

**STANDARDS FOR GRADE "A" RAW MILK FOR PASTEURIZATION,
ULTRA-PASTEURIZATION, ASEPTIC PROCESSING AND PACKAGING
OR RETORT PROCESSED AFTER PACKAGING**

ITEM 1r. ABNORMAL MILK

Lactating animals which show evidence of the secretion of milk with abnormalities in one (1) or more quarters, based upon bacteriological, chemical or physical examination, shall be milked last or with separate equipment and the milk shall be discarded. Lactating animals producing contaminated milk, that is, lactating animals which have been treated with, have consumed chemical, medicinal or radioactive agents, which are capable of being secreted in the milk and which, in the judgment of the Regulatory Agency, may be deleterious to human health, shall be milked last or with separate equipment and the milk disposed of as the Regulatory Agency may direct. (For applicability to Automatic Milking Installations (AMIs), refer to Appendix Q. of this *Ordinance*.)

PUBLIC HEALTH REASON

The health of lactating animals is a very important consideration because a number of diseases of lactating animals, including salmonellosis, staphylococcal infection and streptococcal infection, may be transmitted to man through the medium of milk. The organisms of most of these diseases may get into the milk either directly from the udder or indirectly through infected body discharges which may drop, splash or be blown into the milk.

Bovine mastitis is an inflammatory and, generally, highly communicable disease of the bovine udder. Usually, the inciting organism is a streptococcus of bovine origin (type B), but a staphylococcus or other infectious agent often causes the disease. Occasionally lactating animal's udders become infected with hemolytic streptococci of human origin, which may result in milk-borne epidemics of scarlet fever or septic sore throat. The toxins of staphylococci and possibly other organisms in milk may cause severe gastroenteritis. Some of these toxins are not destroyed by pasteurization.

ADMINISTRATIVE PROCEDURES

This Item is deemed to be satisfied when:

1. Milk from lactating animals being treated with medicinal agents, which are capable of being secreted in the milk, is not offered for sale for such a period as is recommended by the attending veterinarian or as indicated on the package label of the medicinal agent.
2. Milk from lactating animals treated with or exposed to insecticides, not approved for use on dairy animals by the EPA, is not offered for sale.
3. The Regulatory Agency requires such additional tests for the detection of milk with abnormalities, as they deem necessary.
4. Bloody, stringy, off-colored milk, or milk that is abnormal to sight or odor, is so handled and disposed of as to preclude the infection of other lactating animals and the contamination of milk utensils.
5. Lactating animals secreting milk with abnormalities are milked last or in separate equipment, which effectively prevents the contamination of the wholesome supply. Milking equipment used

on animals with abnormalities in their milk is maintained clean to reduce the possibility of re-infecting or cross infection of the dairy animals.

6. Equipment, utensils and containers used for the handling of milk with abnormalities are not used for the handling of milk to be offered for sale, unless they are first cleaned and effectively sanitized.

7. Processed animal waste derivatives, used as a feed ingredient for any portion of the total ration of the lactating dairy animal, have been:

a. Properly processed in accordance with at least those requirements contained in the Model Regulations for Processed Animal Wastes developed by the Association of American Feed Control Officials; and

b. Do not contain levels of deleterious substances, harmful pathogenic organisms or other toxic substances, which are secreted in the milk at any level, which may be deleterious to human health.

8. Unprocessed poultry litter and unprocessed recycled animal body discharges are not fed to lactating dairy animals.

ITEM 2r. MILKING BARN, STABLE OR PARLOR – CONSTRUCTION

A milking barn, stable or parlor shall be provided on all dairy farms in which the milking herd shall be housed during milking time operations. (For applicability to AMIs, refer to Appendix Q. of this *Ordinance*.) The areas used for milking purposes shall:

1. Have floors constructed of concrete or equally impervious materials. Provided, convalescent (maternity) pens located in milking areas of stanchion-type barns may be used when they comply with the guidelines specified in Appendix C., III. of this *Ordinance*.

2. Have walls and ceilings, which are smooth, painted or finished in an approved manner; in good repair; and ceiling dust-tight.

3. Have separate stalls or pens for horses, calves and bulls, and not be overcrowded.

4. Be provided with natural and/or artificial light, well distributed, for day and/or night milking.

5. Provide sufficient air space and air circulation to prevent condensation and excessive odors.

PUBLIC HEALTH REASON

When milking is done elsewhere than in a suitable place provided for this purpose, the milk may become contaminated. Floors constructed of concrete or other impervious materials can be kept clean more easily than floors constructed of wood, earth or similar materials and are; therefore, more apt to be kept clean. Painted or properly finished walls and ceilings encourage cleanliness. Tight ceilings reduce the likelihood of dust and extraneous material getting into the milk. Adequate lighting makes it more probable that the barn will be clean and that the lactating animals will be milked in a sanitary manner.

ADMINISTRATIVE PROCEDURES

This Item is deemed to be satisfied when:

1. A milking barn, stable or parlor is provided on all dairy farms.

2. Gutters, floors and feed troughs are constructed of good quality concrete or equally impervious material. Floors shall be easily cleaned, brushed surfaces permitted; be graded to

drain; maintained in good repair; and free of excessive breaks or worn areas that may create pools.

3. Gravity flow manure channels in milking barns, if used, shall be constructed in accordance with the specifications of Appendix C., II. of this *Ordinance* or acceptable to the Regulatory Agency.

4. Stall barns, when used with gutter grates over manure storage pits, are designed and constructed in accordance with the specifications of Appendix C., IV. of this *Ordinance* or acceptable to the Regulatory Agency.

5. Walls and ceilings are finished with wood, tile, smooth-surfaced concrete, cement plaster, brick or other equivalent materials with light colored surfaces. Walls, partitions, doors, shelves, windows and ceilings shall be kept in good repair; and surfaces shall be refinished whenever wear or discoloration is evident.

Whenever feed is stored overhead, ceilings shall be constructed to prevent the sifting of chaff and dust into the milking barn, stable or parlor. If a hay opening is provided from a loft, which is open into the milking portion of the barn, such openings shall be provided with a dust-tight door, which shall be kept closed during milking operations.

6. Bull pens, maternity, calf and horse stalls are partitioned from the milking portion of the barn. Such portions of the barn that are not separated by tight partitions shall comply with all the requirements of this Item.

7. Overcrowding is not evidenced by the presence of calves, lactating animals or other barnyard animals in walks or feed alleys. Inadequate ventilation and excessive odors may also be evidence of an overcrowded barn.

8. The milking barn is provided with natural and/or artificial light to insure that all surfaces and particularly the working areas will be plainly visible. The equivalent of at least ten (10) foot-candles (110 lux) of light in all working areas shall be provided.

9. Air circulation is sufficient to minimize odors and to prevent condensation upon walls and ceilings.

10. A dust-tight partition, provided with doors that are kept closed, except when in actual use, shall separate the milking portion of the barn from any feed room or silo in which feed is ground or mixed, or in which sweet feed is stored.

When conditions warrant, the Regulatory Agency may approve a barn without four walls extending from floor to roof, or a shed-type barn provided the requirement of Item 3r, prohibiting animals and fowl from entering the barn is satisfied.

ITEM 3r. MILKING BARN, STABLE OR PARLOR – CLEANLINESS

The interior shall be kept clean. Floors, walls, ceilings, windows, pipelines and equipment shall be free of filth and/or litter and shall be clean. Swine and fowl shall be kept out of the milking area.

Feed shall be stored in a manner that will not increase the dust content of the air or interfere with the cleaning of the floor. (For applicability to AMIs, refer to Appendix Q. of this *Ordinance*.)

Surcingles, or belly straps, milk stools and antikickers shall be kept clean and stored above the floor.

PUBLIC HEALTH REASON

A clean interior reduces the chances of contamination of the milk or milk pails during milking. The presence of other animals increases the potential for the spread of disease. Clean milk stools

and surcingles reduce the likelihood of contamination of the milker's hands between the milking of one (1) lactating animal and the milking of another.

