

2 VAC 5-531, REGULATIONS GOVERNING MILK FOR MANUFACTURING PURPOSES

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Statutory Authority §3.1-530.1 and 3.1-530.2 of the Code of Virginia (1950), as amended.

2 VAC 5-531-10 Definitions

The following words and terms, when used in this chapter, shall have the following meanings, unless the context clearly indicates otherwise:

"Adulterated milk" means any milk that meets one or more of the conditions specified in Subsection 402 of the Federal Food, Drug and Cosmetic Act, as amended (21 USC 342).

"Adulterated dairy product" means any dairy product which meets one or more of the conditions specified in Subsection 402 of the Federal Food, Drug and Cosmetic Act, as amended (21 USC 342).

"Asiago fresh cheese" means "asiago fresh cheese" as defined in 21 CFR 133.102.

"Asiago medium cheese" means "asiago medium cheese" as defined in 21 CFR 133.103.

"Asiago old cheese" means "asiago old cheese" as defined in 21 CFR 133.104

"Asiago soft cheese" means "asiago soft cheese" as defined in 21 CFR 133.102.

"Atmosphere relatively free from mold" means the air contains not more than ten mold colonies per cubic foot of air as determined by the latest edition of Standard Methods For The Examination Of Dairy Products, published by American Public Health Association.

"Blue cheese" means "blue cheese" as defined in 21 CFR 133.106.

"Board" means the Board of Agriculture and Consumer Services.

"Brick cheese" means "brick cheese" as defined in 21 CFR 133.108.

"Brick cheese for manufacturing" means "brick cheese for manufacturing" as defined in 21 CFR 133.109.

"Caciocavallo siciliano cheese" means "caciocavallo siciliano cheese" as defined in 21 CFR 133.111.

"Cancel" means to permanently nullify, void, or delete a permit issued by the Virginia Department of Agriculture and Consumer Services.

"CFR" means the Code of Federal Regulations.

"Cheddar cheese" means "cheddar cheese" as defined in 21 CFR 133.113.

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"Cheddar cheese for manufacturing" means "cheddar cheese for manufacturing" as defined in 21 CFR 133.114.

"Cheese" means the consolidated curd of milk, used as food.

"C-I-P" or "Cleaned-In-Place" means the procedure by which sanitary pipelines or pieces of dairy equipment are mechanically cleaned in place by circulation of wash, rinse, and sanitizer solutions.

"Club cheese" means "club cheese" as defined in 21 CFR 133.123.

"Colby cheese" means "colby cheese" as defined in 21 CFR 133.118.

"Colby cheese for manufacturing" means "colby cheese for manufacturing" as defined in 21 CFR 133.119.

"Cold-pack cheese" means "cold-pack cheese" as defined in 21 CFR 133.123.

"Cold-pack cheese food" means "cold-pack cheese food" as defined in 21 CFR 133.124.

"Cold-pack cheese food with fruits, vegetables, or meats" means "cold-pack cheese food with fruits, vegetables, or meats" as defined in 21 CFR 133.125.

"Cook cheese" means "cook cheese" as defined in 21 CFR 133.127.

"Cream cheese" means "cream cheese" as defined in 21 CFR 133.133.

"Cream cheese with other foods" means "cream cheese with other foods" as defined in 21 CFR 133.134.

"Dairy farm" means any premises where any cow, goat, sheep, water buffalo, or other mammal (except humans) are maintained and milked for the purpose of providing milk for manufacturing into dairy products as defined herein and intended for human consumption.

"Dairy plant" means any place, premises, or establishment where any milk or any dairy product is received or handled for processing or manufacturing or prepared for distribution.

"Dairy product" means butter, natural or processed cheese, dry whole milk, nonfat dry milk, dry buttermilk, dry whey, evaporated whole or skim milk, condensed whole milk and condensed plain or sweetened skim milk.

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"Deny" means the Virginia Department of Agriculture and Consumer Services will not issue a permit to the applicant.

"Department" means the Virginia Department of Agriculture and Consumer Services.

"Drug" means: (i) any article recognized in the official United States Pharmacopoeia, official Homeopathic Pharmacopoeia of the United States, or official National Formulary, or any supplement to any of them; (ii) any article intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease in man or other animals; (iii) any article other than food intended to affect the structure or any function of the body of man or other animals; and (iv) any article intended for use as a component of any article specified in (i), (ii), or (iii) of this definition, but does not include devices or their components, parts, or accessories.

"Edam cheese" means "edam cheese" as defined in 21 CFR 133.138.

"Evaluation of milk laboratories" means the requirements milk and dairy testing laboratories must comply with in order to be included in the Interstate Milk Shippers List – Sanitation Compliance and Enforcement Ratings of Interstate Milk Shippers. This publication is available from the Food and Drug Administration, Laboratory Quality Assurance Branch.

"Farm" means any premises where any cow, goat, sheep, water buffalo, or other mammal (except humans) are maintained and milked for the purpose of providing milk for manufacturing into dairy products as defined herein and intended for human consumption.

"Fresh" means the cheese or related dairy product (except Asiago Fresh Cheese) was: (i) made from pasteurized milk; (ii) not required to be aged by the standard of identity for the specific cheese product; (iii) not held longer than five days prior to being offered for sale; and (iv) never frozen or stored at temperatures below 35 ° F.

"Gammelost cheese" means "gammelost cheese" as defined in 21 CFR 133.140.

"Good manufacturing practices" means "good manufacturing practices" as defined in 21 CFR 110.

"Gorgonzola cheese" means "gorgonzola cheese" as defined in 21 CFR 133.141.

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"Gouda cheese" means "gouda cheese" as defined in 21 CFR 133.142.

"Granular and stirred curd cheese" means "granular and stirred curd cheese" as defined in 21 CFR 133.144.

"Granular cheese for manufacturing" means "granular cheese for manufacturing" as defined in 21 CFR 133.145.

"Grated cheeses" means "grated cheeses" as defined in 21 CFR 133.146.

"Grated American cheese food" means "grated American cheese food" as defined in 21 CFR 133.147.

"Gruyere cheese" means "gruyere cheese" as defined in 21 CFR 133.149.

"Hard cheeses" means "hard cheeses" as defined in 21 CFR 133.150.

"Hard grating cheeses" means "hard grating cheeses" as defined in 21 CFR 133.148.

"High-moisture jack cheese" means "high-moisture jack cheese" as defined in 21 CFR 133.154.

"Inspector" means an employee of the Virginia Department of Agriculture and Consumer Services qualified, trained, and authorized to perform dairy farm or plant inspections.

"Koch kaese" means "koch kaese" as defined in 21 CFR 133.127.

"Limburger cheese" means "limburger cheese" as defined in 21 CFR 133.152.

"Low-moisture part-skim mozzarella and scamorza cheese" means "low-moisture part-skim mozzarella and scamorza cheese" as defined in 21 CFR 133.158.

"Low-moisture mozzarella and scamorza cheese" means "low-moisture mozzarella and scamorza cheese" as defined in 21 CFR 133.156.

"Low sodium cheddar cheese" means "low sodium cheddar cheese" as defined in 21 CFR 133.116.

"Low sodium colby cheese" means "low sodium colby cheese" as defined in 21 CFR 133.121.

"Manufactured dairy products" means butter, natural or processed cheese, dry whole milk, nonfat dry milk, dry buttermilk, dry whey, evaporated whole or skim milk, condensed whole milk and condensed plain or sweetened skim milk.

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"Milk" means the normal lacteal secretion, practically free from colostrum, obtained by the complete milking of one or more healthy cows, goats, sheep, water buffalo, or other mammal (except humans) intended for human consumption.

"Milk for manufacturing purposes" means any milk produced for processing and manufacturing into a dairy product as defined herein and intended for human consumption.

"Milk grader" or "bulk milk collector" means any person permitted by the Virginia Department of Agriculture and Consumer Services to grade, accept, reject, weigh and sample milk.

"Milk hauler" means any person who transports any raw milk, raw dairy product or raw milk product to or from a dairy plant.

"Milk-industry laboratory" means any laboratory operated as part of any dairy plant.

"Milkhouse" means the building or room on a dairy farm in which there is conducted (i) the cooling, handling, and storing of milk; and (ii) the washing, sanitizing, and storing of milk containers and utensils.

"Milk producer" means any person who operates a dairy farm and who provides, sells, or offers milk for sale to a dairy plant for manufacturing purposes.

"Milk product" means (i) acidified lowfat milk, acidified milk, acidified milk product, acidified skim milk, acidified sour cream, acidified sour half-and-half, aseptically processed milk, aseptically processed milk product, buttermilk, coffee cream, concentrated milk, concentrated milk product, cottage cheese, cottage cheese dry curd, cream, cultured half-and-half, cultured milk, cultured lowfat milk, cultured skim milk, cultured sour cream, dry curd cottage cheese, eggnog, eggnog-flavored milk, flavored milk, flavored milk product, fortified milk, fortified milk product, frozen milk concentrate, goat milk, half-and-half, heavy cream, lactose-reduced lowfat milk, lactose-reduced milk, lactose-reduced skim milk, light cream, light whipping cream, lowfat cottage cheese, lowfat milk, lowfat yogurt, low-sodium lowfat milk, low-sodium milk, low-sodium skim milk, milk, nonfat milk, nonfat yogurt, recombined milk, recombined milk product, reconstituted milk, reconstituted milk product, sheep milk, skim milk, sour cream, sour half-and-half, table cream, vitamin D milk, vitamin D milk product, whipped cream, whipped light cream, whipping cream, or

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yogurt; (ii) any of the following foods: milk, lowfat milk, or skim milk with added safe and suitable microbial organisms; or (iii) any food made with a food specified in (i) of this definition by the addition or subtraction of milkfat or addition of safe and suitable optional ingredients for protein, vitamin, or mineral fortification. Nothing in this definition shall be deemed to include any evaporated milk, evaporated skim milk, condensed milk (sweetened or unsweetened), infant formula, ice cream or other dessert, dietary product, dry milk product (except as defined herein), canned eggnog in a rigid metal container, or butter or cheese, except when butter or cheese is combined with other substances to produce any pasteurized or aseptically processed food as specified in this definition.

"Misbranded dairy product" means any dairy product that: (i) satisfies any of the conditions specified in § 403 of the Federal Food, Drug, and Cosmetic Act, as amended (21 USC 343); (ii) does not conform to its definition; or (iii) is not labeled in accordance with 2 VAC 5-531-50.

"Misbranded milk" means any milk that: (i) satisfies any of the conditions specified in § 403 of the Federal Food, Drug, and Cosmetic Act, as amended (21 USC 343); (ii) does not conform to its definition; or (iii) is not labeled in accordance with 2 VAC 5-531-50.

"Monterey cheese and monterey jack cheese" means "monterey cheese and monterey jack cheese" as defined in 21 CFR 133.153.

"Mozzarella cheese and scamorza cheese" means "mozzarella cheese and scamorza cheese" as defined in 21 CFR 133.155.

"Muenster and munster cheese" means "muenster and munster cheese" as defined in 21 CFR 133.160.

"Muenster and munster cheese for manufacturing" means "muenster and munster cheese for manufacturing" as defined in 21 CFR 133.161.

"Neufchatel cheese" means "neufchatel cheese" as defined in 21 CFR 133.162.

"Nuworld cheese" means "nuworld cheese" as defined in 21 CFR 133.164.

"Non-standardized cheese" means any cheese or related product which does not conform to a standard of identity for a specific cheese or related product established under 21 CFR 133. Non-

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standardized cheese and related products are dairy foods manufactured in conformance with this chapter from the milk of cows, goats, sheep, water buffalo, or other mammals (except humans) by the addition of clotting agents (Rennet, clotting enzymes of mammal, plant, or microbial origin, vinegar, acid or any other agent that causes the clotting of milk and the formation of curd) and other safe and suitable ingredients.

"Official laboratory" means a biological, chemical, or physical laboratory operated by the Commonwealth of Virginia.

"Officially designated laboratory" means a: (i) commercial laboratory authorized by the Virginia Department of Agriculture and Consumer Services to examine milk and dairy products; or (ii) milk-industry laboratory authorized by the Virginia Department of Agriculture and Consumer Services to examine samples of milk for manufacturing purposes; and the laboratory is listed in the Interstate Milk Shippers List – Sanitation Compliance and Enforcement Ratings of Interstate Milk Shippers as an approved milk laboratory certified to test load and producer samples.

"Official methods" means Official Methods of Analysis of the Association of Official Analytical Chemists, a publication of the Association of Official Analytical Chemists International.

"Other mammals" means any mammal except humans, cows, goats, sheep, or water buffalo.

"Parmesan and reggiano cheese" means "parmesan and reggiano cheese" as defined in 21 CFR 133.165.

"Part-skim mozzarella and scamorza cheese" means "part-skim mozzarella and scamorza cheese" as defined in 21 CFR 133.157.

"Part-skim spiced cheeses" means "part-skim spiced cheeses" as defined in 21 CFR 133.191.

"Pasteurization" or "pasteurized" means the process of heating every particle of milk, milk product, dairy product, or whey in equipment designed and operated in conformance with this chapter, to one of the temperatures given in the following table and held continuously at or above that temperature for at least the corresponding specified time for the equipment indicated:

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<u>Temperature</u>	<u>Time</u>	<u>Equipment</u>
<u>145 degrees F*</u>	<u>30 minutes</u>	<u>Vat Pasteurization</u>
<u>161 degrees F*</u>	<u>15 seconds</u>	<u>High Temperature Short Time</u>
<u>191 degrees F</u>	<u>1.0 second</u>	<u>High Temperature Short Time</u>
<u>194 degrees F</u>	<u>0.5 second</u>	<u>High Temperature Short Time</u>
<u>201 degrees F</u>	<u>0.1 second</u>	<u>High Temperature Short Time</u>
<u>204 degrees F</u>	<u>0.05 second</u>	<u>High Temperature Short Time</u>
<u>212 degrees F</u>	<u>0.01 second</u>	<u>High Temperature Short Time</u>

*If: (i) the fat content of the milk, milk product, or dairy product is 10% or more; (ii) the milk, milk product, or dairy product contains added sweeteners; (iii) the product is condensed milk; or (iv) the dairy product is a condensed milk product, then "pasteurization" means increasing the specified temperature by 5 degrees F.

*If the dairy product is cream for butter-making, then "pasteurization" means heating to at least 165 degrees F and holding continuously in a vat pasteurizer for not less than 30 minutes or pasteurizing by the High Temperature Short Time method at a minimum temperature of not less than 185 degrees F for not less than 15 seconds.

