pest populations, pest damage and potential pest habitats;
 - c. eliminate pest populations using strategies that may include a combination of biological, physical, mechanical, behavioral and chemical methods; and,
 - d. monitor and evaluate the effectiveness of pest elimination strategies.
5. The operator shall ensure that a written record of all pest control measures used in the slaughter plant is maintained.
6. If pests gain access to the slaughter plant, the infestation shall be eradicated immediately in a manner that does not contaminate food or food contact surfaces. In the case where there is a serious infestation, a qualified person should be used to eradicate the infestation.

SECTION 7 – PERSONNEL

7.1. Food Handler Habits, Hygiene and Health

1. Operators shall ensure that all persons working in the slaughter plant observe high standards of personal cleanliness and proper hygiene by:
 - a. being clean;
 - b. wearing clean outer garments and footwear;
 - c. confining hair, including beards, by using a hair net or other suitable hair restraint; and,
 - d. removing or suitably covering jewellery.
2. Except for a plain ring, e.g. a wedding band, a medic alert bracelet or necklace, food handlers should not wear jewellery while handling food. Plain rings and medic alert bracelets should be adequately covered by way of disposable gloves and medic alert necklaces should be worn inside the clothing.
3. Unless wearing intact gloves, a food handler should not wear finger nail polish or artificial nails when handling food.
4. Operators shall ensure that any food handler behaviour, e.g. use of tobacco, which could result in contamination of food or packaging material, is prohibited in the slaughter plant.
5. Operators shall ensure that all food handlers who come into contact with food and/or food contact surfaces are free from any symptomatic signs of illness or communicable disease that may be transmitted through food. Food handlers with acute respiratory illness, influenza symptoms (fever, headache, aches and pains, fatigue, weakness, sore throat, cough and chest discomfort) or experiencing any of the following symptoms shall not be involved in the handling of food or food contact surfaces:
 - a. diarrhea;
 - b. jaundice;
 - c. vomiting;
 - d. fever;
 - e. unusual discharges from ear, eye or nose;
 - f. severe abdominal pain; or,
 - g. an infected wound or lesion that is open or draining on or about the hands, wrist or exposed portion of arms.
6. Food handlers with illness or experiencing any of the symptoms mentioned above shall report the symptoms immediately to the operator or supervisor. The affected food handler may be assigned other tasks in the slaughter plant that do not involve handling of food or food contact surfaces. Contact your local public health officer for details.

7.2. Hand Washing

1. Every person engaged in animal slaughter or food handling shall wash his/her hands frequently and thoroughly with liquid soap and warm water and dry their hands with disposable paper towels. Hand sanitizers are not an acceptable alternative for frequent and thorough hand washing.
2. Hands shall be washed before commencing work, when leaving the slaughtering area, after handling raw food, after using washroom facilities, after smoking, eating or at any other time hands may be soiled or contaminated.

<i>Recommendation</i>

<i>Notices should be posted at hand washing stations directing employees to wash hands.</i>

7.3. Gloves

1. Disposable gloves are not considered a substitute for frequent and thorough hand washing, however, when gloves are used when handling food, the following protocol shall be followed:
 - a. hands shall be thoroughly washed before putting on gloves and before changing into a new pair;
 - b. gloves shall be changed as soon as they become soiled or torn and before commencing a different task;
 - c. gloves shall be changed at least every 4 hours during continual use and more frequently when necessary; and,
 - d. gloves shall be stored and handled in a manner that minimizes contamination.

APPENDIX I

Chronic Wasting Disease Precautionary Measures When Handling Deer, Elk and Moose

Chronic Wasting Disease (CWD) is prevalent in parts of Saskatchewan. Eradication of CWD from wild deer, elk and moose is no longer an option and efforts are being redirected to monitoring the disease distribution and infection rate in the province.

Operators are to ensure the following precautionary measures are taken when handling wild deer, elk and moose carcasses:

- Wear rubber or latex gloves.
- Before accepting a carcass, inspect the carcasses to ensure it is free of signs of illness and visible decomposition or contamination.
- Process deer, elk and moose after all commercial food handling has ceased for the day. Ensure deer and elk do not cross contaminate other food.
- Minimize the handling of brain or spinal tissues. If removing antlers, use a saw designated for this purpose only, and dispose of the blade.
- Do not cut through the spinal column except to remove the head. Use a knife designated for this purpose.
- Bone out the meat from the carcass and remove all fat and connective tissue (i.e., web-like membranes attached to the meat). This will also remove lymph nodes. **Note:** Nerve tissue such as brain, spinal cord, eyes, spleen, tonsils, and lymph nodes are tissue most at risk of being infected with CWD.
- Immediately after deer, elk and moose processing, thoroughly clean and sanitize equipment and work areas by washing with soapy water, rinsing, then sanitizing with an approved sanitizer.
- Avoid batching of all meat for making sausage, unless you receive written permission from the owners or hunters involved. Alternatively, you may want assurances from the hunters that the carcass has tested negative for CWD. Regardless, brain, eyes, spinal cord, spleen, tonsils and lymph nodes should not be eaten or included in products to be eaten.

Questions related to CWD in Saskatchewan may be directed to the local public health officer.

APPENDIX II

Contact Information

1. The link below will provide contact information for **public health officers** throughout the province:

<http://www.saskatchewan.ca/residents/health/understanding-the-health-care-system/saskatchewan-health-regions/regional-public-health-inspectors>

2. **Canadian Food Inspection Agency** may be reached at:

Canadian Food Inspection Agency
Food Safety Officer
Broad Street Crossing
1800 11th Avenue
P. O. Box 8060
Regina SK S4P 4E3
Phone: (306) 780 - 5180

Fax: (306) 780 - 5177

Canadian Food Inspection Agency
Food Safety Officer
301-421 Downey Road
Saskatoon SK S7N 4L8

Phone: (306) 385 - 4449
Toll free: 1-800-440-2342
Fax: (306) 385 - 4941