ADMINISTRATIVE PROCEDURES

This Item is deemed to be satisfied when:

1. The interior of the milking barn, stable or parlor is kept clean.
 2. Leftover feed in feed mangers appears fresh and is not wet or soggy.
 3. The bedding material, if used, does not contain more manure than has accumulated since the previous milking.
 4. Outside surfaces of pipeline systems located in the milking barn, stable or parlor are reasonably clean.
 5. Gutter cleaners are reasonably clean.
 6. All pens, calf stalls and bull pens, if not separated from the milking barn, stable or parlor, are clean.
 7. Swine and fowl are kept out of the milking area.
 8. Milk stools are not padded and are constructed to be easily cleaned. Milk stools, surcingles and antikickers are kept clean and are stored above the floor in a clean place in the milking barn, stable, parlor or milkhouse, when not in use.
 9. Gravity flow manure channels in milking barns, if used, shall be maintained in accordance with Appendix C., II. of this *Ordinance*.
 10. Stall barns, when used with gutter grates over manure storage pits, are operated and maintained in accordance with the specifications of Appendix C., IV. of this *Ordinance*.
- In milking barns in which water under pressure is not available, the floor may be brushed-dry and limed. In the latter event, care should be exercised to prevent caking of the lime. When lime or phosphate is used, it shall be spread evenly on the floor as a thin coating. If clean floors are not maintained by this method, the Regulatory Agency should require cleaning with water.

ITEM 4r. COWYARD

The cowyard shall be graded and drained and shall have no standing pools of water or accumulations of organic wastes. Provided, that in loafing or lactating animal-housing areas, lactating animal droppings and soiled bedding shall be removed, or clean bedding added, at sufficiently frequent intervals to prevent the soiling of the lactating animal's udder and flanks. Cooling ponds shall be allowed provided they are constructed and maintained in a manner that does not result in the visible soiling of flanks, udders, bellies and tails of lactating animals exiting the pond. Waste feed shall not be allowed to accumulate. Manure packs shall be properly drained and shall provide a reasonably firm footing. Swine shall be kept out of the cowyard.

PUBLIC HEALTH REASON

The cowyard is interpreted to be that enclosed or unenclosed area in which the lactating animals are apt to congregate, approximately adjacent to the barn, including animal-housing areas. This area is; therefore, particularly apt to become filthy with manure droppings, which may result in the soiling of the lactating animal's udders and flanks. The grading and drainage of the cowyard, as far as is practicable, is required because wet conditions are conducive to fly breeding and make it difficult to keep manure removed and the lactating animals clean. If manure and barn sweepings are allowed to accumulate in the cowyard, fly breeding will be promoted, and the

lactating animals, because of their habit of lying down, will be more apt to have manure-soiled udders. Lactating animals should not have access to piles of manure, in order to avoid the soiling of udders and the spread of diseases among dairy animals.

ADMINISTRATIVE PROCEDURES

This Item is deemed to be satisfied when:

1. The cowyard, which is the enclosed or unenclosed area adjacent to the milking barn in which the lactating animals may congregate, including animal-housing areas and feed lots, is graded and drained, depressions and soggy areas are filled, and lactating animal's lanes are reasonably dry.
2. Approaches to the barn door and the surroundings of stock watering and feed stations are solid to the footing of the animals.
3. Wastes from the barn or milkhouse are not allowed to pool in the cowyard. Cowyards, which are muddy due to recent rains, should not be considered as violating this Item.
4. Manure, soiled bedding and waste feed are not stored or permitted to accumulate therein in such a manner as to permit the soiling of cow's udders and flanks. Animal-housing areas, stables without stanchions, such as loose-housing stables, pen stables, resting barns, holding barns, loafing sheds, wandering sheds and free-stall housing, shall be considered as part of the cowyard. Manure packs shall be solid to the footing of the animals. (Refer to Appendix C. of this *Ordinance*.)
5. Cowyards are kept reasonably free of animal droppings. Animal droppings shall not be allowed to accumulate in piles that are accessible to the animals.

ITEM 5r. MILKHOUSE – CONSTRUCTION AND FACILITIES

A milkhouse of sufficient size shall be provided, in which the cooling, handling and storing of milk and the washing, sanitizing and storing of milk containers and utensils shall be conducted, except as provided for in Item 12r of this Section.

The milkhouse shall be provided with a smooth floor constructed of concrete or equally impervious material; graded to drain; and maintained in good repair. Liquid waste shall be disposed of in a sanitary manner. Floor drains shall be accessible and shall be trapped if connected to a sanitary sewer system.

The walls and ceilings shall be constructed of smooth material; be in good repair; and be well painted, or finished in an equally suitable manner.

The milkhouse shall have adequate natural and/or artificial light and be well ventilated.

The milkhouse shall be used for no other purpose than milkhouse operations. There shall be no direct opening into any barn, stable or parlor or into a room used for domestic purposes. Provided, that a direct opening between the milkhouse and milking barn, stable or parlor is permitted when a tight-fitting, self-closing, solid door(s) hinged to be single or double acting is provided. Screened vents in the wall between the milkhouse and a breezeway, which separates the milkhouse from the milking parlor, are permitted, provided animals are not housed within the milking facility.

Water under pressure shall be piped into the milkhouse.

The milkhouse shall be equipped with a two (2) compartment wash vat and adequate hot water heating facilities.

A transportation tank may be used for the cooling and/or storage of milk on the dairy farm. Such tank shall be provided with a suitable shelter for the receipt of milk. Such shelter shall be

adjacent to, but not a part of, the milkhouse and shall comply with the requirements of the milkhouse with respect to construction items; lighting; drainage; insect and rodent control; and general maintenance. In addition, the following minimum criteria shall be met:

1. An accurate, accessible temperature-recording device shall be installed in the milk line downstream from an effective cooling device, which cools the milk to 7°C (45°F) or less. Electronic records that comply with Appendix H., IV. Temperature-Recording Devices Used in Storage Tanks and V., Criteria 4, 7, 8, 9, 11 and 12 of this *Ordinance*, with or without hard copy, may be used in place of temperature-recording records. (Refer to the **NOTE** on page 45.) An indicating thermometer shall be installed as close as possible to the recording device for verification of recording temperatures. This indicating thermometer shall comply with all applicable requirements in Appendix H. of this *Ordinance*. This thermometer shall be used to check the temperature- recording device during the regulatory inspection and the results recorded on the recording record or into the electronic data collection, storage and reporting system.
2. Temperature-recording charts shall be maintained on the premises for a period of a minimum of six (6) months and are available for review by the Regulatory Agency. Except that, the electronic storage of required temperature records, with or without hard copy, shall be acceptable, provided the computer and computer generated temperature records are readily available for review by the Regulatory Agency.
3. The milk shall be sampled at the direction of the Regulatory Agency in a manner so as to preclude contaminating the milk tank truck or sample, by a permitted milk sample collector.
4. The milk tank truck shall be effectively agitated in order to collect a representative sample.

When the Regulatory Agency determines conditions exist whereby the direct loading of a milk tank truck (through by-passing the use of a farm bulk milk tank(s) and/or silo(s)) can be adequately protected and sampled without contamination, a shelter need not be provided if the following minimum criteria are met:

1. The milk hose connection is accessible to, and made from within, the milkhouse. The milk hose connection to the milk tank truck is completely protected from the outside environment at all times. Provided, based on Regulatory Agency acceptance, the direct loading of milk from the milkhouse to the milk tank truck may be conducted through a properly designed hose port that adequately protects the milkhouse opening or by stubbing the milk transfer and associated Clean-In-Place (CIP) cleaned lines outside the milkhouse wall in accordance with Item 5r, **ADMINISTRATIVE PROCEDURES #15**.
2. To assure continued protection of the milk, the milk tank truck manhole shall be sealed after the truck has been cleaned and sanitized.
3. The milk tank truck shall be washed and sanitized at the permitted milk plant, receiving station, or transfer station receiving the milk, or at a permitted milk tank truck cleaning facility.
4. An accurate, accessible temperature-recording device shall be installed in the milk line downstream from an effective cooling device, which cools the milk to 7°C (45°F) or less. Electronic records that comply with Appendix H., IV. Temperature-Recording Devices Used in Storage Tanks and V., Criteria 4, 7, 8, 9, 11 and 12 of this *Ordinance*, with or without hard copy, may be used in place of temperature-recording records. (Refer to the **NOTE** on page 45.) An indicating thermometer shall be installed as close as possible to the recording device for verification of recording temperatures. This indicating thermometer shall comply with all applicable requirements in Appendix H. of this *Ordinance*. This thermometer shall be used to

check the temperature- recording device during the regulatory inspection and the results recorded on the recording record or into the electronic data collection, storage and reporting system.

5. Temperature-recording records shall be maintained on the premises for a period of a minimum of six (6) months and are available for review by the Regulatory Agency. Except that, the electronic storage of required temperature records, with or without hard copy, shall be acceptable, provided the computer and computer generated temperature records are readily available for review by the Regulatory Agency.

6. The milk shall be sampled at the direction of the Regulatory Agency, in a manner so as to preclude contaminating the milk tank truck or sample, by a permitted milk sample collector. The milk in the milk tank truck shall be effectively agitated in order to collect a representative sample.

7. The milk tank truck shall be parked on a self-draining concrete or equally impervious surface during filling and storage.