*If the milk product is eggnog, then "pasteurization" means heating to at least the following temperatures for the corresponding time specifications:

<u>Temperature</u>	<u>Time</u>	<u>Equipment</u>
<u>155 degrees F</u>	<u>30 minutes</u>	<u>Vat Pasteurization</u>
<u>175 degrees F</u>	<u>25 seconds</u>	<u>High Temperature Short Time</u>
<u>180 degrees F</u>	<u>15 seconds</u>	<u>High Temperature Short Time</u>

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"Pasteurized blended cheese" means "pasteurized blended cheese" as defined in 21 CFR 133.167.

"Pasteurized blended cheese with fruits, vegetables, or meats" means "pasteurized blended cheese with fruits, vegetables, or meats" as defined in 21 CFR 133.168.

"Pasteurized cheese spread" means "pasteurized cheese spread" as defined in 21 CFR 133.175.

"Pasteurized cheese spread with fruits, vegetables, or meats" means "pasteurized cheese spread with fruits, vegetables, or meats" as defined in 21 CFR 133.176.

"Pasteurized neufchatel cheese spread with other foods" means "pasteurized neufchatel cheese spread with other foods" as defined in 21 CFR 133.178.

"Pasteurized process cheese" means "pasteurized process cheese" as defined in 21 CFR 133.169.

"Pasteurized process cheese food" means "pasteurized process cheese food" as defined in 21 CFR 133.173.

"Pasteurized process cheese food with fruits, vegetables, or meats" means "pasteurized process cheese food with fruits, vegetables, or meats" as defined in 21 CFR 133.174.

"Pasteurized process cheese spread" means "pasteurized process cheese spread" as defined in 21 CFR 133.179.

"Pasteurized process cheese spread with fruits, vegetables, or meats" means "pasteurized process cheese spread with fruits, vegetables, or meats" as defined in 21 CFR 133.180.

"Pasteurized process cheese with fruits, vegetables, or meats" means "pasteurized process cheese with fruits, vegetables, or meats" as defined in 21 CFR 133.170.

"Pasteurized process pimento cheese" means "pasteurized process pimento cheese" as defined in 21 CFR 133.171.

"Permit" means the written document issued by the Virginia Department of Agriculture and Consumer Services to the person who operates a: (i) dairy farm producing milk for manufacturing

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purposes; or (ii) dairy plant; after the Virginia Department of Agriculture and Consumer Services has inspected and approved the person's operation and determined the person's compliance with the provisions of this chapter.

"Permitted plant" or "permitted person" means a plant or person who holds a valid permit issued by the Virginia Department of Agriculture and Consumer Services.

"Person" means any individual, plant operator, partnership, corporation, company, firm, trustee, or institution.

"Pit" means any excavated or naturally occurring space below the surface of the ground.

"Plant" means any place, premises, or establishment where any milk or any dairy product is received or handled for processing or manufacturing or prepared for distribution.

"Process" means to produce, manufacture, handle, package, re-process, re-package, or re-work, and offer for sale or sell any manufactured dairy product in the Commonwealth of Virginia.

"Producer" means any person who exercises control over the production of the milk delivered to a processing plant or receiving station, and who receives payment for this product.

"Producer/processor" means any person who manufactures dairy products on the dairy farm entirely from his own milk production, or from his own milk combined with milk from one or more other producers.

"Provolone cheese" means "provolone cheese" as defined in 21 CFR 133.181.

"Public" means any person who has the potential to be a consumer of a dairy product.

"Raw" means unpasteurized.

"Regulatory agency" means the Virginia Department of Agriculture and Consumer Services.

"Re-process" means to obtain finished dairy products suitable for sale from unused finished dairy products previously manufactured, packaged, and made available for sale.

"Revoke" means to permanently annul, repeal, rescind, countermand, or abrogate the opportunity for any person or persons to hold a permit issued by the Virginia Department of Agriculture and Consumer Services to produce milk for manufacturing purposes or to operate a dairy plant.

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"Re-work" means to obtain finished dairy products suitable for sale from used, imperfect or discarded dairy products or ingredients.

"Romano cheese" means "romano cheese" as defined in 21 CFR 133.183.

"Roquefort cheese, sheep's milk blue-mold, and blue-mold cheese from sheep's milk" means "roquefort cheese, sheep's milk blue-mold, and blue-mold cheese from sheep's milk" as defined in 21 CFR 133.184.

"Rules and regulations" means the provisions of 2 VAC 5-531-10 to 2 VAC 5-531-130 herein.

"Safe and suitable" means "safe and suitable" as defined in 21 CFR 130.3(d).

"Samsoe cheese" means "samsoe cheese" as defined in 21 CFR 133.185.

"Sanitizing treatment" means subjection of a clean surface to steam, hot water, hot air, or a sanitizing solution in compliance with 21 CFR 178.1010 for the destruction of most human pathogens and other vegetative microorganisms to a level considered safe for product production.

"Sap sago cheese" means "sap sago cheese" as defined in 21 CFR 133.186.

"Semisoft cheeses" means "semisoft cheeses" as defined in 21 CFR 133.187.

"Semisoft part-skim cheeses" means "semisoft part-skim cheeses" as defined in 21 CFR 133.188.

"Septage" means material accumulated in a pretreatment system or privy.

"Sewage" means water-carried and non-water carried human excrement; kitchen, laundry, shower, bath, or lavatory wastes separately or together with such underground, surface, storm and other water and liquid industrial wastes as may be present from residences, buildings, vehicles, industrial establishments or other places.

"Skim milk cheese for manufacturing" means "skim milk cheese for manufacturing" as defined in 21 CFR 133.189.

"Small-scale cheese plant" means any cheese plant that: (1) pasteurizes milk for cheese production in one or more vat pasteurizers with a combined total processing capacity of not more than fifty gallons of milk at one time; or (2) processes cheese from unpasteurized milk in lots not to exceed 200 gallons if the milk is from cows, buffalo, or water buffalo; or (3) processes cheese from unpasteurized milk

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in lots not to exceed 50 gallons if the milk is from goats, sheep, or other mammals (except cows, buffalo, water buffalo, and humans).

"Soaked curd cheese" means "soaked curd cheese" as defined in 21 CFR 133.136.

"Soft ripened cheeses" means "soft ripened cheeses" as defined in 21 CFR 133.182.

"Spiced cheeses" means "spiced cheeses" as defined in 21 CFR 133.190.

"Spiced, flavored standardized cheeses" means "spiced, flavored standardized cheeses" as defined in 21 CFR 133.193.

"Standard methods" means Standard Methods for the Examination of Dairy Products, a publication of the American Public Health Association.

"Suspend" means to temporarily nullify, void, debar, or cease for a period of time a permit issued by the Virginia Department of Agriculture and Consumer Services.

"Swiss and emmentaler cheese" means "swiss and emmentaler cheese" as defined in 21 CFR 133.195.

"Swiss cheese for manufacturing" means "swiss cheese for manufacturing" as defined in 21 CFR 133.196.

"Uniform Methods and Rules; Bovine Tuberculosis Eradication-effective January 22, 1999" means the minimum standards adopted for the maintenance of tuberculosis-free accredited herds of cattle, captive cervids, bison, and goats, and the maintenance of state status in the U.S. Department of Agriculture's tuberculosis eradication program and is available from Veterinary Services, Animal and Plant Health Inspection Service, U.S. Department of Agriculture, Federal Center Building, Hyattville, Maryland.

"Uniform Methods and Rules; Brucellosis Eradication-effective February 1, 1998" means the minimum standards for certifying herds, classifying states and areas, and detecting, controlling, and eradicating brucellosis, as well as, minimum brucellosis requirements for the intrastate and interstate movement of cattle and bison adopted by the U.S. Department of Agriculture and is available from Veterinary Services, Animal and Plant Health Inspection Service, U.S. Department of Agriculture, Federal Center Building, Hyattville, Maryland.

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"Washed curd cheese" means "washed curd cheese" as defined in 21 CFR 133.136.

"Washed curd cheese for manufacturing" means "washed curd cheese for manufacturing" as defined in 21 CFR 133.137.

"3-A Sanitary Standards" means the standards for dairy equipment and accepted practices formulated by the 3-A Sanitary Standards Committees representing the International Association for Food Protection, the U. S. Public Health Service, and the Dairy Industry Committee and published by the International Association for Food Protection.

2 VAC 5-531-20 Non-standardized cheese and related products

Non-standardized cheese and related products shall be made only from pasteurized milk or dairy ingredients (milk, milk products, or dairy products) that have all been pasteurized in accordance with the requirements of this chapter.

2 VAC 5-531-30 Adulterated or misbranded milk or dairy products

- A. No person may produce, provide, sell, offer, expose for sale, or possess, any adulterated or misbranded milk for manufacturing purposes or dairy product.
- B. Any person who produces, provides, sells, offers, exposes for sale, or possesses, any adulterated or misbranded milk for manufacturing purposes or dairy product shall be subject to the impoundment of the person's adulterated or misbranded milk for manufacturing purposes or dairy product by the Virginia Department of Agriculture and Consumer Services.
- C. The Virginia Department of Agriculture and Consumer Services shall comply with the following administrative procedures when impounding any adulterated or misbranded milk for manufacturing purposes or dairy product:
 - 1. The Virginia Department of Agriculture and Consumer Services shall serve the person with a written impoundment notice. The written impoundment notice shall specify the violations and

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inform the person of the right to appear before the Virginia Department of Agriculture and Consumer Services in person, by counsel, or by other qualified representative at a fact-finding conference for the informal presentation of factual data, arguments, and proof to contest the written notice of violation;

2. The written impoundment notice shall include:
 - a. The type of adulterated or misbranded milk for manufacturing purposes or dairy product;
 - b. The size and number of separate units in the lot being impounded;
 - c. The product code and sell by date for the lot of product if each exists;
 - d. A statement directing the person to:
 - (1) Immediately remove from sale the entire lot of adulterated or misbranded milk for manufacturing purposes or dairy product;
 - (2) Isolate and identify as not for sale the entire lot of adulterated or misbranded milk for manufacturing purposes or dairy product in the person's storage area in a location separate from any storage accessible from a retail sales area;
 - (3) Comply with one of the following options:
 - (a) If the milk for manufacturing purposes or dairy product is adulterated: (i) the entire lot shall be destroyed; or (ii) the entire lot shall be held and returned to the manufacturer, distributor, or producer; or
 - (b) If the milk for manufacturing purposes or dairy product is misbranded: (i) the entire lot shall be destroyed; or (ii) the entire lot shall be held and returned to the manufacturer, distributor, or producer; or (iii) the entire lot shall be held and new labels affixed to each container in the lot which comply with all provisions for labeling of milk for manufacturing purposes or dairy products contained in this chapter prior to being offered for sale.

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- A. No person may produce, provide, sell, offer for sale, or store in the Commonwealth of Virginia, or bring, send, or receive into the Commonwealth of Virginia, any milk for manufacturing purposes unless the person possesses a permit from the Virginia Department of Agriculture and Consumer Services.
- B. No person may produce, process, manufacture, handle, package, re-process, re-package, re-work, offer for sale or sell any manufactured dairy product in the Commonwealth of Virginia unless the person possesses a permit from the Virginia Department of Agriculture and Consumer Services. The requirement for a permit shall not apply to: (1) any person's establishment where a manufactured dairy product is served or sold at retail, so long as the manufactured dairy product is not produced, manufactured, re-processed or re-worked at the establishment; (2) any person who distributes and does not process manufactured dairy product; or (3) any person producing manufactured dairy product outside the Commonwealth of Virginia.
- C. The Virginia Department of Agriculture and Consumer Services may cancel, suspend, or revoke the permit of any person, or may deny to any person a permit if:
1. The permit holder fails to engage daily in the business for which the permit is issued;
 2. The permit holder does not daily produce, provide, manufacture, sell, offer for sale, or store in the Commonwealth of Virginia milk for manufacturing purposes or dairy product;
 3. The permit holder fails to provide at no cost to the Virginia Department of Agriculture and Consumer Services samples of milk for manufacturing purposes or dairy product in the person's possession for testing by the Virginia Department of Agriculture and Consumer Services;
 4. The permit holder fails to provide on a daily basis milk for manufacturing purposes or dairy product in the person's possession for sampling and testing by the Virginia Department of Agriculture and Consumer Services;

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5. The permit holder fails to comply with any requirement of this chapter, or of §§ 3.1-420 through 3.1-424, §§ 3.1-530.1 through 3.1-530.10 or §§ 3.1-531.1 through 3.1-545.1 of the Code of Virginia;
6. A public health hazard exists that affects the permit holder's milk for manufacturing purposes or dairy product;
7. The permit holder or any agent of the permit holder has obstructed or interfered with the Virginia Department of Agriculture and Consumer Services in the performance of its duties;
8. The permit holder or any agent of the permit holder knowingly supplies false or misleading information to the Virginia Department of Agriculture and Consumer Services: (i) in the permit holder's application for a permit; (ii) concerning the identity of the person or persons who will control the facility that is the subject of the permit; (iii) concerning the amount of milk for manufacturing purposes or dairy product which the permit holder produces, provides, manufactures, sells, offers for sale, or stores in the Commonwealth of Virginia, or brings, sends, or receives into the Commonwealth of Virginia and the distribution of the permit holder's milk for manufacturing purposes or dairy product; (iv) concerning any investigation conducted by the Virginia Department of Agriculture and Consumer Services; or (v) concerning the location of any part of the permit holder's operation that is subject to a permit;
9. The permit holder engages in fraudulent activity regarding: (i) the amount of milk for manufacturing purposes or dairy product the person offers to sell or sells; or (ii) the collection of samples of the person's milk for manufacturing purposes or dairy product used to determine compliance with any provision of this chapter or as a basis for payment for milk for manufacturing purposes or dairy product.
10. Three of the most recent five bacteria counts, somatic cell counts, or cooling temperature determinations conducted on the permit holder's raw milk for manufacturing purposes exceed the standards specified in this chapter;

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11. Three of the most recent five bacteria counts, coliform determinations, or cooling temperature determinations conducted on the permit holder's milk for manufacturing purposes or dairy product exceed the standards specified in this chapter;
12. Two of the most recent cryoscope tests conducted on the permit holder's milk for manufacturing purposes exceed the standards specified in this chapter and the most recent violative sample occurred within two years after the next most recent violative sample;
13. The most recent drug residue test on the permit holder's milk for manufacturing purposes or dairy product violates the standard specified in this chapter.
14. The most recent phosphatase test on the permit holder's dairy product violates the standard specified in this chapter;
15. The most recent chemical residue test or pesticide residue test on the permit holder's milk for manufacturing purposes or dairy product exceeds the actionable level, tolerance level, or safe level for any chemical residue or pesticide residue specified in: 40 CFR Parts 180, 185, or 186; and 21 CFR Parts 70, 71, 73, 74, 80, 82, 130, 131, 133, 170, 172, 173, 174, 175, 176, 177, 178, 189, 556, 564, 570, 573, 589. In the event that no actionable level, tolerance level, or safe level for a chemical residue or pesticides residue has been established in: 40 CFR Parts 180, 185, or 186; and 21 CFR Parts 70, 71, 73, 74, 80, 82, 130, 131, 133, 170, 172, 173, 174, 175, 176, 177, 178, 189, 556, 564, 570, 573, 589, the tolerance level shall be deemed to be zero;
16. The permit holder fails to correct any deficiency that the Virginia Department of Agriculture and Consumer Services has cited in a written notice of intent to suspend the person's permit, as a violation of this chapter;
17. The permit holder's raw milk for manufacturing purposes is warmer than 50°F two hours after the completion of the first milking or the permit holder's raw milk for manufacturing purposes is warmer than 50°F during or after any subsequent milking;
18. The dairy farm permit holder's raw milk for manufacturing purposes is older than 76 hours;