8. When direct loading of a milk tank truck using either a hose port, as addressed above, or stubbing the milk transfer and associated CIP cleaned lines outside the milkhouse wall in accordance with Item 5r, **ADMINISTRATIVE PROCEDURES #15**, overhead protection of the milk hose connection to the milk tank truck shall be provided.

PUBLIC HEALTH REASON

Unless a suitable, separate place is provided for the cooling, handling and storing of milk and for the washing, sanitizing and storage of milk utensils, the milk or the utensils may become contaminated. Construction, which permits easy cleaning, promotes cleanliness. A well-drained floor of concrete or other impervious material promotes cleanliness. Ample light promotes cleanliness, and proper ventilation reduces the likelihood of odors and condensation. A milkhouse that is separated from the barn, stable or parlor and the living quarters provides a safeguard against the exposure of milk and milk equipment and utensils to contamination.

ADMINISTRATIVE PROCEDURES

This Item is deemed to be satisfied when:

1. A separate milkhouse of sufficient size is provided for the cooling, handling and storing of milk and the washing, sanitizing and storing of milk containers and utensils, except as provided for in Item 12r of this Section.
2. The floors of all milkhouses are constructed of good quality concrete (float finish permissible), or equally impervious tile, or brick laid closely with impervious material, or metal surfacing with impervious joints or other material the equivalent of concrete and maintained free of breaks, depressions and surface peelings.
3. The floor slopes to drain so that there are no pools of standing water. The joints between the floor and the walls shall be watertight.
4. Liquid wastes are disposed of in a sanitary manner. All floor drains are accessible and are trapped if connected to a sanitary sewer.
5. Walls and ceilings are constructed of smooth dressed lumber or similar material; well painted with a light-colored washable paint; and are in good repair. Surfaces and joints shall be tight and smooth. Sheet metal, tile, cement block, brick, concrete, cement plaster or similar materials of light color may be used and the surfaces and joints shall be smooth.
6. A minimum of twenty (20) foot-candles (220 lux) of light is provided at all working areas from natural and/or artificial light for milkhouse operations.

7. The milkhouse is adequately ventilated to minimize condensation on floors, walls, ceilings and clean utensils.
8. Vents, if installed, and lighting fixtures are installed in a manner to preclude the contamination of bulk milk tanks or clean utensil storage areas.
9. The milkhouse is used for no other purpose than milkhouse operations.
10. There is no direct opening into any barn, stable or parlor or room used for domestic purposes. Except that an opening between the milkhouse and milking barn, stable or parlor is permitted when a tight-fitting, self-closing, solid door(s) hinged to be single or double acting is provided. Except that screened vents are permitted in the wall between the milkhouse and a breezeway, which separates the milkhouse from the milking parlor, provided animals are not housed within the milking facility.
11. A vestibule, if used, complies with the applicable milkhouse construction requirements.
12. Water under pressure is piped into the milkhouse.
13. Each milkhouse is provided with facilities for heating water in sufficient quantity and to such temperatures for the effective cleaning of all equipment and utensils. (Refer to Appendix C. of this *Ordinance*.)
14. The milkhouse is equipped with a wash-and-rinse vat having at least two (2) compartments. Each compartment shall be of sufficient size to accommodate the largest utensil or container used. The upright wash vat for milk pipelines and milk machines may be accepted as one (1) part of the two (2) compartment vat. Provided, that the stationary wash rack, in or on the vat, and the milking machines inflations and appurtenances are completely removed from the vat during the washing, rinsing and/or sanitizing of other utensils and equipment. Where CIP cleaning/recirculated systems eliminate the need for handwashing of equipment, the presence of the second wash vat compartment may be optional, if so determined by the Regulatory Agency, on an individual farm basis.
15. The transfer of milk from a bulk milk tank to a bulk milk pickup tanker is through a hose port located in the milkhouse wall. The hose port shall be fitted with a tight door, which shall be in good repair. It shall be kept closed except when the hose port is in use. An easily clean- able surface shall be constructed under the hose port, adjacent to the outside wall and sufficiently large to protect the milk hose from contamination.
Provided, milk can be transferred from a bulk milk tank to a bulk milk pickup tanker by stubbing the milk transfer and associated CIP cleaned lines outside the milkhouse wall, provided:
 - a. A concrete slab of adequate size, to protect the transfer hose, shall be provided under the stubbed sanitary milk and CIP cleaned lines.
 - b. The outside wall of the milkhouse, where the sanitary piping and concrete slab are located shall be properly maintained and kept in good repair.
 - c. The sanitary piping, stubbed outside the milkhouse, shall be properly sloped to assure complete drainage and the ends of the piping, which are located outside, shall be capped when the transfer hose is disconnected.
 - d. After the completion of milk transfer, the milk lines and transfer hose shall be properly CIP cleaned.
 - e. After the CIP cleaning process has been completed; the transfer hose shall be disconnected, drained and stored in the milkhouse. Proper storage of the transfer hose includes capping the ends and storing the entire hose up off the floor. The sanitary piping outside the milkhouse shall be capped at all times, except when transferring milk or being CIP cleaned. When the caps are not being used, they shall be properly cleaned and sanitized after each use and stored in the milkhouse to protect them from contamination. A transfer hose manufactured with permanent hose end fittings, attached in such a manner that will

assure a crevice-free joint between the hose and the fitting, may be stored outside of the milkhouse, provided it is CIP cleaned; the stubbed piping and hose length are of sufficient design to allow complete drainage after cleaning and sanitizing; and the hose remains connected to the stubbed piping when not in use.

f. Means shall be provided to sanitize the milk-contact surfaces of the transfer hose and bulk milk pickup tanker fittings prior to the connection of the transfer hose to the bulk milk pickup tanker.

g. At all times, the bulk milk pickup tanker manhole openings(s) shall remain closed, except for brief periods for sampling and examination when environmental conditions permit.

16. A transportation tank, with or without overhead protection, may be used for cooling and/or storing milk on a dairy farm. If a suitable shelter is provided for a transportation truck, used for cooling and/or storing milk, such shelter shall be adjacent to, but not a part of, the milkhouse and shall comply with the prerequisites of the milkhouse with respect to construction items; lighting; drainage; insect and rodent control; and general maintenance. (Refer to Appendix C. of this *Ordinance* for suggested plans and information on size, construction, operation and maintenance of milkhouses.)

In addition, the following minimum criteria shall be met:

a. An accurate, accessible temperature-recording device shall be installed in the milk line downstream from an effective cooling device, which cools the milk to 7°C (45°F) or less. Electronic records that comply with Appendix H., IV. Temperature-Recording Devices Used in Storage Tanks and V., Criteria 4, 7, 8, 9, 11 and 12 of this *Ordinance*, with or without hard copy, may be used in place of temperature-recording records. (Refer to the **NOTE** on page 45.) An indicating thermometer shall be installed as close as possible to the recording device for verification of recording temperatures. This indicating thermometer shall comply with all applicable requirements in Appendix H. of this *Ordinance*. This thermometer shall be used to check the temperature-recording device during the regulatory inspection and the results recorded on the recording records or into the electronic data collection, storage and reporting system.

b. Temperature-recording records shall be maintained on the premises for a period of a minimum of six (6) months and are available for review by the Regulatory Agency. Except that, the electronic storage of required temperature records, with or without hard copy, shall be acceptable, provided the computer and computer generated temperature records are readily available for review by the Regulatory Agency.

c. The milk shall be sampled at the direction of the Regulatory Agency in a manner so as to preclude contaminating the milk tank truck or sample, by an acceptable milk sample collector.

d. The milk tank truck shall be effectively agitated in order to collect a representative sample.