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19. The permit holder's equipment is covered or partially covered by an accumulation of milk solids, milk fat, or other residue;
20. The permit holder sells or offers for sale milk for manufacturing purposes or dairy product which violates any requirement of this chapter;
21. The permit holder's permit is suspended three times within a twelve month period for violation of the bacteria, coliform, cooling temperature, somatic cell, cryoscope, drug residue, maximum length of time for milk storage on the farm, phosphatase, chemical residue, pesticide residue standards, or other requirements specified in this chapter;
22. The authority in another state responsible for issuing permits has denied, suspended, or revoked the permit of the person in that state for any act or omission that would violate this chapter or the statutes under which this chapter was adopted, had the act or omission occurred in the Commonwealth of Virginia;
23. The Virginia Department of Agriculture and Consumer Services has previously revoked the person's permit to produce, provide, sell, offer for sale, or store in the Commonwealth of Virginia, or bring, send, or receive into the Commonwealth of Virginia, any milk for manufacturing purposes;
24. The Virginia Department of Agriculture and Consumer Services has previously revoked the person's permit to produce, process, manufacture, handle, package, re-process, re-package, or re-work, and offer for sale or sell any manufactured dairy product in the Commonwealth of Virginia;
25. The most recent coliform count on the permit holder's cheese violates the standard specified in this chapter; and
26. The most recent Staphylococcus aureus count on the permit holder's cheese violates the standard specified in this chapter.

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D. The Virginia Department of Agriculture and Consumer Services may summarily suspend a permit for violation of any of the following subdivisions of subsection C of this section: 6, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 25, or 26.

E. The Virginia Department of Agriculture and Consumer Services may suspend from sale any dairy product in violation of the requirements of this chapter processed by any dairy plant permit holder in lieu of suspending the dairy plant permit holder's permit.

F. If the Virginia Department of Agriculture and Consumer Services suspends a permit holder's permit more than three times within any twelve month period, the permit holder's permit shall not be reinstated for a period of three days on the fourth suspension within any twelve month period and six days on the fifth suspension within any twelve month period with three days being added to the required suspension period for each additional suspension thereafter.

G. If the Virginia Department of Agriculture and Consumer Services issues two written notices of intent to suspend a person's permit for failure to correct the same deficiency within any twelve month period, the Virginia Department of Agriculture and Consumer Services may issue and enforce a written notice of intent to summarily suspend the person's permit at anytime within six months after the date the written notice of intent to summarily suspend is issued, to summarily suspend the person's permit if the same violation exist on any inspection during the six month period specified in the written notice of intent to summarily suspend.

H. No permit holder may transfer any permit to another person or another location and no permit holder who has had their permit revoked by the Virginia Department of Agriculture and Consumer Services shall be eligible to hold a permit to produce milk for manufacturing purposes or a permit to operate a dairy plant at any time after the permit holder's permit is revoked.

I. Inspection of dairy farms and dairy plants.

1. No person who operates a dairy farm or dairy plant within the Commonwealth of Virginia may hold a permit until the dairy farm or dairy plant has been inspected and approved by the Virginia Department of Agriculture and Consumer Services:

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2. Pasteurization equipment may be inspected and tested by any person who has demonstrated the knowledge, skills, and abilities to perform pasteurization inspections and been approved by the Virginia Department of Agriculture and Consumer Services to conduct inspections of vat pasteurizers or high temperature short time pasteurizers or both vat pasteurizers and high temperature short time pasteurizers. The Virginia Department of Agriculture and Consumer Services shall issue to all persons approved to inspect pasteurization equipment a letter of certification which shall expire twelve months from the date of issue unless renewed. The Virginia Department of Agriculture and Consumer Services may suspend the certification of any person who has been approved to inspect pasteurization equipment if the person fails to conduct the inspections and tests in accordance with the Departments established policy and procedures for inspection of pasteurization equipment.

J. The examination of milk and dairy products.

1. The Virginia Department of Agriculture and Consumer Services shall collect during any consecutive six months at least four samples of raw milk for manufacturing purposes from each dairy farm that holds a permit, collected in at least four different months, except when three months show a month containing two sampling dates separated by at least 20 days. In the event the milk from a permitted dairy farm is picked up and delivered to a dairy plant which is located outside the Commonwealth of Virginia more than three times in any calendar month, the permit holder's milk marketing cooperative, broker, or person purchasing the permit holder's milk, shall be responsible to ensure the appropriate number of samples and tests are performed in Interstate Milk Shipper approved laboratories and to supply the following information for each permit holder's milk samples to the Virginia Department of Agriculture and Consumer Services at no cost:

- a. The name of the producer;
- b. The patron number of the producer;
- c. The name of the sampling operator;

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- d. The name of the person who collected the sample;
- e. The location where the sample was received;
- f. The date the sample was received;
- g. The date, time, and temperature of the sample at time of collection;
- h. The name of the test performed for each test result;
- i. The reported laboratory result for each test performed; and
- j. The name and address of the laboratory performing the testing.

The permit holder's milk marketing cooperative, broker, or person purchasing the permit holder's milk, shall provide these records in accordance with Virginia Department of Agriculture and Consumer Services' policies and procedures established for the timely reporting of producer milk sample results.

2. The Virginia Department of Agriculture and Consumer Services shall collect samples of raw milk for manufacturing purposes for testing and analysis from each dairy farm holding a permit as it deems necessary.

3. The Virginia Department of Agriculture and Consumer Services shall collect samples of processed dairy products and ingredients for testing and analysis from each dairy plant holding a permit as it deems necessary.

K. Each permit holder operating a dairy plant shall develop a recall plan that when implemented will effectively carry out his responsibility to protect the public health and well-being from milk and dairy products that present a risk of illness, injury, gross deception, or are otherwise defective. Each permit holder operating a dairy plant shall submit his recall plan for approval to the Virginia Department of Agriculture and Consumer Services within one hundred twenty days after the effective date of this regulation and prior to the issuance of any dairy plant permit thereafter. The Virginia Department of Agriculture and Consumer Services shall review and approve the recall plan or require the recall plan to be modified by the permit holder operating a dairy plant. Each approved recall plan shall be reviewed annually and whenever new products are introduced by the permit holder operating a dairy

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plant. Each permit holder operating a dairy plant shall modify his recall plan based on his review and forward the revised plan to the Virginia Department of Agriculture and Consumer Services for approval within sixty days after the completion of any review that requires the recall plan to be modified. Each recall plan shall include provisions to provide the following information to the Virginia Department of Agriculture and Consumer Services:

1. Identity of the product involved;
2. Reason for the recall and the date and circumstances under which the product deficiency or possible deficiency was discovered;
3. Evaluation of the risk associated with the deficiency or possible deficiency;
4. Total amount of identified products produced and the time span of the production;
5. Total amount of identified products estimated to be in distribution channels;
6. Distribution information, including the number and identity of each person dairy products are sold to;
7. Draft copy of the permit holder's proposed recall communication;
8. Proposed strategy for conducting the recall; and
9. Name and telephone number of the permit holder's representative who should be contacted concerning the recall.

L. Each permit holder operating a dairy plant shall promptly notify each of its affected direct accounts about the recall and shall prepare the recall communication to:

1. Identify clearly the product, size, lot number(s), code(s) or serial number(s) and any other descriptive information to enable accurate and immediate identification of the product;
2. Explain concisely the reason for the recall and the hazard involved, if any;
3. Provide specific instructions on what should be done with respect to the recalled product;
4. Provide a ready means for the recipient of the communication to report to the recalling firm whether it has any of the product;
5. State that further distribution or use of any remaining product should cease immediately; and

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6. Where appropriate, state that the direct account should in turn notify its customers who received the product about the recall.

M. Each permit holder operating a dairy plant shall provide to the Virginia Department of Agriculture and Consumer Services recall status reports as requested by the Virginia Department of Agriculture and Consumer Services until the recall is terminated. Each permit holder operating a dairy plant shall include in each recall status report the following information:

1. Number of consignees notified of the recall, and date and method of notification;
2. Number of consignees responding to the recall communication and quantity of products on hand at the time it was received;
3. Number and identity of consignees that did not respond to the recall communication;
4. Number of products returned or corrected by each consignee contacted and the quantity of products accounted for;
5. Number and results of effectiveness checks that were made; and
6. Estimated time frames for completion of the recall.

N. Each permit holder operating a dairy plant shall implement his recall plan within eight hours after receipt of written notification to do so by the Virginia Department of Agriculture and Consumer Services. In the event that the permit holder operating a dairy plant fails to implement his recall plan within eight hours after being notified to do so by the Virginia Department of Agriculture and Consumer Services, the Department may prepare and issue the recall communication.

O. Drug residue monitoring and farm surveillance.

1. Each permit holder operating a dairy plant shall:
 - a. Test all milk that the plant receives for residues of beta lactam drugs prior to processing any of the milk. Each permit holder shall test each bulk milk shipment using a sample collected from each tank truck after its arrival at the plant and prior to any further commingling. Each permit holder shall test each compartment from tank trucks with more than one compartment separately. Each permit holder shall test milk in cans using a sample

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formed separately at the receiving plant for each can milk producer included in the delivery, and the milk sample shall be representative of all milk received from each producer. Each permit holder operating a dairy plant which is classified as a producer/processor shall test for residues of beta lactam drugs in all milk that the dairy plant produces or receives for processing according to the requirements for sampling and testing bulk milk shipments and milk in cans stated in this subdivision:

b. Test each shipment of milk received for processing by screening test methods which have been Association of Official Analytical Chemists-(AOAC)-reviewed and Food and Drug Administration-(FDA)-accepted. In the event there are no AOAC reviewed and FDA accepted screening test methods for cow's milk, goat's milk, sheep's milk, water buffalo's milk, or milk from other mammals, the permit holder shall test for residues of beta lactam drugs with a screening test kit approved by the Virginia Department of Agriculture and Consumer Services. In lieu of any test specified in subdivision (1)(b) of this subsection a permit holder may use AOAC first-action and AOAC final-action tests methods. Nothing in subdivision (1)(b) of this subsection shall be deemed to include individual raw milk samples collected from each dairy farm included in any shipment of bulk tank raw milk for processing if the shipment of bulk tank raw milk for processing tests negative for animal drug residues:

c. Implement a random-sampling program when the Commissioner of the FDA determines that a potential problem exists with animal drug residues or other contaminants in the milk supply. Each permit holder operating a dairy plant shall analyze the samples for the contaminant by a method determined by FDA to be effective in determining compliance with actionable levels or established tolerances. Each permit holder operating a dairy plant shall continue the random-sampling program until such time that the Commissioner of the FDA is reasonably assured that the problem has been corrected. The sampling program shall represent and include during any consecutive six months, at least four samples collected in at least four separate months.

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d. Retain each sample found to be positive for drug residues for a period of 120 hours after the sample test result is positive for drug residues for the use of the Virginia Department of Agriculture and Consumer Services unless directed otherwise by a representative of the Virginia Department of Agriculture and Consumer Services;

e. Abstain from selling or offering for sale any dairy product processed from milk received before results of drug screening tests are available and from milk which later tests positive for drug residues. All the permit holder's milk commingled with any milk which tests positive for drug residues shall be deemed adulterated. Each permit holder operating a dairy plant shall report to the Virginia Department of Agriculture and Consumer Services instances of adulteration within one hour after testing reveals the milk is adulterated with animal drug residues;

f. Record the results of tests on samples of raw milk and retain such records for a period of twelve months; report records of all results of tests on samples of raw milk to the Virginia Department of Agriculture and Consumer Services by the fifteenth day of each month for the preceding month; and maintain and make available to the Virginia Department of Agriculture and Consumer Services for inspection and review at the permitted facility records of results of tests on samples of raw milk. Each record of results of tests on samples of raw milk required by this subdivision shall include:

(1) The analyst's signature, date, time, and place where the test was performed;

(2) The registration identification of each pickup tanker of bulk raw milk or raw milk sampled;

(3) The test method used;

(4) The Interstate Milk Shipper Bulk Tank Unit identification number for each Grade A milk supply included on each pickup tanker of bulk raw milk tested if the milk is Grade A;

and

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- (5) A statement whether the test results were positive or negative. If the results were positive, the permit holder shall also record:
- (a) The identity of each producer contributing to the load from which the positive sample of raw milk was taken;
 - (b) The name of the person notified at the Virginia Department of Agriculture and Consumer Services of the positive test results;
 - (c) The date and time of day the person at the Virginia Department of Agriculture and Consumer Services was notified of the positive test results; and
 - (d) The method of notification of the Virginia Department of Agriculture and Consumer Services;
- g. Immediately notify the Virginia Department of Agriculture and Consumer Services of any shipment of milk for processing when the shipment of milk is found to be positive for drug residues;
- h. Test each producer sample of milk to determine the farm of origin, represented by each sample of milk which tests positive for drug residues, and immediately report to the Virginia Department of Agriculture and Consumer Services the result of each producer sample representing the raw milk for manufacturing purposes found to be positive for drug residues;
- i. Provide by facsimile machine to the Virginia Department of Agriculture and Consumer Services copies of load manifests, producer weight tickets, laboratory worksheets where the results of laboratory tests are originally recorded, and records from electronic readers documenting the results for samples tested for all positive loads; and
- j. Immediately discontinue receiving shipments of raw milk from the permit holder whose milk tests positive for drug residues, until subsequent tests approved by the Virginia Department of Agriculture and Consumer Services are no longer positive for drug residues;

2 VAC 5-531, REGULATIONS GOVERNING MILK FOR MANUFACTURING PURPOSES

2. Each permit holder whose milk tests positive for drug residues shall dispose of such milk in a manner that removes it from the human food chain or in any manner approved by the Food and Drug Administration; and
 3. Each permit holder operating a dairy plant that receives any milk that could require load confirmation or producer traceback as a result of a positive animal drug residue on a load of milk delivered at the plant shall provide to the Virginia Department of Agriculture and Consumer Services results of animal drug-residue tests from an officially designated laboratory. Each officially designated laboratory shall be listed in the IMS List – Sanitation Compliance and Enforcement Ratings of Interstate Milk Shippers as an approved milk laboratory certified to test load and producer samples. All laboratory results from officially designated laboratories shall be reported to the Virginia Department of Agriculture and Consumer Services within six hours of the initial presumptive positive result at the plant. Existing dairy plants holding permits on the effective date of this regulation shall have a maximum of six months from the effective date of this regulation to comply with the requirement of this section.
- P. Each officially designated laboratory shall comply with the requirements for certification and listing contained in the Evaluation of Milk Laboratories, 1995 revision.
- Q. Each permit holder who operates a dairy plant and each person who distributes dairy products shall furnish the Virginia Department of Agriculture and Consumer Services upon request:
1. A statement of the quantities of milk and dairy products purchased or sold by the dairy plant or distributor; and
 2. A list of all sources from which the dairy plant or distributor received any milk or dairy product.
- R. No person holding a permit to produce milk for manufacturing purposes may operate a dairy farm that receives on the dairy farm raw or untreated sewage or septage from any source.
- S. No person holding a permit to produce milk for manufacturing purposes shall feed their lactating cows, goats, sheep, water buffalo, or other mammals any unprocessed poultry litter or other unprocessed body discharges from any animal.