When the Regulatory Agency determines conditions exist whereby the direct loading of a milk tank truck (through by-passing the use of a farm bulk milk tank(s) and/or silo(s)) can be adequately protected and sampled without contamination, a shelter need not be provided if the following minimum criteria are met:

a. The milk hose connection is accessible to, and made from within, the milkhouse. The milk hose connection to the milk tank truck is completely protected from the outside environment at all times. Provided, based on Regulatory Agency acceptance, the direct loading of milk from the milkhouse to the milk tank truck may be conducted through a properly designed hose port that adequately protects the milkhouse opening or by stubbing

the milk transfer and associated CIP cleaned lines outside the milkhouse wall in accordance with Item 5r, **ADMINISTRATIVE PROCEDURES #15**.

b. To assure continued protection of the milk, the milk tank truck manhole shall be sealed after the truck has been cleaned and sanitized.

c. The milk tank truck shall be washed and sanitized at the permitted milk plant, receiving station or transfer station receiving the milk or at a permitted milk tank truck cleaning facility.

d. An accurate, accessible temperature-recording device shall be installed in the milk line downstream from an effective cooling device, which cools the milk to 7°C (45°F) or less. Electronic records that comply with Appendix H., IV. Temperature-Recording Devices Used in Storage Tanks and V., Criteria 4, 7, 8, 9, 11 and 12 of this *Ordinance*, with or without hard copy, may be used in place of temperature-recording records. (Refer to the **NOTE** on page 45.) An indicating thermometer shall be installed as close as possible to the recording device for verification of recording temperatures. This indicating thermometer shall comply with all applicable requirements in Appendix H. of this *Ordinance*. This thermometer shall be used to check the temperature- recording device during the regulatory inspection and the results recorded on the recording records or into the electronic data collection, storage and reporting system.

e. Temperature-recording records shall be maintained on the premises for a period of a minimum of six (6) months and are available for review by the Regulatory Agency. Except that, the electronic storage of required temperature records, with or without hard copy, shall be acceptable, provided the computer and computer generated temperature records are readily available for review by the Regulatory Agency.

f. The milk shall be sampled at the direction of the Regulatory Agency, in a manner so as to preclude contaminating the milk tank truck or sample, by a permitted milk sample collector. The milk in the milk tank truck shall be effectively agitated in order to collect a representative sample.

g. The milk tank truck shall be parked on a self-draining concrete or equally impervious surface during filling and storage.

h. When direct loading of a milk tank truck using either a hose port, as addressed above, or stubbing the milk transfer and associated CIP cleaned lines outside the milkhouse wall in accordance with Item 5r, **ADMINISTRATIVE PROCEDURES #15**, overhead protection of the milk hose connection to the milk tank truck shall be provided.

NOTE: With the identified Criteria 4, 7, 8, 9, 11 and 12 cited within Appendix H., V. of this *Ordinance*, the words “dairy farm” shall be substituted for “milk plant” wherever the words “milk plant” appear.

ITEM 6r. MILKHOUSE – CLEANLINESS

The floors, walls, ceilings, windows, tables, shelves, cabinets, wash vats, non-product- contact surfaces of milk containers, utensils and equipment and other milkhouse equipment shall be clean. Only articles directly related to milkhouse activities shall be permitted in the milkhouse. The milkhouse shall be free of trash, animals and fowl.

PUBLIC HEALTH REASON

Cleanliness in the milkhouse reduces the likelihood of contamination of the milk.

ADMINISTRATIVE PROCEDURES

This Item is deemed to be satisfied when:

1. The milkhouse structure, equipment and other milkhouse facilities, used in its operation or maintenance, are clean at all times.
2. Incidental articles such as desks, refrigerators, and storage cabinets may be in the milkhouse, provided they are kept clean and ample space is available to conduct the normal operations in the milkhouse and will not cause contamination of the milk.
3. Vestibules, if provided, are kept clean.
4. Animals and fowl are kept out of the milkhouse.

ITEM 7r. TOILET

Every dairy farm shall be provided with one (1) or more toilets; conveniently located; properly constructed; operated; and maintained in a sanitary manner. The waste shall be inaccessible to insects and shall not pollute the soil surface or contaminate any water supply.

PUBLIC HEALTH REASON

The organisms of typhoid fever, dysentery and gastrointestinal disorders may be present in the body wastes of persons who have these diseases. In the case of typhoid fever, well persons (carriers) also may discharge the organisms in their body wastes. If a toilet is not fly-tight and so constructed as to prevent overflow, infection may be carried from the excreta to the milk, either by flies or through the pollution of ground water supplies or streams to which the lactating animals have access.

ADMINISTRATIVE PROCEDURES

This Item is deemed to be satisfied when:

1. There is at least one (1) flush toilet connected to a public sewer system, or to an individual sewage-disposal system, or a chemical toilet, earth pit privy or other type of privy. Such sewage systems shall be constructed and operated in accordance with the standards outlined in Appendix C. of this *Ordinance*, or when a Regulatory Agency has more effective standards designed specifically for that region, these standards may apply, provided, there is not any mixing of animal and human waste.

NOTE: The text "or when a Regulatory Agency has more effective standards designed specifically for that region, these standards may apply" as cited in 1 above, shall not be applicable to a TPC authorized under the ICP.

2. A toilet or privy is convenient to the milking barn and the milkhouse. There shall be no evidence of human defecation or urination about the premises.
3. No privy opens directly into the milkhouse.

4. The toilet room, including all fixtures and facilities, is kept clean and free of insects and odors.
5. Where flush toilets are used, doors to toilet rooms are tight and self-closing. All outer openings in toilet rooms shall be screened or otherwise protected against the entrance of insects.
6. Vents of earth pits are screened.

ITEM 8r. WATER SUPPLY

Water for milkhouse and milking operations shall be from a supply properly located, protected and operated and shall be easily accessible, adequate and of a safe, sanitary quality.

PUBLIC HEALTH REASON

A dairy farm water supply should be accessible in order to encourage its use in ample quantity in cleaning operations; it should be adequate so that cleaning and rinsing will be thorough; and it should be of a safe, sanitary quality in order to avoid contamination of milk utensils.

A polluted water supply, used in the rinsing of dairy utensils and containers, may be more dangerous than a similar water supply that is used for drinking purposes only. Bacteria grow much faster in milk than in water and the severity of an attack of a given disease depends largely upon the size of the dose of disease organisms taken into the system. Therefore, a small number of disease organisms consumed in a glass of water from a polluted well may possibly result in no harm; whereas, if left in a milk utensil, which has been rinsed with the water, they may after several hours growth, in the milk, increase in such numbers as to cause disease when consumed.

ADMINISTRATIVE PROCEDURES

This Item is deemed to be satisfied when:

1. The water supply for milkhouse and milking operations is approved as safe by the applicable Government Water Control Authority and, in the case of individual water systems, complies with the specifications outlined in Appendix D. and the Bacteriological Standards outlined in Appendix G of this *Ordinance*.
2. No cross-connection exists between a safe water supply and any unsafe or questionable water supply or any other source of pollution.
3. There are no submerged inlets through which a safe water supply may be contaminated.
4. The well or other source of water is located and constructed in such a manner that neither underground nor surface contamination from any sewerage systems, privy or other source of pollution can reach such water supply.
5. New individual water supplies and water supply systems, which have been repaired or otherwise become contaminated, are thoroughly disinfected before being placed in use. (Refer to Appendix D. of this *Ordinance*.) The supply shall be made free of the disinfectant by pumping to waste before any sample for bacteriological testing shall be collected.
6. All containers and tanks used in the transportation of water are sealed and protected from possible contamination. These containers and tanks shall be subjected to a thorough cleaning and a bacteriological treatment prior to filling with potable water to be used at the dairy farm. To minimize the possibility of contamination of the water during its transfer from the potable tanks to the elevated or groundwater storage at the dairy farm, a suitable pump, hose and fittings shall be provided. When the pump, hose and fittings are not being used, the outlets shall be capped and stored in a suitable dust-proof enclosure so as to prevent their contamination. The storage

tank at the dairy farm shall be constructed of impervious material; provided with a dust and rainproof cover; and also provided with an approved vent and roof hatch. All new reservoirs or reservoirs which have been cleaned shall be disinfected prior to placing them into service. (Refer to Appendix D. of this *Ordinance*.)

7. Samples for bacteriological examination of individual water supplies and reclaimed water from heat exchanger processes or compressors on dairy farms as defined in Appendix D. of this *Ordinance* are taken upon the initial approval of the physical structure or water system, based upon the requirements of this *Ordinance*; when any repair or alteration of the water supply system has been made; and at least once every three (3) year period for individual water supplies and at least once every six (6) month period for reclaimed water, thereafter. Provided, that individual water supplies with buried well casing seals, installed prior to the adoption of this Section, shall be tested at least once every six (6) month period. Whenever such samples indicate either the presence of E. coli bacteria or whenever the well casing, pump or seal need replacing or repair, the well casing and seal shall be brought above the ground surface and shall comply with all other applicable construction criteria of this Section. Provided, that when water is hauled to the dairy farm, such water shall be sampled for bacteriological examination at the point of use and submitted to a laboratory at least four (4) times in separate months during any consecutive six (6) month period. Bacteriological examinations shall be conducted in a laboratory acceptable to the Regulatory Agency. To determine if water samples have been taken at the frequency established in this Section, the interval shall include the designated three (3) year or six (6) month period, respectively, plus the remaining days of the month in which the sample is due.

8. Current records of water test results shall be retained on file with the Regulatory Agency or as the Regulatory Agency directs.

ITEM 9r. UTENSILS AND EQUIPMENT - CONSTRUCTION

All multi-use containers, utensils and equipment used in the handling, storage or transportation of milk shall be made of smooth, nonabsorbent, corrosion-resistant, non-toxic materials, and shall be so constructed as to be easily cleaned. All containers, utensils and equipment shall be in good repair. Multiple-use woven material shall not be used for straining milk. All single-service articles shall have been manufactured, packaged, transported and handled in a sanitary manner and shall comply with the applicable requirements of Item 11p of this Section. Articles intended for single- service use shall not be reused.

Farm holding/cooling tanks, welded sanitary piping and transportation tanks shall comply with the applicable requirements of Items 10p and 11p of this Section.

PUBLIC HEALTH REASON

Milk containers and other utensils without flush joints and seams, without smooth, easily cleaned, and accessible surfaces, and not made of durable, non-corrodible material, are apt to harbor accumulations in which undesirable bacterial growth is supported. Single-service articles, which have not been manufactured and handled in a sanitary manner, may contaminate the milk.

ADMINISTRATIVE PROCEDURES

This Item is deemed to be satisfied when:

1. All multi-use containers, utensils and equipment, which are exposed to milk or milk products, or from which liquids may drip, drain or be drawn into milk or milk products, are made of smooth impervious, nonabsorbent, safe materials of the following types:
 - a. Stainless steel of the American Iron and Steel Institute (AISI) 300 series; or
 - b. Equally corrosion-resistant, non-toxic metal; or
 - c. Heat-resistant glass; or
 - d. Plastic or rubber and rubber-like materials which are relatively inert, resistant to scratching, scoring, decomposition, crazing, chipping and distortion, under normal use conditions; are non-toxic, fat resistant, relatively nonabsorbent, relatively insoluble; do not re-lease component chemicals or impart flavor or odor to the product; and which maintain their original properties under repeated use conditions.
2. Single-service articles have been manufactured, packaged, transported and handled in a sanitary manner and comply with the applicable requirements of Item 11p.
3. Articles intended for single-service use are not reused.
4. All containers, utensils and equipment are free of breaks and corrosion.
5. All joints in such containers, utensils and equipment are smooth and free from pits, cracks or inclusions.
6. CIP cleaned milk pipelines and return-solution lines are self-draining. If gaskets are used, they shall be self-positioning and of material meeting specifications described in 1.d. above, and shall be of such design, finish and application as to form a smooth, flush, interior surface. If gaskets are not used, all fittings shall have self-positioning faces designed to form a smooth, flush, interior surface. All interior surfaces of welded joints in pipelines shall be smooth and free of pits, cracks and inclusions.
7. Detailed plans for CIP cleaned pipeline systems are submitted to the Regulatory Agency for written approval prior to installation. No alteration or addition shall be made to any milk pipeline system without prior written approval of the Regulatory Agency.
8. Strainers, if used, are of perforated metal design, or so constructed as to utilize single- service strainer media.
9. All milking machines, including heads, milk claws, milk tubing and other milk-contact surfaces can be easily cleaned and inspected. Pipelines, milking equipment and appurtenances, which require a screwdriver or special tool, shall be considered easily accessible for inspection, providing the necessary tools are available at the milkhous. Milking systems shall not have components incorporated in the return solution lines, which by design do not comply with the criteria for product-contact surfaces. Some examples of these are:
 - a. Ball type plastic valves;
 - b. Plastic tees with barbed ridges to better grip the plastic or rubber hoses; and
 - c. The use of polyvinyl chloride (PVC) water type piping for return solution lines.
10. Milk cans have umbrella-type lids.
11. Farm holding/cooling tanks, welded sanitary piping and transportation tanks comply with the applicable requirements of Items 10p and 11p of this Section.
12. During filling, flexible plastic/rubber hoses may be used between the fill valves of bottom fill and top fill bulk milk storage tanks, when needed for functional purposes. Such hoses shall be drainable, be as short as practical, have sanitary fittings, and be supported to maintain uniform slope and alignment. The end fittings of such hoses shall be permanently attached in such a manner that will assure a crevice-free joint between the hose and the fitting, which can be cleaned by mechanical means. The hoses shall be included as part of a CIP cleaning system.
13. Transparent flexible plastic tubing (up to 150 feet in length) used in connection with milk transfer stations shall be considered acceptable if it meets the "3-A Sanitary Standards for

Multiple-Use Plastic Materials Used as Product Contact Surfaces for Dairy Equipment, Number 20-##” and if it remains sufficiently clear that the interior surfaces can be properly inspected. Short lengths of flexible plastic tubing (8 feet or less) may be inspected for cleanliness by sight or by use of a “rod”. The transparency or opacity of such tubing under this condition is not a factor in determining cleanliness.

14. AMIs shall comply with all applicable Grade “A” PMO requirements and/or 3-A Standards.

NOTE: 3-A Sanitary Standards and Accepted Practices for dairy equipment are developed by 3-A Sanitary Standards, Inc. (3-A SSI). 3-A SSI is comprised of equipment fabricators, processors, and regulatory sanitarians, which include: State milk regulatory officials, USDA Agricultural Marketing Service Dairy Programs, the USPHS/FDA Center for Food Safety and Applied Nutrition (CFSAN) Milk Safety Team (MST), academic representatives and others.

Equipment manufactured in conformity with 3-A Sanitary Standards and Accepted Practices complies with the sanitary design and construction standards of this *Ordinance*. For equipment not displaying the 3-A Symbol, the 3-A Sanitary Standards and Accepted Practices may be used by Regulatory Agencies as guidance in determining compliance with this Section.

ITEM 10r. UTENSILS AND EQUIPMENT – CLEANING

The product-contact surfaces of all multi-use containers, equipment and utensils used in the handling, storage or transportation of milk shall be cleaned after each usage.

PUBLIC HEALTH REASON

Milk cannot be kept clean or free of contamination if permitted to come into contact with unclean containers, utensils or equipment.

ADMINISTRATIVE PROCEDURES

This Item is deemed to be satisfied when:

1. There shall be a separate wash manifold for all CIP cleaned milk pipelines in all new or extensively remodeled facilities.
2. The product-contact surface of all multi-use containers, equipment and utensils used in the handling, storage or transportation of milk are cleaned after each milking or once every twenty-four (24) hours for continuous operations.
3. There shall not be any partial removal of milk from milk storage/holding tanks by the bulk milk hauler/sampler, except partial pickups may be permitted when the milk storage/holding tank is equipped with a seven (7) day recording device complying with Appendix H., IV. Temperature-Recording Devices Used in Storage Tanks of this *Ordinance*, or other recording device acceptable to the Regulatory Agency, provided the milk storage/holding tank shall be clean and sanitized when empty and shall be emptied at least every seventy-two (72) hours. Electronic records that comply with Appendix H. of this *Ordinance*, IV. Temperature-Recording Devices Used in Storage Tanks and V., Criteria 4, 7, 8, 9, 11 and 12, with or without hard copy, may be used in place of temperature-recording records. In the absence of a temperature-recording device, partial pickups may be permitted as long as the milk storage/holding tank is completely empty, clean and sanitized prior to the next milking. In the event of an emergency

situation, such as inclement weather, natural disaster, etc., a variance may be permitted at the discretion of the Regulatory Agency.

NOTE: With the above cited Criteria within Appendix H., V. of this *Ordinance*, the words “dairy farm” shall be substituted for “milk plant” wherever the words “milk plant” appears. The text “In the event of an emergency situation” as cited in 3. above, shall not be applicable to a TPC authorized under the ICP.

ITEM 11r. UTENSILS AND EQUIPMENT – SANITIZATION

The product-contact surfaces of all multi-use containers, equipment and utensils used in the handling, storage or transportation of milk shall be sanitized before each usage.

PUBLIC HEALTH REASON

Mere cleaning of containers, equipment and utensils does not insure the removal or destruction of all disease organisms that may have been present. Even very small numbers remaining may grow to dangerous proportions, since many kinds of disease bacteria grow rapidly in milk. For this reason, all milk containers, utensils and equipment shall be treated with an effective sanitizer before each usage.

ADMINISTRATIVE PROCEDURES

This Item is deemed to be satisfied when:

All product-contact surfaces of multi-use containers, utensils and equipment used in the handling, storage or transportation of milk are sanitized before each usage by one of the following methods, or by any method which has been demonstrated to be equally effective:

1. Complete immersion in hot water at a temperature of at least 77°C (170°F) for at least five (5) minutes; or exposure to a flow of hot water at a temperature of at least 77°C (170°F), as determined by the use of a suitable accurate thermometer, at the outlet, for at least five (5) minutes.
2. Certain chemical compounds are effective for the sanitization of milk utensils, containers, and equipment. These are contained in 40 CFR 180.940 and shall be used in accordance with label directions, or the electro-chemical activation (ECA) device manufacturer’s instructions if produced onsite in accordance with Appendix F., II. of this *Ordinance*. (Refer to Appendix F. of this *Ordinance* for further discussion of approved sanitizing procedures.)