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T. No person holding a permit to produce milk for manufacturing purposes may place or hold in his milk storage tank: any milk except that milk which was obtained from cows, goats, sheep, water buffalo, or other mammals milked at the permit holder's dairy farm; any milk which did not enter the milk storage tank through the milking and milk-handling equipment on the permit holder's dairy farm during the milking of the permit holder's cows, goats, sheep, water buffalo or other mammals; any milk which has been held without refrigeration; or any milk which has been exposed to chemical or physical contamination.

U. No person holding a permit to produce milk for manufacturing purposes may provide their milking cows, goats, sheep, water buffalo, or other mammals any feed separately or in combination that contains an aflatoxin residue greater than 20 parts per billion.

V. No person holding a permit to produce milk for manufacturing purposes may sell or offer for sale any milk for manufacturing purposes if it contains an aflatoxin residue equal to or greater than 0.50 parts per billion.

W. No person may hold a permit to produce milk for manufacturing purposes if any part of their facilities, equipment, storage, or processing area (except toilet rooms), requiring inspection is accessed through any room used for domestic purposes or part of any room used for domestic purposes. Toilet rooms used for domestic purposes shall be approved as complying with the requirements of this chapter only if: (1) the toilet room is located within 300 feet of the milking barn, milking parlor, or milk room; and (2) all labor utilized in the milkroom, milking parlor or milking barn, and animal housing areas is provided by members of the permit holder's immediate family.

X. No person may hold a permit to produce, process, manufacture, handle, package, re-process, re-package, or re-work, and offer for sale or sell any manufactured dairy product in the Commonwealth of Virginia if any part of his facilities, equipment, storage, or processing area (except toilet rooms), requiring inspection is accessed through any room used for domestic purposes or part of any room used for domestic purposes. Toilet rooms used for domestic purposes shall be approved as complying with the requirements of this chapter only if: (1) the toilet room is located within 300 feet of

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the processing facilities; and (2) all labor utilized in the processing facilities is provided by members of the permit holder's immediate family.

Y. Each person who holds a permit to produce milk for manufacturing purposes or a permit to operate a dairy plant and who freezes and stores any milk for use in the production of any dairy product shall:

1. Cool each day's morning milking to 40°F or cooler, without freezing, within two hours after milking;
2. Abstain from freezing each day's morning milking until completion of the same day's evening milking;
3. Freeze the milk from each milking or each day separately, in single-use, food-grade, plastic bags or other suitable food grade disposable containers;
4. Identify each single-use, food-grade, plastic bag or other suitable food-grade disposable container containing any frozen milk with the date it was produced, the number of milkings, the number of containers in the lot, the permit number of the dairy farm or dairy plant, and the name of the person who packaged and froze the milk;
5. Cool and store all frozen containers of milk at a temperature of zero degrees F. or below until ready for use;
6. Thaw each container of frozen milk prior to use in a refrigerator adjusted to a maximum temperature of 40°F or thaw each container of frozen milk within two hours using a cool water bath;
7. Abstain from re-using any single-use, food grade, plastic bag or other suitable food-grade disposable container; and
8. Protect from contamination the frozen milk in each single-use, food-grade, plastic bag or other suitable food grade disposable container during the thawing process.

2 VAC 5-531, REGULATIONS GOVERNING MILK FOR MANUFACTURING PURPOSES2 VAC 5-531-50 Labeling

No person may produce, provide, manufacture, sell, offer for sale, or store in the Commonwealth of Virginia, or bring, send into, or receive into the Commonwealth of Virginia any milk or dairy product which is not labeled in compliance with the following:

1. The permit holder's dairy products shall be labeled in accordance with the requirements of the Federal Food, Drug and Cosmetic Act, as amended, the Fair Packaging and Labeling Act, the Nutrition Labeling and Education Act, and regulations developed thereunder;
2. The permit holder shall label or mark all containers and packages enclosing any dairy products with:
 - a. The name of the dairy product as established under the standard of identity for the dairy product, if there is a standard of identity for the dairy product, and if there is no standard of identity for the dairy product, a name that is not false or misleading;
 - b. The identity of the plant where the permit holder's dairy product is processed by specifying the street address, city, state, and zip code of the plant; and
 - c. Information, marks, pictures, graphics, or words appearing on the label of the dairy product which are not misleading.
3. The permit holder shall label or mark all containers and packages enclosing any dairy products intended for sale to the final consumer with a "sell by date" which shall not interfere with the legibility of other labeling required for the dairy product and shall be expressed by: the first three letters in the name of the month, followed by or preceded by the numeral or numerals constituting the calendar date after which the product shall not be sold or expressed numerically by the number of the month followed by the number of the day. For example, June 1 shall be expressed "JUN 1," "1 JUN," "06 01," or "06-01."
4. No person may sell or offer for sale to the final consumer any dairy product in container or package form that does not bear a "sell by date;"

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5. No person may sell or offer for sale to the final consumer any dairy product in container or package form after the "sell by date" shown on the package:
6. No person may change, remove, or replace the "sell by date" on any dairy product in container or package form after the "sell by date" is initially affixed to the package:
7. The requirements of sections 2 VAC 5-531-50(A)(3) through 2 VAC 5-531-50(A)(5) pertaining to the "sell by date" shall not apply to any dairy products which are not to be sold in the Commonwealth of Virginia:
8. No person may sell or offer for sale any cheese that is frozen or has ever been frozen unless it is labeled with the words "Previously Frozen" or "Frozen" as the case may be, in text and type at least as large and bold as the name of the cheese. The words "Previously Frozen" or "Frozen" shall appear directly above or below the name of the cheese product without any intervening material or graphics everywhere it appears on the label for the cheese product:
9. No person may freeze any cheese unless the person labels the cheese as "Frozen" before it is placed in cold storage:
10. No person may label any dry whole milk, nonfat dry milk, dry buttermilk, dry whey, evaporated whole milk, evaporated skim milk, condensed whole milk, condensed plain milk, or sweetened skim milk as "fresh":
11. No person may label or advertise any cheese made from unpasteurized milk as "fresh":
12. No person may label or advertise any cheese which is or has been previously frozen or stored at temperatures below 35 ° F as "fresh"; and
13. No person may label or advertise any cheese (except Asiago Fresh Cheese) that is required to be aged a minimum of sixty days above 35° F or that was held longer than ten days from the date of production as "fresh".

2 VAC 5-531, REGULATIONS GOVERNING MILK FOR MANUFACTURING PURPOSES2 VAC 5-531-60 Standards for milk and dairy products

A. No person may produce, provide, manufacture, sell, offer for sale, or store in the Commonwealth of Virginia, or, bring, send, or receive into the Commonwealth of Virginia, any milk for manufacturing purposes or dairy products which do not comply with the following:

1. Milk for manufacturing purposes and dairy products shall be produced and processed to conform with the chemical, bacteriological, somatic cell, cryoscope, maximum length of time for milk storage on the farm, and temperature standards as identified in this section, and with the requirements of this chapter:

2. No process or manipulation other than pasteurization or processing methods integral with pasteurization and refrigeration may be applied to milk for manufacturing purposes or dairy products for the purpose of removing or deactivating microorganisms unless alternative procedures to pasteurization are approved in writing by the FDA and the Virginia Department of Agriculture and Consumer Services:

3. Milk for manufacturing purposes shall comply with the following standards:

a. The temperature of milk for manufacturing purposes shall be cooled to 40°F or cooler, but not frozen, within two hours after milking and the temperature after the first or any subsequent milking shall not be warmer than 50°F:

b. The bacteria count of milk for manufacturing purposes shall not exceed 500,000 bacteria per milliliter prior to commingling with any other milk; and the bacteria count of milk that is commingled shall not exceed 1,000,000 bacteria per milliliter prior to pasteurization:

c. Milk for manufacturing purposes shall freeze at or below -0.530° Hortvet:

d. Milk for manufacturing purposes shall test negative for animal drug residues by any method evaluated by the FDA and found acceptable for detecting drug residues in raw milk at current safe or tolerance levels and shall have no positive drug residues by detection methods reported to the Virginia Department of Agriculture and Consumer Services by dairy plants:

2 VAC 5-531, REGULATIONS GOVERNING MILK FOR MANUFACTURING PURPOSES

- e. The somatic cell count of unpasteurized cow's milk, sheep's milk, water buffalo's milk, or the milk from other mammals intended for human consumption, except goat's milk, shall not exceed 750,000 somatic cells per milliliter. The somatic cell count of raw goat's milk shall not exceed 1,000,000 somatic cells per milliliter;
 - f. Raw cow's milk, goat's milk, sheep's milk, water buffalo's milk, or the milk from other mammals intended for human consumption shall not exceed the actionable level, tolerance level, or safe level for any chemical residue or pesticide residue specified in: 40 CFR Parts 180, 185, or 186 and 21 CFR Parts 70, 71, 73, 74, 80, 82, 130, 131, 133, 170, 172, 173, 174, 175, 176, 177, 178, 189, 556, 564, 570, 573, 589. In the event that no actionable level, tolerance level, or safe level for a chemical residue or pesticides residue has been established in 40 CFR Parts 180, 185, or 186; and 21 CFR Parts 70, 71, 73, 74, 80, 82, 130, 131, 133, 170, 172, 173, 174, 175, 176, 177, 178, 189, 556, 564, 570, 573, or 589, the tolerance level shall be deemed to be zero; and
 - g. The maximum length of time any milk for manufacturing purposes may be stored on the farm prior to processing or pickup for delivery to a processing plant shall not exceed 76 hours from the end of the first milking to the time of pickup or the start of processing. Milk for manufacturing purposes that is older than 76 hours shall be deemed to be a public health hazard and shall not be offered for sale or sold.
4. Dairy products in final package form for direct human consumption shall comply with the following standards:
- a. All dairy products in final package form for direct human consumption shall:
 - (1) Have been pasteurized in accordance with the requirements of this chapter; or
 - (2) Have been made from dairy ingredients (milk or dairy products) that have all been pasteurized in accordance with the requirements of this chapter; or

2 VAC 5-531, REGULATIONS GOVERNING MILK FOR MANUFACTURING PURPOSES

- (3) In the case of cheese, the cheese has been aged above 35° F for a minimum of 60 days or the minimum number of days specified under the standards of identity for the specific variety of cheese;
- b. The phenol value of test samples of pasteurized finished product shall be no greater than the maximum specified for the particular product as determined and specified by: (1) any phosphatase test method prescribed in the seventeenth edition of Official Methods of Analysis published by the Association of Official Analytical Chemists; or (2) the Fluorometer test method; or (3) the Charm ALP test method; or (4) other equivalent method as determined by the Virginia Department of Agriculture and Consumer Services. A phenol value greater than the maximum specified for the particular product shall mean that the product was not properly pasteurized. A phenol value less than the maximum specified for the particular product shall not be interpreted to mean that the product was properly pasteurized, unless there is evidence of proper pasteurization equipment in conformance with this chapter and records to determine an adequate pasteurization process has been completed;
- c. Dairy products shall test negative for animal drug residues by any method which has been evaluated by the FDA and found acceptable for detecting drug residues in raw milk, pasteurized milk, or dairy products in final package form intended for human consumption at current safe or tolerance levels;
- d. Dairy products shall not exceed the actionable level, tolerance level, or safe level for any chemical residue or pesticide residue specified in: 40 CFR Parts 180, 185, or 186 and 21 CFR Parts 70, 71, 73, 74, 80, 82, 130, 131, 133, 170, 172, 173, 174, 175, 176, 177, 178, 189, 556, 564, 570, 573, 589. In the event that no actionable level, tolerance level, or safe level for a chemical residue or pesticides residue has been established in 40 CFR Parts 180, 185, or 186 and 21 CFR Parts 70, 71, 73, 74, 80, 82, 130, 131, 133, 170, 172, 173, 174, 175, 176, 177, 178, 189, 556, 564, 570, 573, 589, the tolerance level shall be deemed to be zero; and

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- e. Dairy products shall contain no detectable level of pathogenic organisms or more than 4.6 Escherichia coli organisms per gram of dairy product.
5. Cheese and cheese products shall comply with the following:
 - a. The coliform count for any cheese or cheese product made from pasteurized milk shall not exceed 100 coliform organisms per gram;
 - b. The coliform count for any cheese or cheese product made from unpasteurized milk shall not exceed 500 coliform organisms per gram;
 - c. The *Staphylococcus aureus* count for any cheese or cheese product made from pasteurized milk shall not exceed 100 *Staphylococcus aureus* organisms per gram; and
 - d. The *Staphylococcus aureus* count for any cheese or cheese product made from unpasteurized milk shall not exceed 1000 *Staphylococcus aureus* organisms per gram.
- B. Sanitation requirements to produce milk for manufacturing purposes.
 1. Each person who holds a permit to produce milk for manufacturing purposes shall comply with the following:
 - a. Item 1r. Abnormal milk. Each person who holds a permit to produce milk for manufacturing purposes shall:
 - (1) Milk his cows, goats, sheep, water buffalo, or other mammals which show evidence of the secretion of abnormal milk from one or more mammary glands (based upon bacteriological, chemical, or physical examination) last or with separate equipment and discard those lacteal secretions;
 - (2) Milk his cows, goats, sheep, water buffalo, or other mammals treated with, or which have consumed chemical, medicinal, or radioactive agents which are capable of being secreted by the mammary gland and which may be deleterious to human health last or with separate equipment and discard those lacteal secretions in a manner which will not pollute the environment or any human food;