ITEM 12r. UTENSILS AND EQUIPMENT – STORAGE

All containers, utensils and equipment used in the handling, storage or transportation of milk, unless stored in sanitizing solutions, shall be stored to assure complete drainage and shall be protected from contamination prior to use. Provided, that pipeline milking equipment such as milker claws, inflations, weigh jars, meters, milk hoses, milk receivers, tubular coolers, plate coolers and milk pumps which are designed for CIP cleaning and other equipment, as accepted by FDA, which meets these criteria, may be stored in the milking barn or parlor, provided this

equipment is designed, installed and operated to protect the product and solution-contact surfaces from contamination at all times.

PUBLIC HEALTH REASON

Careless storage of milk containers, utensils and equipment, which previously have been properly treated, is apt to result in recontamination of such utensils, thus rendering them unsafe.

ADMINISTRATIVE PROCEDURES

This Item is deemed to be satisfied when:

1. All milk containers, utensils and equipment, including milking machine vacuum hoses, are stored in the milkhouse in a sanitizing solution, or on racks, until used. Pipeline milking equipment such as milker claws, inflations, weight jars, milk hoses, milk receivers, tubular coolers, plate coolers and milk pumps which are designed for CIP cleaning and other equipment, as accepted by FDA, which meets these criteria, may be CIP cleaned, sanitized and stored in the milking barn or parlor, provided this equipment is designed, installed and operated to protect the product and solution contact surfaces from contamination at all times. Some of the parameters to be considered in determining protection are:
 - a. Proper location of equipment;
 - b. Proper drainage of equipment; and
 - c. Adequate and properly located lighting and ventilation.
2. The milking barn or parlor shall be used only for milking. Concentrates may be fed in the barn during milking but the barn shall not be used for the housing of animals. When manual cleaning of product-contact surfaces is necessary, the cleaning shall be done in the milkhouse. Provided, in the case of a milking parlor that opens directly into an enclosed housing area, through a covered holding area, the holding area may be seasonally enclosed when:
 - a. There are no manure pit openings in the parlor, holding area or in the housing area close enough to affect the milking parlor.
 - b. The cattle holding and housing areas are maintained in good repair and reasonably clean.
 - c. With respect to dust, odors, rodents and insects, the entire area meets milking parlor standards and the parlor is free of evidence of birds.

In addition, construction and cleanliness items identified above shall be evaluated in the appropriate *Ordinance* Sections.

3. Means are provided to effect complete drainage of equipment when such equipment cannot be stored to drain freely.
4. Clean cans or other containers are stored in the milkhouse within a reasonable time after delivery to the dairy farm.
5. Strainer pads, parchment papers, gaskets and similar single-service articles are stored in a suitable container or cabinet, in a location convenient to their use, and protected against contamination.

ITEM 13r. MILKING – FLANKS, UDDERS AND TEATS

Milking shall be done in the milking barn, stable or parlor. The flanks, udders, bellies and tails of all milking lactating animals shall be free from visible dirt. All brushing shall be completed prior to milking. The udders and teats of all milking lactating animals shall be clean and dry before

milking. Teats shall be treated with a sanitizing solution just prior to the time of milking and shall be dry before milking. Wet hand milking is prohibited.

PUBLIC HEALTH REASON

If milking is done elsewhere other than in a suitable place provided for this purpose, the milk may become contaminated. Cleanliness of the lactating animals is one of the most important factors affecting the bacterial count of the milk. Under usual farm conditions, lactating animals contaminate their udders by standing in polluted water or by lying down in the pasture or cowyard. Unless the udders and teats are clean and dry before milking, particles of filth or contaminated water are apt to drop or be drawn into the milk. Such contamination of the milk is particularly dangerous because manure may contain the organisms of brucellosis and tuberculosis, and polluted water may contain the organisms of typhoid fever and other intestinal diseases. Application of sanitizing solutions to the teats, followed by thorough drying just prior to the time of milking, has the advantage of giving an additional margin of safety with reference to such disease organisms as they are not removed by ordinary cleaning and it is helpful in the control of mastitis.

ADMINISTRATIVE PROCEDURES

This Item is deemed to be satisfied when:

1. Milking is done in a milking barn, stable or parlor.
2. Brushing is completed prior to milking.
3. Flanks, bellies, tails and udders are clipped as often as necessary to facilitate cleaning of these areas and are free from dirt. The hair on the udders shall be of such length that it is not incorporated with the teat in the inflation during milking.
4. Udders and teats of all milking animals are clean and dry before milking. Teats shall be cleaned, treated with a sanitizing solution and dry just prior to milking. Provided that the sanitizing of teats shall not be required if the udder is dry and the teats have been thoroughly cleaned (not dry wiped) and dried (manually wiped dry) prior to milking. The determination of what constitutes a dry udder and cleaned and dried teats shall be made by the Regulatory Agency.

NOTE: Additional alternative udder preparation methods may also be used once they have been evaluated by FDA and found acceptable.

5. Wet hand milking is prohibited.

ITEM 14r. PROTECTION FROM CONTAMINATION

Milking and milkhouse operations, equipment and facilities shall be located and conducted to prevent any contamination of milk, containers, utensils and equipment. Milk shall not be strained, poured, transferred or stored unless it is properly protected from contamination. After sanitization, all containers, utensils and equipment shall be handled in such a manner as to prevent the contamination of any milk product-contact surface.

Vehicles used to transport milk from the dairy farm to the milk plant, receiving station or transfer station shall be constructed and operated to protect their contents from sun, freezing and

contamination. Such vehicles shall be kept clean, inside and out, and any substance capable of contaminating the milk shall not be transported with the milk.

PUBLIC HEALTH REASON

Because of the nature of milk and its susceptibility to contamination by disease producing bacteria and other contaminants, every effort shall be made to provide adequate protection for the milk at all times. This shall include the proper placement of equipment so that work areas in the milking barn and milkhouse are not overcrowded. The quality of any air that is used for the agitation or movement of milk or is directed at a milk product-contact surface shall be such that it will not contaminate the milk.

The effect of sanitization of equipment can be nullified if the equipment is not protected after sanitizing.

To protect milk during transportation, delivery vehicles shall be properly constructed and operated.

ADMINISTRATIVE PROCEDURES

This Item is deemed to be satisfied when:

1. Equipment and operations are so located within the milking barn and milkhouse as to prevent overcrowding and contamination of cleaned and sanitized containers, utensils and equipment by splash, condensation or manual contact.
2. During milking and milkhouse operations, pipelines and equipment, used to contain or conduct milk, shall be effectively separated from tanks/silos and/or circuits containing cleaning and/or sanitizing solutions. This can be accomplished by:
 - a. Physically disconnecting all connection points between tanks/silos and/or circuits containing cleaning and/or sanitizing solutions from pipelines and equipment used to contain or conduct milk; or
 - b. Separation of all connection points between such circuits by at least two (2) automatically controlled valves with a drainable opening to the atmosphere between the valves; or by a single-bodied double seat mixproof valve, with a drainable opening to the atmosphere between the seats, if:
 - (1) The drainable opening to the atmosphere (vent) is equal to the largest pipeline connected to the mixproof valve or the following exception:
 - i) If the cross sectional area of the vent opening is less than that of the largest pipe diameter for the double seat valve, the maximum pressure in the space between the two (2) valve seats for the double seat valve shall be equivalent to or less than the maximum pressure in the space between two (2) blocking seats of two (2) automatically controlled compression type valves (three (3)-way valve to the drain and a two (2)-way valve separating product lines from cleaning and sanitizing solution lines.)
 - (2) Both valves, and valve seats in the case of single-bodied double seat valves, are position detectable and capable of providing an electronic signal when not properly seated in the blocked position. (Refer to Appendix H., I., Position Detection Devices of this *Ordinance*.)
 - (3) The valve vent, including piping between blocking valves, is not cleaned until milk has been removed or isolated, except in the case of a properly designed and operated system. This drainable opening to the atmosphere may be cleaned while milk is isolated

by one (1) of the blocking valves. A properly designed and operated system shall incorporate the following:

i) During CIP, a valve actuation of the cleaning/sanitizing solution blocking valve may be used for cleaning the valve vent, including piping between blocking valves, provided there shall not be pressurization of cleaning solutions on the exterior of the valve isolating milk that can equal or exceed the pressure of the milk being isolated, and

ii) During CIP with a valve actuation for cleaning the valve vent, including piping between blocking valves, the position detection of the valve isolating milk from the valve vent, including piping between blocking valves, and the position detection of the vent open to the atmosphere, shall be monitored and interlocked with the pump or source of liquid pressure, such that if it is determined they are not properly positioned, the pump or source of liquid pressure shall be immediately de-energized.

(4) These valves, or valve seats in the case of single-bodied double seat valves, are part of an automatic fail-safe system that shall prevent the contamination of milk with cleaning and/or sanitizing solutions. Automatic fail-safe systems shall be unique to each particular installation but are normally based on the premise that both blocking valve seats are properly seated in the blocked position before the CIP cleaning system can be activated for the cleaning circuit containing this valve arrangement, except as provided in (7) below.

(5) The system shall not have manual override capability, except for testing and inspection.

(6) Controls for the fail-safe system are tested and secured as directed by the Regulatory Agency in order to prevent unauthorized changes.

(7) The vent, including piping between blocking valves, is not cleaned until milk has been removed or isolated, except in the case of a properly designed and operated single-bodied double seat valve, in which case, the vent, including piping between blocking valves, may be cleaned while milk is present in one (1) of the valve housings. A properly designed and operated single-bodied double-seat valve shall incorporate the following:

i) There shall not be any impingement of cleaning liquid on the opposite valve seat gasket during seat lifting, even in the case of damaged or missing gaskets; and

ii) The pressure in the critical seat area of the valve vent cavity, even in the case of damaged or missing gaskets, shall be demonstrated to be atmospheric or less at all times; and

iii) During a seat-lift operation, the position of the seat opposite to the seat being lifted shall be monitored by a position detection device that is interlocked with the cleaning pump or source of the CIP cleaning solution pressure such that if this opposite seat is determined to be other than fully closed, the cleaning pump or source of the CIP cleaning solution pressure shall be immediately de-energized; and

iv) The single-bodied double seat valve vent cavity cleaning option shall have an Automated Fail-Safe Control System and the Control System shall comply with applicable provisions of Appendix H. Pasteurization Equipment and Procedures, Section VI. Criteria for the Evaluation of Computerized Systems for Grade "A" Public Health Controls of this *Ordinance*.

(8) Variations from the above specifications may be individually evaluated and found to also be acceptable if the level of protection is not compromised.

3. All milk that has overflowed, leaked, been spilled or improperly handled is discarded.

4. All product-contact surfaces of containers, utensils and equipment are covered or otherwise protected to prevent the access of insects, dust, condensation and other contamination. All openings, including valves and piping attached to milk storage tanks and milk tank trucks, pumps or vats, shall be capped or otherwise properly protected. Gravity type strainers used in the milkhouse do not have to be covered. Milk pipelines used to convey milk from pre-coolers to the bulk milk tank shall be fitted with effective drip deflectors.
5. The receiving receptacle is raised above the floor, as on a dolly or cart, or placed at a distance from the lactating animals, to protect it against manure and splash when milk is poured and/or strained in the milking barn, stable or parlor. Such receptacle shall have a tight-fitting cover, which shall be closed, except when milk is being poured.
6. Each pail or container of milk is transferred immediately from the milking barn, stable or parlor to the milkhouse.
7. Pails, cans and other equipment containing milk are properly covered during transfer and storage.
8. Whenever air under pressure is used for the agitation or movement of milk, or is directed at a milk-contact surface, it is free of oil, dust, rust, excessive moisture, extraneous materials and odor, and shall otherwise comply with the applicable standards of Appendix H. of this *Ordinance*.
9. Sanitized product-contact surfaces, including bulk milk tank openings and outlets, are protected against contact with unsanitized utensils and equipment, hands, clothing, splash, condensation and other sources of contamination.
10. Any sanitized product-contact surface, which has been otherwise exposed to contamination, is again cleaned and sanitized before being used.
11. Vehicles used to transport milk from the dairy farm to the milk plant, receiving station or transfer station are constructed and operated to protect their contents from sun, freezing and contamination.
12. Vehicles have bodies with solid enclosures and tight, solid doors.
13. Vehicles are kept clean, inside and out.
14. No substance capable of contaminating milk is transported with the milk. (Refer to Items 10p and 11p and Appendix B. of this *Ordinance* for information on the construction of milk tank trucks.)

ITEM 15r. DRUG AND CHEMICAL CONTROL

Cleaners and sanitizers shall be stored in properly identified, dedicated end-use containers. Animal drugs and drug administration equipment shall be stored in such a way that milk, milking equipment, wash vats and hand sinks are not subject to contamination.

Animal drugs shall be properly labeled and segregated, lactating from non-lactating. Unapproved drugs shall not be used.

For the purpose of this Item, drugs intended for use in dry dairy animals shall be stored with the "Non-lactating Drugs". Therefore, drugs intended for use in dairy calves, dairy heifers, dairy bulls and dry dairy cows shall be segregated from drugs for cows that are currently being milked. This required storage system shall also be followed for drugs intended for use in goats, sheep and other dairy animals.

The only drugs that shall be stored with the "Lactating Drugs" are drugs that are specifically indicated on the drug label or on a veterinarian's label for extra-label drug use to be used in a specific class/species of lactating dairy animals. For the purpose of complying with this Item "lactating dairy animals" shall mean those dairy animals that are currently producing milk.

PUBLIC HEALTH REASON

Accidental misuse of cleaners or sanitizers can result in adulteration of the milk.

Animal drugs can result in adverse reactions in people sensitive to those residues and can contribute to the development of strains of drug resistant human pathogens.

ADMINISTRATIVE PROCEDURES

This Item is deemed to be satisfied when:

1. Cleaners and sanitizers, used on dairy farms, shall be purchased in containers from the manufacturer or distributor, which properly identify the contents or, if bulk cleaners and sanitizers are transferred from the manufacturer's or distributor's container, that the transfer only occurs into a dedicated end-use container, which is specifically designed and maintained according to the manufacturer's specifications for that specific product. The label on the dedicated end-use container shall include the product name, chemical description, use directions, precautionary and warning statement, first aid instructions, container storage and maintenance instructions and the name and address of the manufacturer or distributor.
2. Equipment used to administer drugs is not cleaned in the wash vats and is stored so as not to contaminate the milk or milk-contact surfaces of equipment.
3. Drugs intended for the treatment of non-lactating dairy animals are segregated from those drugs used for lactating dairy animals. Separate shelves in cabinets, refrigerators or other storage facilities satisfy this Item.
4. Drugs shall be properly labeled to include the name and address of the manufacturer or distributor for over-the-counter (OTC) drugs, or veterinary practitioner dispensing the product for prescription (Rx) and extra label use drugs. If the drug is dispensed by a pharmacy on the order of a veterinarian, the labeling shall include the name of the prescribing veterinarian and the name and address of the dispensing pharmacy, and may include the address of the prescribing veterinarian.
5. Drug labels shall also include:
 - a. Directions for use, and prescribed withholding times;
 - b. Cautionary statements, if needed; and
 - c. Active ingredient(s) in the drug product.
6. Unapproved and/or improperly labeled drugs are not used to treat dairy animals and are not stored in the milkhouse, milking barn, stable or parlor.
7. Drugs are stored in such a manner that they cannot contaminate the milk or milk product-contact surfaces of the containers, utensils or equipment.

NOTE: Topical antiseptics and wound dressings, unless intended for direct injection into the teat, vaccines and other biologics, and dosage form vitamins and/or mineral products are exempt from labeling and storage requirements, except when it is determined that they are stored in such a manner that they may contaminate the milk or milk product-contact surfaces of containers, utensils or equipment.

ITEM 16r. PERSONNEL – HANDWASHING FACILITIES

Adequate handwashing facilities shall be provided, including a lavatory fixture with hot and cold, or warm running water, soap or detergent and individual sanitary towels or other approved hand-drying devices, convenient to the milkhouse, milking barn, stable, parlor and flush toilet.

PUBLIC HEALTH REASON

Adequate handwashing facilities are essential to personal cleanliness and minimize the likelihood of contamination of the milk. Handwashing facilities are required in order to increase the assurance that milker's and bulk milk hauler/sampler's hands will be washed.

ADMINISTRATIVE PROCEDURES

This Item is deemed to be satisfied when:

1. Handwashing facilities are located convenient to the milkhouse, milking barn, stable, parlor and flush toilet.
2. Handwashing facilities include soap or detergent, hot and cold, or warm running water, individual sanitary towels or other approved hand-drying devices and a lavatory fixture. Utensil wash and rinse vats shall not be considered as handwashing facilities.