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b. Item 2r. Milking barn, stable, or parlor-construction. Each person who holds a permit to produce milk for manufacturing purposes shall:

- (1) Provide on the person's dairy farm a milking barn, stable, or parlor in which the animals being milked shall be housed during milking time; and
- (2) Provide on the permit holder's dairy farm a milking barn, stable, or parlor which, shall:
 - (a) Have floors constructed of concrete or equally impervious material;
 - (b) Have walls and a ceiling which are smooth, painted, or finished in an approved manner, and in good repair and have a ceiling which is dust tight;
 - (c) Have separate stalls or pens for horses, calves, bulls, kids, bucks, rams, and lambs;
 - (d) Have natural and artificial light, well distributed for day or night milking;
 - (e) Have sufficient air space and air circulation to prevent condensation and excessive odors; and
 - (f) Not be overcrowded;

c. Item 3r. Milking barn, stable, or parlor-cleanliness. Each person who holds a permit to produce milk for manufacturing purposes shall:

- (1) Keep the interior of the milking barn, stable, or parlor clean;
- (2) Keep the floors, walls, windows, pipelines, and equipment in the milking barn, stable, or parlor free of filth or litter and clean;
- (3) Keep swine and fowl out of the milking barn, stable, and parlor;
- (4) Use only milk stools that are not padded and are constructed to be easily cleaned;
and
- (5) Keep surcingles, milk stools, and antikickers clean and stored above the floor.

d. Item 4r. Cow yard, goat yard, sheep yard, water buffalo yard, or yard for other mammals. Each person who holds a permit to produce milk for manufacturing purposes shall:

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- (1) Provide and maintain the cow yard, goat yard, sheep yard, water buffalo yard, or yard for other mammals, to be graded and drained, and to have no standing pools of water or accumulations of organic wastes;
 - (2) In the cow loafing, goat loafing, sheep loafing, water buffalo loafing, loafing area for other mammals, cattle-housing, sheep-housing, goat-housing, water buffalo-housing or area of housing for other mammals remove cow droppings, sheep droppings, goat droppings, water buffalo droppings, other mammals droppings and remove soiled bedding or add clean bedding at sufficiently frequent intervals to prevent the soiling of the cow's, sheep's, goat's, water buffalo's or other mammals' udders and flanks;
 - (3) Ensure that waste feed does not accumulate in the goat yard, cow yard, sheep yard, water buffalo yard, yard for other mammals, cow loafing, sheep loafing, goat loafing, water buffalo loafing, loafing area for other mammals, cattle-housing, sheep-housing, goat-housing, water buffalo-housing or housing for other mammals area;
 - (4) Maintain any manure packs to be properly drained and to provide a reasonably firm footing; and
 - (5) Keep swine and fowl out of the cow yard, sheep yard, goat yard, water buffalo yard, yard for other mammals, cow loafing, sheep loafing, goat loafing, water buffalo loafing, loafing area for other mammals, cattle-housing, sheep-housing, goat-housing area, water buffalo-housing, or other mammals-housing area.
- e. Item 5r. Milkhouse or room-construction and facilities. Each person who holds a permit to produce milk for manufacturing purposes shall:
- (1) Provide a milkhouse or milkroom of sufficient size in which the cooling, handling, and storing of milk and the washing, sanitizing, and storing of milk containers and utensils shall be conducted. Existing farms producing and shipping milk for manufacturing purposes on July 1, 2001 shall be exempt from the requirement of this subdivision to provide a separate milkhouse or milkroom from their milking barn, stable, or parlor until

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July 1, 2006 or until the first permit issued after the effective date of this regulation on each of these existing farms is canceled or revoked:

- (2) Provide a milkhouse with a smooth floor, constructed of concrete or equally impervious material graded to drain, and maintained in good repair;
- (3) Dispose of in a sanitary manner all liquid waste generated in the milkhouse;
- (4) Provide one or more floor drains in the milkhouse, which shall be accessible, and if connected to a sanitary sewer system trapped;
- (5) Provide in the milkhouse walls and ceilings constructed of a smooth material, in good repair, well painted, or finished in an equally suitable manner;
- (6) Provide adequate natural or artificial light and ventilation in the milkhouse;
- (7) Use the milkhouse for no other purpose than milkhouse operations;
- (8) Provide no direct opening from the milkhouse into any barn, stable, or into any room used for domestic purposes, other than a direct opening between the milkhouse and milking barn, stable, or parlor provided with a tight-fitting, self-closing, solid door, provided the door has been hinged to be single or double acting;
- (9) Provide in the milkhouse water under pressure which has been piped into the milkhouse;
- (10) Provide in the milkhouse a two-compartment wash vat and adequate hot water heating facilities;
- (11) Provide a suitable shelter for the receipt of milk when the permit holder uses a transportation tank for the cooling and storage of milk on the permit holder's dairy farm, provided that the shelter shall be adjacent to, but not a part of, the milkroom; and shall comply with the requirements of the milkroom with respect to construction, light, drainage, insect and rodent control, and general maintenance;

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- (12) Locate the permit holder's farm bulk tank in the milkhouse or milkroom so that all areas are accessible for cleaning and servicing. The farm bulk tank shall not be located over a floor drain or under a ventilator; and
- (13) Provide a platform or slab of sufficient size, constructed of concrete or other impervious material outside the milkhouse, properly centered under a suitable hoseport opening in the wall for making connections between the bulk milk tank and the pick-up truck. The opening of the hoseport shall be fitted with a tight, self-closing door. The driveway leading to and from the milkhouse or milkroom shall be properly graded and surfaced to prevent mud or pooling of water at the point of loading outside the milkhouse or milkroom.
- f. Item 6r. Milkhouse or milkroom-cleanliness. Each person who holds a permit to produce milk for manufacturing purposes shall:
- (1) Keep clean the floors, walls, ceilings, windows, tables, shelves, cabinets, wash vats, non-product contact surfaces of milk containers, utensils, equipment, and other milkroom equipment in the milkroom;
 - (2) Place in the milkroom only those articles directly related to milkroom activities; and
 - (3) Keep the milkroom free of trash, animals, insects, and fowl.
- g. Item 7r. Toilets. Each person who holds a permit to produce raw milk for manufacturing purposes shall:
- (1) Provide on the person's dairy farm one or more toilets, which shall be conveniently located, properly constructed and operated, and maintained in a sanitary manner;
 - (2) Prevent the access of flies to the waste contained in or from the toilet;
 - (3) Prevent the waste contained in or from the toilet from polluting the soil surface or contaminating any water supply; and
 - (4) Assure that there is no direct opening from the toilet into any milkroom.

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h. Item 8r. Water supply. Each person who holds a permit to produce milk for manufacturing purposes shall:

(1) Provide water for milkhouse and milking operations from a water supply properly located, protected, and operated. The water supply shall be easily accessible, adequate, and of a safe, sanitary quality;

(2) Ensure that any well casing which is part of a water supply that provides water for any milkhouse or milking operation is not located closer to any source of contamination which may contaminate the water supply than is specified as follows:

(a) No permit holder may locate a well casing closer than 10 feet to a pit;

(b) No permit holder may locate a well casing closer than 10 feet to any sewer pipe, floor drain, or other pipe which may back up;

(c) No permit holder may locate a well casing closer than 50 feet to any above-ground gas, oil, petroleum, or chemical storage tank;

(d) No permit holder may locate a well casing closer than 50 feet to any accumulated animal manure or allow any animal manure closer than 50 feet to a well casing;

(e) No permit holder may locate a well casing closer than 50 feet to any area to which livestock has access; or animal-holding area, feedlot, or loafing area on dirt;

(f) No permit holder may locate a well casing closer than 50 feet to any pit not drained to the surface of the ground. Nothing in this requirement shall apply to a residential basement;

(g) From and after the effective date of this regulation, no permit holder may locate a well casing closer than 100 feet to any pit privy. Existing well casings located on farms producing and shipping milk for manufacturing purposes on July 1, 2001 shall be exempt from the 100 foot distance requirement of this subdivision until July 1,

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2006 or until the first permit issued after the effective date of this regulation on each of these existing farms is canceled or revoked:

(h) No permit holder may locate a well casing closer than 100 feet to any animal-manure disposal area:

(i) No permit holder may locate a well casing closer than 100 feet to any cess pool:

(j) No permit holder may locate a well casing closer than 100 feet to any dry well:

(k) No permit holder may locate a well casing closer than 100 feet to any structure which stores animal manure:

(l) No permit holder may locate a well casing closer than 100 feet to any septic tank or drain field; and

(m) No permit holder may locate a well casing closer than 100 feet to any underground or partially-buried gas, oil, petroleum, or chemical storage tank:

(3) Construct the water supply so that the well casing terminates at least two feet above the highest-known flood plane for the location in which the water supply is located; and

(4) Construct the water supply so that no potable water supply pipe attached to the water supply is located closer than 10 feet measured horizontally to any sewer pipe, soil pipe, or drain.

i. Item 9r. Utensils and equipment-construction. Each person who holds a permit to produce milk for manufacturing purposes shall:

(1) Provide multiuse containers, equipment, and utensils for use in the handling, storage, or transportation of any milk, which multiuse containers, equipment, and utensils, shall be made of smooth, nonabsorbent, corrosion-resistant, and nontoxic materials; constructed to be easily cleaned; and in good repair;

(2) Provide new or replacement multiuse containers, equipment, and utensils for use in the handling, storage, or transportation of any milk which comply with all applicable 3-A Sanitary Standards and 3-A Accepted Practices;

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- (3) Provide and use only new or replacement can lids of the umbrella type;
 - (4) Provide milk pails which are constructed to be seamless and of the hooded type if the permit holder does hand milking and stripping;
 - (5) Abstain from using multiple-use woven material for straining any milk;
 - (6) Use only single-service articles which have been manufactured, packaged, transported, stored, and handled in a sanitary manner;
 - (7) Abstain from reusing any article intended for single-service use;
 - (8) Install and use only farm bulk tanks that meet all the requirements of 3-A Sanitary Standards for Farm Milk Cooling and Storage Systems; Farm Milk Storage Tanks; and 3-A Sanitary Accepted Practices for Farm Milk Cooling and Storage Systems;
 - (9) Install and use only sanitary piping that complies with all the requirements of 3-A Accepted Practices for Design, Fabrication, and Installation of Milking and Milk Handling Equipment; and
 - (10) Provide and use only transportation tanks which comply with all of the requirements of 3-A Sanitary Standards for Stainless Steel Automotive Milk and Milk Product Transportation Tanks for Bulk Delivery and/or Farm Pick-Up Service;
- j. Item 10r. Utensils and equipment; cleaning. Each person who holds a permit to produce milk for manufacturing purposes shall:
- (1) Clean after each use the product-contact surfaces of all multiuse containers, multiuse equipment, and multiuse utensils used in the handling, storage, or transportation of any milk; and
 - (2) Abstain from selling or offering for sale milk which has passed through any equipment, if the milk-contact surfaces of the equipment are no longer visible, or are covered or partially covered by an accumulation of milk solids, milk fat, cleaning compounds, or other soils. Any milk which passes through equipment, the milk-contact surfaces of which are no longer visible or are covered or partially covered by an

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accumulation of milk solids, milk fat, cleaning compounds, or other soils, shall be deemed adulterated;

k. Item 11r. Utensils and equipment; sanitization. Each person who holds a permit to produce milk for manufacturing purposes shall sanitize before each use the product-contact surfaces of all multiuse containers, equipment, and utensils used in the handling, storage, or transportation of any milk;

l. Item 12r. Utensils and equipment; storage. Each person who holds a permit to produce milk for manufacturing purposes shall store containers, utensils, and equipment used in the handling, storage, or transportation of any milk in a sanitizing solution, or store the containers, utensils, and equipment used in the handling, storage, or transportation of any milk to ensure complete drainage and protection from contamination prior to use. Nothing in this subdivision shall be deemed to prohibit a permit holder from storing in a milking barn or milking parlor a milk pipeline or the following pipeline milking equipment: milker claw, inflation, weigh jar, meter, milk hose, milk receiver, tubular cooler, plate cooler, or milk pump; if the milk pipeline and pipeline milking equipment specified in this subdivision is designed for mechanical cleaning; and designed, installed, and operated to protect the milk, dairy product and solution-contact surfaces from contamination at all times;

m. Item 13r. Milking; flanks, udders, and teats. Each person who holds a permit to produce milk for manufacturing purposes shall:

(1) Milk all cows, goats, sheep, water buffalo, or other mammals in a milking barn, stable, or parlor;

(2) Trim the hair from the udder and tail of all milking cows, goats, sheep, water buffalo, or other mammals to facilitate cleaning of the udder and tail;

(3) Keep the flanks, udders, bellies, and tails of all milking cows, goats, sheep, water buffalo, or other mammals free of visible dirt;

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- (4) Keep the hair on the udders of all milking cows, goats, sheep, water buffalo, or other mammals to a length that the hair on the udder of any cow, goat, sheep, water buffalo, or other mammal can not be incorporated with the teat in the inflation during milking;
 - (5) Abstain from milking any cow, goat, sheep, water buffalo, or other mammal whose udder or teats are not clean and dry;
 - (6) Treat with a sanitizing solution, just prior to milking, the teats of each milking cow, goat, sheep, water buffalo, or other mammal, and dry the teats of each milking cow, goat, sheep, water buffalo, or other mammal before milking; and
 - (7) Milk all cows, goats, sheep, water buffalo, or other mammals with dry hands.
- n. Item 14r. Protection from contamination. Each person who holds a permit to produce milk for manufacturing purposes shall:
- (1) Locate and operate the milking and milk house operations, equipment, and facilities to prevent overcrowding and any contamination of the milk, equipment, containers, or utensils;
 - (2) Separate pipelines and equipment used to contain or conduct milk and dairy products during processing from tanks or circuits containing cleaning and/or sanitizing solution;
 - (3) Discard all milk which has overflowed, leaked, been spilled or improperly handled;
 - (4) Transfer immediately from the milking barn, stable, or parlor to the milk house each pail or container of milk;
 - (5) Properly cover all pails, cans, and other equipment containing milk during transfer and storage;
 - (6) Handle all containers, utensils, and equipment in such a manner to prevent the contamination of any milk-contact surface of any containers, utensils, or equipment after the containers, utensils, or equipment have been sanitized; and