ITEM 17r. PERSONNEL – CLEANLINESS

Hands shall be washed clean and dried with an individual sanitary towel or other approved hand-drying devices immediately before milking, before performing any milkhouse function and immediately after the interruption of any of these activities. Milkers and bulk milk hauler/samplers shall wear clean outer garments while milking or handling milk, milk containers, utensils, or equipment.

PUBLIC HEALTH REASON

The reasons for clean hands of the persons doing the milking are similar to those for the cleanliness of the lactating animal's udder. The milker's hands may have been exposed to contamination during the course of their normal duties on the farm and at milking time. Because the hands of all workers frequently come into contact with their clothing it is important that the clothes worn, during milking and the handling of milk, be clean.

ADMINISTRATIVE PROCEDURES

This Item is deemed to be satisfied when:

1. Hands are washed, clean and dried with an individual sanitary towel or other approved hand-drying devices immediately before milking; before performing any milkhouse function; and immediately after the interruption of any of these activities.
2. Milkers and bulk milk hauler/samplers wear clean outer garments while milking or handling milk containers, utensils or equipment.

ITEM 18r. RAW MILK COOLING

Raw milk for pasteurization, ultra-pasteurization, aseptic processing and packaging or retort processed after packaging shall be cooled to 10°C (50°F) or less within four (4) hours or less, of the commencement of the first milking, and to 7°C (45°F) or less, within two (2) hours after the completion of milking. Provided, that the blend temperature after the first milking and subsequent milkings does not exceed 10°C (50°F).

PUBLIC HEALTH REASON

Milk produced by disease-free lactating animals and under clean conditions usually contains relatively few bacteria immediately after milking. These can multiply to enormous numbers in a few hours unless the milk is cooled. However, when the milk is cooled quickly to 7°C (45°F) or less, there is only a slow increase in the numbers of bacteria.

Usually, the bacteria in milk are harmless, and if this were always true there would be no reason to cool milk, except to delay souring. There is; however, no way for the dairy operator or regulating officer to be absolutely sure that no disease bacteria have entered the milk, even though observance of the other Items of this *Ordinance* will greatly reduce this likelihood. The likelihood of transmitting disease is much increased when the milk contains large numbers of disease bacteria. Therefore, it is extremely important for milk to be cooled quickly, so that small numbers of bacteria, which may have entered the milk, will not multiply.

ADMINISTRATIVE PROCEDURES

This Item is deemed to be satisfied when:

1. Raw milk for pasteurization, ultra-pasteurization, aseptic processing and packaging or retort processed after packaging shall be cooled to 10°C (50°F) or less within four (4) hours or less, of the commencement of the first milking, and to 7°C (45°F) or less, within two (2) hours after the completion of milking. Provided, that the blend temperature after the first milking and subsequent milkings does not exceed 10°C (50°F).
2. Recirculated cooling water, which is used in plate or tubular coolers and/or heat exchangers, including those systems in which a freezing point depressant is used, is from a safe source and protected from contamination. Such water shall be tested at least once every six (6) month period and shall comply with the Bacteriological Standards of Appendix G of this *Ordinance*. Samples shall be taken under the direction of the Regulatory Agency and examination shall be conducted in a laboratory acceptable to the Regulatory Agency. Recirculated cooling water systems, which become contaminated through repair work or otherwise, shall be properly treated and tested before being returned to use. Freezing point depressants and other chemical additives, when used in recirculating cooling water systems, shall be non-toxic under conditions of use. Propylene glycol and all additives shall be either USP Grade, Food Grade or generally-recognized-as-safe (GRAS). To determine if recirculated cooling water samples have been taken at the frequency established in this Item, the interval shall include the designated six (6) month period plus the remaining days of the month in which the sample is due.
3. All farm bulk milk tanks manufactured after January 1, 2000 shall be equipped with an approved temperature-recording device.
 - a. The temperature-recording device shall be operated continuously and be maintained in a properly functioning manner. Circular charts shall not overlap. Electronic records that comply with Appendix H., IV. Temperature-Recording Devices Used in Storage Tanks and

V., Criteria 4, 7, 8, 9, 11 and 12 of this *Ordinance*, with or without hard copy, may be used in place of temperature-recording records.

NOTE: With the above cited Criteria within Appendix H., V. of this *Ordinance*, the words “dairy farm” shall be substituted for “milk plant” wherever the words “milk plant” appears.

- b. The temperature-recording device shall be verified every six (6) months and documented in a manner acceptable to the Regulatory Agency using an accurate (+/- 1°C (2°F)) thermometer that has been calibrated by a traceable standard thermometer, within the past six (6) months, with the results and date recorded and the thermometer being properly identified, or by using a traceable standard thermometer that has been calibrated within the last year.
- c. Temperature-recording records shall be maintained on the premises for a period of a minimum of six (6) months and are available for review by the Regulatory Agency. Except that, the electronic storage of required temperature records, with or without hard copy, shall be acceptable, provided the computer and computer generated temperature records are readily available for review by the Regulatory Agency.
- d. The temperature-recording device should be installed in an area convenient to the milk storage tank and acceptable to the Regulatory Agency.
- e. The temperature-recording device sensor shall be located to permit the registering of the temperature of the contents when the tank contains no more than twenty percent (20%) of its calibrated capacity.
- f. The temperature-recording device shall comply with the current technical specifications for tank recording thermometers.
- g. A temperature-recording device and/or any other device that meets the intent of these **ADMINISTRATIVE PROCEDURES** and technical specifications and is acceptable to the Regulatory Agency can be used to monitor/record the bulk tank temperature.
- h. The temperature-recording records shall properly identify the producer, date installed, tank or silo identification, if more than one (1), and signature or initials of the person installing the record.

ITEM 19r. INSECT AND RODENT CONTROL

Effective measures shall be taken to prevent the contamination of milk, containers, utensils and equipment by insects and rodents and by chemicals used to control such vermin. Milkhouses shall be free of insects and rodents. Surroundings shall be kept neat, clean and free of conditions, which might harbor or be conducive to the breeding of insects and rodents. Feed shall be stored in such a manner that it will not attract birds, rodents or insects.

PUBLIC HEALTH REASON

Proper manure disposal reduces the breeding of flies, which are considered capable of transmitting infection by physical contact or through excreta to milk or milk containers, utensils or equipment. Insects visit unsanitary places, they may carry pathogenic organisms on their bodies and they may carry living bacteria for as long as four (4) weeks within their bodies, and they may pass them on to succeeding generations by infecting their eggs. Effective screening tends to prevent the presence of flies, which are a public health menace. Flies may contaminate the milk with microorganisms, which may multiply and become sufficiently numerous to present a public health hazard. The surroundings of a dairy should be kept neat and clean in order to reduce insect and rodent harborages.

ADMINISTRATIVE PROCEDURES

This Item is deemed to be satisfied when:

1. Surroundings are kept neat, clean and free of conditions, which might harbor or be conducive to the breeding of insects and rodents. During fly season, manure shall be spread directly on the fields; or stored for not more than four (4) days in a pile on the ground surface and then spread on the fields; or stored for not more than seven (7) days in an impervious-floored bin, or on an impervious-curbed platform and then spread; or stored in a tight-screened and trapped manure shed; or effectively treated with larvicides; or disposed of in any other manner which controls insect breeding.
2. Manure packs in loafing areas, stables without stanchions, pen stables, resting barns, wandering sheds and free-stall housing are properly bedded and managed to prevent insect breeding.
3. Milkhouses are free of insects and rodents.
4. Milkhouses are effectively screened or otherwise protected against the entrance of vermin.
5. Outer milkhouse doors are tight and self-closing. Screen doors shall open outward.
6. Effective measures are taken to prevent the contamination of milk, containers, utensils and equipment by insects and rodents and by chemicals used to control such vermin. Insecticides and rodenticides, not approved for use in the milkhouse, shall not be stored in the milkhouse.
7. Only insecticides and rodenticides approved for use by the Regulatory Agency and/or registered with the EPA are used for insect and rodent control. (Refer to Appendix C. of this *Ordinance* for further information about insect and rodent control.)
8. Insecticides and rodenticides are used only in accordance with the manufacturer's label directions and are used so as to prevent the contamination of milk, milk containers, utensils and equipment, feed and water.
9. Covered boxes, bins or separate storage facilities for ground, chopped or concentrated feeds are provided.
10. Feed may be stored in the milking portion of the barn only in such a manner as will not attract birds, insects or rodents. Open feed dollies or carts may be used for distributing the feed, but not storing feed, in the milking barn. Feed dollies, carts, fully automated feeding systems, or other feed containers may be exempt from the use of covers, provided they do not attract birds, insects, or rodents.

NOTE: Refer to Appendix M. of this *Ordinance* for an inspection form for producer dairy farms, which summarizes the applicable sanitation requirements.