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- (a) Use air under pressure for the agitation or movement of milk, or use air under pressure that is directed at any milk contact surface that is free of oil, dust, rust, excessive moisture, extraneous materials, or odor;
- o. Item 15r. Drug and chemical control. Each person who holds a permit to produce milk for manufacturing purposes shall:
 - (1) Ensure cleaners and sanitizers purchased in containers from the manufacturer or distributor properly identify the contents, or if bulk cleaners and sanitizers are transferred from the manufacturer's or distributor's container, that the transfer only occur into a dedicated end-use container which is specifically designed, maintained, and labeled according to the manufacturer's specifications for that specific product;
 - (2) Abstain from cleaning any equipment used to administer medicinals or drugs in the wash vats in the milkroom;
 - (3) Store any equipment used to administer medicinals or drugs so as not to contaminate any milk or milk contact surfaces of equipment;
 - (4) Store all drugs and medicinals in such a manner that neither the drugs nor the medicinals can contaminate any milk or the dairy product-contact surface of any equipment, containers or utensils;
 - (5) Abstain from using unapproved or improperly labeled medicinals or drugs to treat any dairy animal or store unapproved or improperly labeled medicinals or drugs in the milkhous, milking barn, stable, or parlor. Except for topical antiseptics, wound dressings, vaccines, and other biologics (unless intended for direct injection into the teat), and dosage form vitamins and mineral products, a drug or medicinal is properly labeled only if the drug or medicinal is labeled with the following:
 - (a) For over-the-counter medicinals or drugs, the name and address of the manufacturer or distributor, or for prescription and extra-label use medicinals or drugs, the name of the veterinary practitioner dispensing the product;

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- (b) Directions for use of the drug or medicinal and the prescribed holding time;
 - (c) Any cautionary statement for the drug or medicinal, if needed; and
 - (d) The active ingredient or ingredients in the drug or medicinal;
 - (6) Except for topical antiseptics, wound dressings (unless intended for direct injection into the teat), vaccines and other biologics, and dosage form vitamins and mineral products, segregate all medicinals and drugs used for lactating cows, goats, sheep, water buffalo and other mammals (except humans) from any medicinals and drugs used for nonlactating cows, goats, sheep, water buffalo and other mammals (except humans);
 - (7) Except for topical antiseptics, wound dressings, (unless intended for direct injection into the teat) vaccines and other biologics, and dosage form vitamins and mineral products, provide separate shelves in a cabinet, refrigerator, or other storage facility for the storage of all medicinals and drugs for treatment of nonlactating dairy animals separate from those medicinals or drugs used for lactating dairy animals;
 - (8) Store topical antiseptics, wound dressings, (unless intended for direct injection into the teat) vaccines and other biologics, and dosage-form vitamins and mineral products in a manner that does not contaminate any milk or the milk-product surfaces of any containers or utensils;
 - (9) Store all drugs labeled for use in non-dairy animals in the milking barn, stable, or parlor; and
 - (10) Abstain from storing any herbicides, fertilizers, pesticides, or insecticides that are not labeled for use in the milkhouse, milkroom, milking barn, stable or parlor in the permit holder's milkhouse, milkroom, milking barn, stable, or parlor.
- p. Item 16r. Personnel; hand-washing facilities. Each person who holds a permit to produce milk for manufacturing purposes shall:
- (1) Provide hand-washing facilities that are convenient to the milkhouse, milking barn, stable, parlor, and flush toilet; and

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- (2) Provide hand-washing facilities that include separate hot and cold running water, soap or detergent, and individual sanitary towels.
- q. Item 17r. Personnel; cleanliness. Each person who holds a permit to produce milk for manufacturing purposes shall:
- (1) Ensure each person who milks or performs any milkhouse function washes the person's hands clean and dries the person's hands with an individual sanitary towel immediately before milking, before performing any milkhouse function, and immediately after the interruption of milking or performing any milkhouse function; and
- (2) Ensure each person who milks or performs any milkhouse function wears clean outer garments while milking or handling any milk, milk containers, utensils, or equipment. Every person shall wear clean outer garments while handling any milk, milk containers, utensils, or equipment;
- r. Item 18r. Raw milk cooling. Each person who holds a permit to produce milk for manufacturing purposes shall:
- (1) Cool to 40°F or cooler (but not freeze), all milk in farm bulk tanks, within two hours after the permit holder completes each milking; and ensure that the temperature of the permit holder's milk is not warmer than 50°F after the first milking or any subsequent milking. Milk for manufacturing purposes which is warmer than a temperature of 50° F two hours after the first milking or any subsequent milking shall be deemed a public health hazard and shall not be offered for sale, sold, or used for human consumption;
- (2) Agitate all milk in farm bulk tanks for not less than five minutes at least once every hour and ensure that the milk in the farm's bulk milk cooling or holding tank covers the agitator paddle sufficiently to facilitate proper cooling and sampling after the completion of the first milking. Milk which does not cover the agitator paddle sufficiently to facilitate proper cooling and sampling after the completion of the first milking shall be deemed a

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public health hazard and shall not be offered for sale, sold, or used for human consumption; and

(3) Cool to 40°F or cooler (but not freeze), all milk in cans or other containers approved by the Regulatory Agency, within two hours after the permit holder completes milking; and ensure that the temperature of the permit holder's milk in cans or other containers approved by the Regulatory Agency is not warmer than 50° F at any time thereafter; or deliver the milk in cans or other containers approved by the Regulatory Agency to a dairy processing plant within two hours after the completion of milking. Milk in cans or other containers approved by the Regulatory Agency which is warmer than a temperature of 50°F two hours after the completion of milking shall be deemed a public health hazard and shall not be offered for sale or sold;

s. Item 19r. Insect and rodent control. Each person who holds a permit to produce milk for manufacturing purposes shall:

(1) Keep the areas surrounding the milkhouse, milking barn, milking stable, milking parlor, cattle housing, sheep housing, goat housing, water buffalo housing, housing area for other mammals, cattle loafing, sheep loafing, goat loafing, water buffalo loafing, loafing area for other mammals, water supply, or other facilities on the permit holder's dairy farm neat, clean, and free of conditions which might harbor or be conducive to the breeding of insects and rodents;

(2) Maintain and manage manure packs in loafing areas, stables without stanchions, pen stables, resting barns, wandering sheds, and free-stall housing to be properly bedded and to prevent fly breeding;

(3) Maintain the milkroom free of insects, rodents, and other animals;

(4) Screen or otherwise protect the milkroom against the entrance of insects, rodents, vermin, or other animals;

(5) Provide outer milkhouse doors that are tight fitting and self-closing;

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- (6) Provide screen doors that open outward only on any milkhouse;
- (7) Take effective measures to prevent the contamination of any milk, containers, equipment, and utensils by insects, rodents, and other animals and by chemicals used to control insects, rodents, and other animals;
- (8) Use only insecticides and rodenticides approved for use by the U.S. Environmental Protection Agency;
- (9) Use insecticides and rodenticides in accordance with the manufacturer's label directions and in such a manner to prevent the contamination of milk, milk containers, equipment, utensils, feed, or water;
- (10) Provide covered boxes, bins, or separate storage facilities for ground, chopped, or concentrated feed; and
- (11) Store any feed in the milking portion of the milking barn only and in such a manner as it will not attract birds, flies, insects or rodents.

C. Sanitation requirements for dairy plants. Each person who holds a permit to manufacture dairy products shall comply with the following:

1. Premises. Each person who holds a permit to manufacture dairy products shall:
 - a. Maintain their plant premises in a clean and orderly condition and free from strong or foul odors, smoke, or excessive air pollution;
 - b. Construct and maintain driveways and adjacent plant traffic areas with concrete, asphalt, or similar material to keep dust and mud to a minimum;
 - c. Maintain the adjacent surroundings free from refuse, rubbish, and waste materials to prevent harborage of rodents, insects, and other vermin;
 - d. Construct and maintain a drainage system which will allow rapid drainage of all water from plant buildings and driveways, including surface water around the plant and on the premises, and all such water shall be disposed of in such a manner to prevent a nuisance or health hazard.

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2. Buildings. Each person who holds a permit to manufacture dairy products shall:
 - a. Provide buildings of sound construction and maintain those buildings in good repair to prevent the entrance or harboring of rodents, birds, insects, vermin, dogs, cats and other animals;
 - b. Provide tight metal collars for all service pipe openings through outside walls, or shall effectively seal around the openings;
 - c. Protect or screen against the entrance of flies and other insects, rodents, birds, dust, and dirt all openings to the outer air including doors, windows, skylights, and transoms.
 - d. Provide and maintain each outside door opening into a processing room in good condition, properly fitted, and tightly self-closing;
 - e. Ensure that each hinged, outside screen door opens outward and is self-closing;
 - f. Maintain each door and window to be clean and in good repair;
 - g. Construct and maintain each outside conveyor opening and other special-type outside openings to effectively protect and prevent the entrance of flies and rodents, by the use of doors, screens, flaps, fans, or tunnels;
 - h. Cover outside openings for sanitary pipelines when not in use;
 - i. Construct each window sill to be slanted downward at a 45 degree angle;
 - j. Construct each wall, ceiling, partition, and post of rooms in which milk or dairy products are processed, manufactured, handled, packaged, or stored (except dry storage of packaged finished products and supplies) or in which utensils are washed and stored, to be smoothly finished with a material of light color, which is substantially impervious to moisture and kept clean; and
 - k. Refinish each wall, ceiling, partition, and post of rooms in which milk or dairy products are processed, manufactured, handled, packaged, or stored (except dry storage of packaged finished products and supplies) or in which utensils are washed and stored as often as necessary to maintain a neat, clean surface;

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- I. Floors. Each person who holds a permit to manufacturer dairy products shall:
- (1) Construct the floor of each room in which milk or dairy products are processed, manufactured, packaged, or stored or in which utensils are washed with tile properly laid with impervious joint material, concrete, or other equally impervious material;
 - (2) Construct and maintain the floors of each room in which milk or dairy products are processed, manufactured, packaged, or stored or in which utensils are washed to be smooth, in good repair, graded to one or more drains so that there will be no pools of standing water or dairy products after flushing, and the opening to each drain shall be equipped with a trap properly constructed and kept in good repair;
 - (3) Not use bell-type traps on floors;
 - (4) Install the plumbing to prevent the backup of sewage into the drain lines and onto the floor of the plant;
 - (5) Construct the floors in each room where new containers and supplies and certain packaged finished products are stored with sound, smooth, wood which shall be maintained clean;
- m. Lighting and ventilation. Each person who holds a permit to manufacture dairy products shall:
- (1) Provide ample light, natural, artificial, or both, of good quality and well distributed in each room and area of the building;
 - (2) Provide each room in which dairy products are manufactured or packaged or where utensils are washed with at least 30 foot-candles of light intensity on all working surfaces and at least 50 foot-candles of light intensity in areas where dairy products are graded or examined for condition and quality;
 - (3) Provide in each room in which dairy products are not manufactured or packaged or where utensils are not washed with at least five foot-candles of light intensity when measured at a distance of 30 inches from the floor;

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- (4) Protect from breakage each light bulb, fluorescent tube, fixture, skylight, or other glass suspended over each product area where contamination of product by broken glass is possible;
 - (5) Provide adequate heating, ventilation, or air conditioning for each room and compartment to permit maintenance of sanitary conditions;
 - (6) Provide exhaust or inlet fans, vents, hoods, or temperature and humidity control facilities where and when needed, to minimize or eliminate undesirable room temperatures, objectionable odors, moisture condensation, or mold;
 - (7) Provide each inlet fan with an adequate air filtering device to eliminate dirt and dust from incoming air;
 - (8) Clean each ventilation system periodically as needed and maintain each ventilation system in good repair;
 - (9) Screen or provide each exhaust outlet with self-closing louvers to prevent the entrance of insects when not in use;
- n. Rooms and compartments. Each person who holds a permit to manufacture dairy products shall:
- (1) Design, construct, and maintain each room and compartment in which any raw material, packaging, ingredient supplies, or dairy products are handled, manufactured, packaged, or stored to ensure desirable room temperatures and clean and orderly operating conditions free from objectionable odors and vapors;
 - (2) Separate each enclosed bulk milk receiving room from any of the processing rooms by a partition;
 - (3) Separate each room for receiving can milk from any of the processing rooms by a partition (partial or complete), by arrangement of equipment, or by allowing enough distance between receiving and processing operations to prevent contamination of milk or dairy products during manufacturing and handling;

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- (4) Maintain each processing room free from equipment and materials not regularly used:
- (5) Coolers and freezers. Each person who holds a permit to manufacture dairy products shall:
- (a) Maintain each cooler and freezer where dairy products are stored to be clean, reasonably dry, and maintained at the proper uniform temperature and humidity to protect the dairy products and minimize the growth of mold;
 - (b) Maintain adequate circulation of air at all times in each cooler and freezer where dairy products are stored;
 - (c) Maintain each cooler and freezer where dairy products are stored to be free from rodents, insects, and animals;
 - (d) Maintain each shelf in each cooler or freezer to be clean and dry;
 - (e) Install refrigeration units with provisions for collecting and disposing of condensate;
- (6) Supply room. Each person who holds a permit to manufacture dairy products shall:
- (a) Maintain each supply room used for storing packaging materials, containers, and miscellaneous ingredients to be clean, dry, orderly, free from insects, rodents, and mold, and in good repair;
 - (b) Store each item in the store room so it is protected from dust, dirt, or other extraneous matter and so arranged off the floor on racks, shelves, or pallets to permit access to the supplies and cleaning and inspection of the room;
 - (c) Ensure that insecticides, rodenticides, cleaning compounds, and other nonfood products are properly labeled and segregated and stored in a separate room or cabinet away from any milk, dairy products, ingredients, or packaging supplies;
- (7) Boiler and tool rooms. Each person who holds a permit to manufacture dairy products shall:

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- (a) Construct and provide each boiler and tool room to be separate from any room where milk or dairy products are processed, manufactured, packaged, handled, or stored;
 - (b) Keep boiler and tool rooms orderly and reasonably free from dust and dirt;
- (8) Toilet and dressing rooms. Each person who holds a permit to manufacture dairy products shall:
- (a) Provide adequate toilet and dressing room facilities that are conveniently located;
 - (b) Ensure that each toilet room does not open directly into any room in which milk or dairy products are processed, manufactured, packaged, or stored;
 - (c) Provide self-closing doors for each toilet room;
 - (d) Provide each toilet room with a mechanical means of ventilation or screened openings to the outside air;
 - (e) Maintain each toilet room fixture so that it is clean and in good repair;
 - (f) Furnish each employee with a locker or other suitable facility and shall keep clean and orderly each locker and dressing room;
 - (g) Provide adequate hand-washing facilities with hot and cold running water and mix valve in each toilet and dressing room;
 - (h) Post legible signs conspicuously in each toilet and dressing room directing employees to wash their hands before returning to work;
- (9) Laboratory. Each person who holds a permit to manufacture dairy products shall provide and maintain an adequately equipped laboratory properly staffed with qualified and trained personnel for quality control and analytical testing consistent with the size and type of plant and the volume of dairy products manufactured. A central laboratory serving more than one plant may be acceptable if conveniently located to the dairy plants and if samples and results can be transmitted without undue delay;

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- (10) Starter facilities. Each person who holds a permit to manufacture dairy products shall provide adequate sanitary facilities for the handling of starter cultures;
- o. Water supply. Each person who holds a permit to manufacture dairy products shall:
- (1) Provide an ample supply of both hot and cold water of safe and sanitary quality, with adequate facilities for its proper distribution throughout the plant, and protection against contamination and pollution.
 - (2) Separate with an air gap all waterlines carrying the sanitary water supply from water to feed a boiler or condenser, and ensure the boiler or condenser equipment is so constructed and controlled to preclude contamination of product contact surfaces;
 - (3) Ensure that there is no cross connection between the potable water supply and any unsafe or questionable water supply, or any other source of pollution through which contamination of the potable water supply is possible;
 - (4) Perform a bacteriological examination of the sanitary water supply at least twice a year and more often when follow-up sampling is needed after non-conforming results are reported to determine purity and suitability for use in manufacturing dairy products. Each bacteriological examination of the sanitary water supply shall be performed in a commercial, industry, federal or state laboratory certified by the U.S. Environmental Protection Agency for water testing;
 - (5) Keep on file the results of all water tests at the plant for which the test was performed;
 - (6) Comply with the regulations of the Virginia Department of Health on the water supply's location, construction, and operation;
 - (7) Provide water from any well for dairy plant operations from a water supply properly located, protected, and operated. The water supply shall be easily accessible, adequate, and of a safe, sanitary quality;

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(8) Assure that any well casing which is part of a water supply that provides water for any dairy plant operation is not located closer to any source of contamination which may contaminate the water supply than is specified as follows:

- (a) No permit holder may locate a well casing closer than 10 feet to a pit;
- (b) No permit holder may locate a well casing closer than 10 feet to any sewer pipe, floor drain, or other pipe which may back up;
- (c) No permit holder may locate a well casing closer than 50 feet to any above-ground gas, oil, petroleum, or chemical storage tank;
- (d) No permit holder may locate a well casing closer than 50 feet to any accumulated animal manure;
- (e) No permit holder may locate a well casing closer than 50 feet to any area to which livestock have access; or animal-holding area, feedlot, or loafing area on dirt;
- (f) No permit holder may locate a well casing closer than 50 feet to any pit not drained to the surface of the ground;
- (g) No permit holder may locate a well casing closer than 100 feet to any pit privy;
- (h) No permit holder may locate a well casing closer than 100 feet to any animal-manure disposal area;
- (i) No permit holder may locate a well casing closer than 100 feet to any cess pool;
- (j) No permit holder may locate a well casing closer than 100 feet to any dry well;
- (k) No permit holder may locate a well casing closer than 100 feet to any structure which stores animal manure;
- (l) No permit holder may locate a well casing closer than 100 feet to any septic tank or drain field; and
- (m) No permit holder may locate a well casing closer than 100 feet to any underground or partially-buried gas, oil, petroleum, or chemical storage tank;

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- (9) Construct the water supply so that the well casing terminates at least two feet above the highest-known flood level in the flood plane for the location in which the water supply is located;
- (10) Construct the water supply so that no potable water supply pipe attached to the water supply is located closer than 10 feet measured horizontally to any sewer pipe, soil pipe, or drain.
- p. Drinking water facilities. Each person who holds a permit to manufacture dairy products shall provide conveniently located drinking water facilities of a sanitary type in the plant;
- q. Hand-washing facilities. Each person who holds a permit to manufacture dairy products shall:
- (1) Provide convenient hand-washing facilities, including hot and cold running water, mix valve, soap or other detergents, and sanitary single-service towels or air dryers in each room where any dairy product is handled, processed, packaged or stored;
 - (2) Provide convenient hand-washing facilities located in or adjacent to each toilet and dressing room and also at each other place in the plant as may be essential to the cleanliness of all personnel handling milk or dairy products;
 - (3) Not allow employees to use vats for washing equipment or utensils as handwashing facilities;
 - (4) Provide self-closing metal or plastic containers for used towels and other wastes;
- r. Steam. Each person who holds a permit to manufacture dairy products shall:
- (1) Supply steam in sufficient volume and pressure for satisfactory operation of each applicable piece of equipment;
 - (2) Ensure that culinary steam used in direct contact with milk or dairy products is free from harmful substances or extraneous material and only nontoxic boiler compounds are used, or a secondary steam generator shall be used in which soft water is converted to steam and no boiler compounds are used;

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- (3) Use steam traps, strainers, and condensate traps wherever applicable to insure a satisfactory and safe steam supply; and
- (4) Use culinary steam that complies with 3-A Accepted Practices for a Method of Producing Steam of Culinary Quality;
- s. Air under pressure. Each person who holds a permit to manufacture dairy products shall:
 - (1) Comply with the requirements contained in the 3-A Accepted Practices for Supplying Air Under Pressure in Contact with Milk, Milk Products, and Product Contact Surfaces; and
 - (2) Ensure that the air used at the point of application is free from volatile substances, volatiles which may impart any flavor or odor to the products, and extraneous or harmful substances;
- t. Disposal of waste. Each person who holds a permit to manufacture dairy products shall:
 - (1) Properly dispose of all dairy wastes from the plant and premises;
 - (2) Construct the sewer system with sufficient slope and capacity to readily remove all wastes from the various processing operations;
 - (3) Utilize a public sewer where available, to properly dispose of all liquid wastes and effluent;
 - (4) Where a public sewer is not available, properly dispose of all wastes so as not to contaminate any milk equipment or to create a nuisance or public health hazard;
 - (5) Provide containers used for the collection and holding of wastes constructed of metal, plastic, or other equally impervious material and keep covered with tight-fitting lids and place outside the plant on a concrete slab or on a rack raised at least 12 inches. Alternatively, waste containers may be kept inside a suitably enclosed, clean and fly-proof room;
 - (6) Dispose of solid wastes regularly and clean all waste containers thoroughly before reuse;

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- (7) Ensure the accumulation of dry wastepaper and cardboard is kept to a minimum;
 - (8) Ensure that any accumulation of dry wastepaper and cardboard is burned at the plant in a properly constructed incinerator, or compressed or bagged and hauled away;
3. Equipment and utensils. Each person who holds a permit to manufacture dairy products shall:
- a. Use only equipment and utensils made for the processing of milk and manufacture of dairy products that are constructed to be readily de-mountable where necessary for cleaning and sanitizing;
 - b. Use only utensils and equipment such as holding tanks, pasteurizers, coolers, vats, agitators, pumps, sanitary piping, and fittings or any specialized equipment the product contact surfaces of which are constructed of stainless steel, or other equally corrosion--resistant material;
 - c. Use only nonmetallic parts, other than glass, having product contact surfaces that meet 3-A Sanitary Standards for Multiple-Use Rubber and Rubber-Like Materials Used as Product Contact Surfaces in Dairy Equipment;
 - d. Design and install all equipment and piping to be easily accessible for cleaning, and shall keep all equipment and piping in good repair, free from cracks and corroded surfaces;
 - e. Install any new equipment or rearrange any existing equipment to be set away from any wall or spaced in such a manner to facilitate proper cleaning and to maintain good housekeeping;
 - f. Ensure that all parts or interior surfaces of equipment, pipes (except certain piping cleaned in place) or fittings, including valves and connections, are accessible for inspection;
 - g. Use only milk and dairy product pumps that are of a sanitary type and easily dismantled for cleaning or are designed and constructed to allow effective cleaning in place;
 - h. Install only CIP systems that comply with the 3-A Sanitary Practices for Permanently Installed Sanitary Product and Solution Pipelines and Cleaning Systems Used in Milk Product Processing Plants;

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- i. Use only weigh cans and receiving tanks that meet all applicable 3-A Sanitary Standards and are easily accessible for cleaning both inside and outside and are elevated above the floor and protected sufficiently with the necessary covers or baffles to prevent contamination from splash, condensate, and drippage. Where necessary, to provide easy access for cleaning of floors and adjacent wall areas, the receiving tank shall be equipped with wheels or casters to allow easy removal;
- j. Use only can washers that have sufficient capacity and ability to discharge a clean, dry can and cover, and use only cans and covers that are kept tinned in accordance with the instructions of the manufacturer;
- k. Install water and steam lines supplying the can washer that maintain a reasonably uniform pressure and, if necessary, are equipped with pressure regulating valves;
- l. Use only storage tanks or vats that are fully enclosed or tightly covered, well insulated, and that comply with the following:
 - (1) The entire interior surface, agitator and all appurtenances shall be accessible for thorough cleaning and inspection;
 - (2) Any opening at the top of the tank or vat including the entrance of the shaft shall be suitably protected against the entrance of dust, moisture, insects, oil, or grease;
 - (3) The sight glasses, if used, shall be sound, clean, and in good repair;
 - (4) Vats which have hinged covers shall be so designed that moisture or dust on the surface cannot enter the vat when the covers are raised;
 - (5) If the storage tanks or vats are equipped with air agitation, the system shall be an approved type and installed in accordance with the 3-A Accepted Practices for Supplying Air Under Pressure in Contact with Milk, Milk Products, and Product Contact Surfaces;
 - (6) Storage tanks or vats intended to hold product for longer than 8 hours shall be equipped with adequate refrigeration and/or have adequate insulation;

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- (7) Each storage tank or vat shall meet the appropriate 3-A Sanitary Standards and shall be equipped with a thermometer in good operating order:
- m. Use only separators, the product contact surfaces of which are free from rust and pits, and insofar as practicable, are constructed of stainless steel or other equally noncorrosive metal:
- n. Install and use only non-coil type batch pasteurizers that comply with all requirements contained in 3-A Sanitary Standards for Non-Coil Type Batch Pasteurizers for Milk and Milk Products:
- o. Install and use only high-temperature, short-time pasteurizers that comply with the following:
- (1) When pasteurization is intended or required, an approved timing pump or device recorder-controller, automatic flow diversion valve and holding tube or its equivalent, if not a part of the existing equipment, shall be installed on all High-Temperature Short-Time (HTST) equipment used for pasteurization to ensure complete pasteurization:
 - (2) The entire facility shall meet the 3-A Accepted Practices for the Sanitary Construction, Installation, Testing, and Operation of High-Temperature Short-Time and Higher-Heat Shorter-Time Pasteurizer Systems:
 - (3) After the HTST unit has been tested according to the 3-A Accepted Practices, the timing pump or device and the recorder controller shall be sealed at the correct setting to ensure pasteurization:
 - (4) Sealing of the HTST unit shall be performed only by a representative of the Virginia Department of Agriculture and Consumer Services or a person accepted by the Virginia Department of Agriculture and Consumer Services as properly trained and experienced to be able to seal HTST units:
 - (5) The HTST pasteurizer shall be tested by the Department or by a person certified by the Department to perform pasteurizer tests initially upon installation and whenever any

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alteration or replacement is made which affects the proper operation of the instrument or device:

(6) When direct steam pasteurizers are used, the steam, prior to entering the milk or dairy product, shall be conducted through a steam strainer and a steam purifier equipped with a steam trap and only steam meeting all the requirements contained in 3-A Accepted Practices Method of Producing Steam of Culinary Quality, shall be used:

p. Install and use thermometers and recorders that comply with the following:

(1) Indicating thermometers. Long-stem indicating thermometers which are accurate within 0.5° F, plus or minus, for the applicable temperature range shall be provided for checking the temperature of pasteurization and cooling of products in vats and checking the accuracy of recording thermometers:

(2) Short-stem indicating thermometers, which are accurate within 0.5° F, plus or minus, for the applicable temperature range, shall be installed in the proper stationary position in all HTST and dome-type pasteurizers:

(3) Storage tanks where temperature readings are required shall have thermometers which are accurate within 2 °F, plus or minus:

(4) Air-space indicating thermometers, where applicable, which are accurate within 1.0° F, plus or minus, for the proper temperature range, shall also be installed above the surface of the products pasteurized in vats, to make certain that the temperature of the foam and air above the products pasteurized also received the required minimum temperature treatment:

(5) HTST recording thermometers that are accurate within 1.0° F, plus or minus, for the applicable temperature range, shall be used on each heat treating, pasteurizing, or sterilizing unit to record the heating process:

(a) Additional use of recording thermometers accurate within 2.0° F, plus or minus, may be required at the discretion of the Virginia Department of Agriculture and

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Consumer Services where a record of temperature or time of cooling and holding is necessary to establish compliance with the requirements of this chapter or to ensure the safety of a milk or dairy product:

- q. Install and use only surface coolers that comply with the following:
 - (1) Surface coolers shall be equipped with hinged or removable covers for the protection of the product:
 - (2) The edges of the fins on all surface coolers shall be so designed to divert condensate on non-product contact surfaces away from product contact surfaces:
 - (3) All gaskets or swivel connections on surface coolers shall be leak proof:
- r. Install and use only plate-type heat exchangers that comply with the following:
 - (1) Plate-type heat exchangers shall meet the 3-A Sanitary Standards for Plate-Type Heat Exchangers for Milk and Milk Products:
 - (2) All gaskets on plate-type heat exchangers shall be tight and kept in good operating order:
 - (3) Plates on plate-type heat exchangers shall be opened for inspection by the permit holder at least once each six months to determine if the equipment is clean and in satisfactory condition and at the direction of the Virginia Department of Agriculture and Consumer Services:
 - (4) A cleaning regimen for each plate-type heat exchanger shall be posted to ensure proper cleaning procedures between inspections:
- s. Install and use only internal return tubular heat exchangers that comply with the 3-A Sanitary Standards for Tubular Heat Exchangers for Milk and Milk Products:
- t. Install and use only pumps used for milk and dairy products that comply with the following:

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- (1) All pumps used for milk and dairy products shall be of the sanitary type and constructed to meet 3-A Sanitary Standards for Centrifugal and Positive Rotary Pumps for Milk and Milk Products:
- (2) Unless pumps used for milk and dairy products are specifically designed for effective cleaning in place, they shall be disassembled and thoroughly cleaned after each use:
 - u. Install and use only homogenizers and high pressure pumps of the plunger type that comply with the 3-A Sanitary Standards for Homogenizers and Reciprocating Pumps:
 - v. Install and use only equipment and replacements, including all plastic parts and rubber and rubber-like materials for parts and gaskets having product contact surfaces, that comply with 3-A Sanitary Standards. If 3-A Sanitary Standards have not been developed for the equipment, such equipment and replacements shall meet the general requirements of this subsection:
 - w. Install and use only a vacuum chamber for flavor control which complies with the following:
 - (1) Each vacuum chamber shall be made of stainless steel:
 - (2) Each vacuum chamber shall be constructed to facilitate cleaning and all product contact surfaces shall be accessible for inspection:
 - (3) Each vacuum chamber shall be equipped with a vacuum breaker and a check valve at the product discharge line:
 - (4) Only steam which meets the requirements for culinary steam shall be used in the vacuum chamber:
 - (5) The incoming steam supply for each vacuum chamber shall be regulated by an automatic solenoid valve which will cut off the steam supply in the event the flow diversion valve of the HTST pasteurizer is not in the forward flow position:
 - (6) Condensers when used with a vacuum chamber shall be equipped with a water level control and an automatic safety shutoff valve:

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4. Personnel cleanliness. Each person who holds a permit to manufacture dairy products shall provide training and ensure that each plant employee complies with the following:
 - a. Each employee shall wash his hands before beginning work and immediately before returning to work after using toilet facilities, eating, smoking, or otherwise soiling his hands;
 - b. Each employee shall keep his hands clean and follow good hygienic practices while on duty;
 - c. Each employee shall be prohibited from expectorating or using tobacco in any form in each room or compartment where any milk, dairy product, or supplies are prepared, stored, or otherwise handled;
 - d. Each employee engaged in receiving, testing, processing, manufacturing, packaging, or handling dairy products shall wear clean white or light-colored washable outer garments and caps (paper caps or hair nets are acceptable);
5. Personnel health. Each person who holds a permit to manufacture dairy products shall ensure that each employee complies with the following:
 - a. No person afflicted with a communicable disease shall be permitted in any room or compartment where milk or dairy products are prepared, manufactured, or otherwise handled;
 - b. No person who has a discharging or infected wound, sore or lesion on hands, arms, or other exposed portion of the body shall work in any dairy processing rooms or in any capacity resulting in contact with milk or dairy products;
 - c. Each employee whose work brings him in contact with the processing or handling of dairy products, containers, or equipment shall have a medical and physical examination by a Virginia licensed physician or by the local department of health at the time of employment and medical certificates attesting the fact that the employee when examined was free from communicable disease shall be kept on file at the plant office;

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- d. Each employee returning to work following illness from a communicable disease shall have a certificate from the attending physician establishing proof of complete recovery, and medical certificates attesting the fact that the employee when last examined was free from communicable disease shall be kept on file at the plant office;
6. Protection and transport of raw milk and cream. Each person who holds a permit to manufacture dairy products shall ensure that each employee protects and transports all raw milk and cream in compliance with the following:
 - a. Milk cans used in transporting milk from each dairy farm to the dairy plant shall be of seamless construction with umbrella lids, constructed to be easily cleaned, and shall be inspected, repaired, and replaced as necessary to exclude the use of cans and lids with open seams, cracks, rust, milkstone, or other unsanitary condition;
 - b. Each vehicle used for the transportation of can milk or cream shall be of the enclosed type, constructed and operated to protect the product from extreme temperature, dust, or other adverse conditions, and it shall be kept clean. Decking boards or racks shall be provided where more than one tier of cans is carried. Cans or bulk tanks on vehicles used for the transportation of milk from the farm to the plant shall not be used for any other purpose;
 - c. The exterior shell of each transport tank shall be clean and free from open seams or cracks which would permit liquid to enter the jacket. The interior shell shall be stainless steel and so constructed that it will not buckle, sag, or prevent complete drainage. All product contact surfaces shall be smooth, easily cleaned, and maintained in good repair. Each pump and hose cabinet shall be fully enclosed with tight fitting doors and the inlet and outlet shall be provided with dust covers to give adequate protection from road dust. Each transport tank shall meet 3-A Sanitary Standards for Stainless Steel Automotive Milk and Milk Product Transportation Tanks for Bulk Delivery and/or Farm Pick-Up Service;

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- d. Enclosed or covered facilities shall be available for washing and sanitizing of transport tanks, piping and accessories at all plants that receive or ship milk or dairy products in transport tanks;
 - e. Milk shall be transferred under sanitary conditions from farm bulk tanks through stainless steel piping or tubing approved by the Virginia Department of Agriculture and Consumer Services. The sanitary piping and tubing shall be capped when not in use;
7. Raw Product Storage. Each person who holds a permit to manufacture dairy products shall hold and process all milk in compliance with the following:
- a. All milk shall be held and processed under conditions and at temperatures that will avoid contamination and rapid deterioration;
 - b. Drip milk from can washers or any other source may not be used for the manufacture of dairy products;
 - c. Bulk milk in storage tanks within the dairy plant shall be handled in such a manner to minimize bacterial increase and shall be maintained at 45° F or lower until processing begins;
 - d. All bulk milk in storage tanks within the dairy plant shall be handled in such a manner to minimize bacterial increase and shall be maintained at 45° F or lower until processing begins. This does not preclude holding milk at higher temperatures for a period of time, where applicable to particular manufacturing or processing practices;
8. Pasteurization or sterilization. Each person who holds a permit to manufacture dairy products shall pasteurize or sterilize all milk and dairy products in compliance with the following:
- a. When pasteurization or sterilization is intended or required, or when a product is designated "pasteurized" or "sterilized" every particle of the product shall be subjected to such temperatures and holding periods as will ensure proper pasteurization or sterilization of the product;

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- b. The heat treatment by either process shall be sufficient to ensure public health safety and to ensure adequate keeping quality, yet retain the most desirable flavor and body characteristics of the finished product:
 - c. The phenol value of test samples of pasteurized finished product shall be no greater than the maximum specified for the particular product as determined and specified by: (1) the phosphatase test method prescribed in the latest edition of Official Methods of Analysis; or (2) the Fluorometer test method; or (3) the Charm ALP test method; or (4) other equivalent method as determined by the Virginia Department of Agriculture and Consumer Services:
9. Composition and wholesomeness. Each person who holds a permit to manufacture dairy products shall ensure the composition and wholesomeness of all of their milk and dairy products by complying with the following requirements:
- a. Each permit holder shall take all necessary precautions to prevent contamination or adulteration of the milk or dairy products during manufacturing:
 - b. Each permit holder shall allow the inspection of all substances and ingredients used in the processing or manufacturing of any dairy product, and all substances and ingredients used in the processing or manufacturing of any dairy product shall be wholesome and practically free from impurities:
 - c. Each permit holder's finished product shall comply with the requirements of the Federal Food, Drug, and Cosmetic Act regarding their composition and wholesomeness:
10. Cleaning and sanitizing treatment. Each person who holds a permit to manufacture dairy products shall ensure that their cleaning and sanitizing treatments are effective by complying with the following requirements:
- a. Equipment and utensils. The equipment, sanitary piping, and utensils used in receiving and processing of the milk and manufacturing and handling of the product shall be maintained in a sanitary condition. Sanitary seal assemblies shall be removable on all agitators, pumps, and vats, and shall be inspected at regular intervals and kept clean. Unless

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other provisions are recommended in the following supplemental subsections, all equipment not designed for C-I-P cleaning shall be disassembled after each day's use for thorough cleaning. Dairy cleaners, detergents, wetting agents, sanitizing agents, or other similar materials which will not contaminate or adversely affect the milk or dairy products may be used. Steel wool or metal sponges may not be used in the cleaning of any dairy equipment or utensils. All product contact surfaces shall be subjected to an effective sanitizing treatment immediately prior to use, except where dry cleaning is permitted as determined by the Department. Utensils and portable equipment used in processing and manufacturing operations shall be stored above the floor in clean, dry locations and in a self-draining position on racks constructed of impervious, corrosion-resistant material;

b. C-I-P cleaning, including spray-ball systems, shall be used only on equipment and pipeline systems which have been designed and engineered for that purpose. When such cleaning is used, careful attention shall be given to the proper procedures to ensure satisfactory cleaning. All C-I-P installations and cleaning procedures shall be in accordance with 3-A Accepted Practices for Permanently Installed Product and Solution Pipelines and Cleaning Systems Used in Milk and Milk Product Processing Plants. The established cleaning procedure shall be posted and followed. Following the circulation of the cleaning solution the equipment and lines shall be thoroughly rinsed with lukewarm water and checked for effectiveness of cleaning. All caps, plugs, special fittings, valve seats, cross ends, pumps, plates, and tee ends shall be opened or removed and brushed clean. Immediately prior to starting the product flow, the product contact surfaces shall be given bactericidal treatment;

c. Milk cans and can washers. Milk cans and lids shall be cleaned, sanitized, and dried before returning to producers. Inspection and repair or replacement of cans and lids shall be adequate to exclude from use cans and lids showing open seams, cracks, rust condition, milkstone, or any unsanitary condition;

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- d. Washers shall be maintained in a clean and satisfactory operating condition and kept free from accumulation of scale or debris which will adversely affect the efficiency of the washer;
 - e. Milk transport tanks. A covered or enclosed wash dock and cleaning and sanitizing facilities shall be available to each plant that receives or ships any milk in tanks. Milk transport tanks, sanitary piping, fittings, and pumps shall be cleaned and sanitized at least once each day, after use: provided that if they are not to be used immediately after emptying a load of milk, they shall be washed promptly after use and given sanitizing treatment immediately before use. After being washed and sanitized, each tank shall be identified by a tag attached to the outlet valve bearing the following information: Plant and specific location where cleaned, date and time of day of washing and sanitizing, and name of person who washed and name of person who sanitized the tank. The tag shall not be removed until the tank is again washed and sanitized;
 - f. Building. Each window, glass, partition, and skylight shall be washed as often as necessary to keep them clean. Cracked or broken glass shall be replaced promptly. The walls, ceilings, and doors shall be kept free from soil and unsightly conditions. The shelves and ledges shall be keep free from dust and debris. The material picked up by the vacuum cleaners shall be disposed of by burning or other proper methods to destroy any insects that might be present;
11. Insect and rodent control program. Each person who holds a permit to manufacture dairy products shall initiate and maintain an insect and rodent control program that complies with the following requirements:
- a. In addition to any commercial pest control service, if one is utilized, a specially designated employee shall be made responsible for the performance of a regularly scheduled insect and rodent control program;
 - b. Poisonous substances, insecticides, and rodenticides shall be properly labeled, and shall be handled, stored, and used in such a manner as not to create a public health hazard.

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12. Plant records. Each person who holds a permit to manufacture dairy products shall create, record, and maintain plant records in compliance with the following requirements:

a. Adequate plant records shall be maintained of all required tests on all raw milk receipts:

b. All records shall be available for examination by the inspector at all reasonable times:

c. The following are the records which shall be maintained for examination at the plant or receiving station where performed:

(1) Pasteurization recorder charts. Retain for 12 months;

(2) Water supply test certificate. Retain current copy for 6 months; and

(3) Employee health certificate. Retain most recent copy until employee is no longer employed by plant;

d. Any milk or dairy product shall be deemed to have not been pasteurized if records of the pasteurization process are absent or incomplete;

e. Any milk or dairy product which has not been pasteurized and pasteurization was intended by the permit holder or required by this chapter shall be deemed a public health hazard and may not be offered for sale, sold, or provided to any person for human consumption;

13. Packaging and general identification. Each person who holds a permit to manufacture dairy products shall package and identify all products in compliance with the following requirements:

a. Containers. The size, style, and type of packaging used for dairy products shall be commercially acceptable containers and packaging materials which will satisfactorily cover and protect the quality of the contents during handling, shipping, and storage in regular channels of trade and under normal conditions of handling. The weights and shape within each size or style shall be as nearly uniform as is practical;

b. Packaging materials for dairy products shall be selected which will provide sufficiently low permeability to air and vapor to prevent the formation of mold growth and surface oxidation. In addition, the wrapper shall be resistant to puncturing, tearing, cracking, or breaking under

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normal conditions of handling, shipping, and storage. When special-type packaging is used, the instructions of the manufacturer shall be closely followed regarding its application and method of closure:

c. Packaging and repackaging. Packaging dairy products or cutting and repackaging all styles of dairy products shall be conducted under rigid sanitary conditions. The atmosphere of the packaging rooms, the equipment, and packaging material shall be practically free from mold and bacterial contamination. Methods for checking the level of contamination shall be as prescribed by the sixteenth edition of Standard Methods For The Examination Of Dairy Products:

d. General identification. All commercial bulk packages containing dairy products manufactured under the provisions of this subsection shall be legibly marked with the name of the product, net weight, name and address of processor or manufacturer or other assigned plant identification, lot number, and meet the requirements of 2 VAC 5-531-50. Dairy products in final package form intended for distribution to the final consumer shall be legibly marked with the name of the product, net weight, plant identification number if one has been assigned, name and address of packer, manufacturer, or distributor, and the requirements of 2 VAC 5-531-50:

14. Storage of finished dairy products. Each person who holds a permit to manufacture dairy products shall store finished dairy products in compliance with the following requirements:

a. Dry storage. The dairy product shall be stored off of the floor at least 18 inches from the wall in aisles, rows, or subsections and lots, in such a manner to be orderly and easily accessible for inspection. Each room shall be kept clean. Care shall be taken in the storage of any other product foreign to dairy products in the same room, in order to prevent impairment or damage to the dairy product from mold, absorbed odors, rodents, vermin or insect infestation. Control of humidity and temperature shall be maintained at all times,

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consistent with good manufacturing practices, to prevent conditions detrimental to the product and container:

b. Refrigerated storage. The finished dairy product shall be placed on shelves, dunnage, or pallets and properly identified. It shall be stored under temperatures that will best maintain the quality of the dairy product. The dairy product may not be exposed to anything from which it might absorb any foreign odors or become contaminated:

D. Each person who holds a dairy plant permit for manufacturing, processing and packaging instant nonfat dry milk, nonfat dry milk, dry whole milk, dry buttermilk, dry whey, or other dry dairy products shall comply with all of the following requirements:

1. Rooms and compartments. Dry storage of dairy product. Storage rooms for the dry storage of product shall be adequate in size, kept clean, orderly, free from rodents, insects, and mold, and maintained in good repair. They shall be adequately lighted and ventilated. The ceilings, walls, beams, and floors shall be free from structural defects and inaccessible false areas which may harbor insects:

2. Packaging room for bulk products. A separate room or area shall be provided for filling bulk bins, drums, bags, or other bulk containers and shall be constructed in accordance with subsections 2 VAC 5-531-60(C)(2)(a) through 2 VAC 5-531-60(C)(2)(n). The number of control panels and switchboxes in this area shall be kept to a minimum. Control panels shall be mounted a sufficient distance from the walls to facilitate cleaning or shall be mounted in the wall and provided with tight-fitting removable doors to facilitate cleaning. An adequate exhaust system shall be provided to minimize the accumulation of dry dairy product dust within the packaging room and, where needed, a dust collector shall be provided and properly maintained to keep roofs and outside areas free of dry dairy product. Only the quantity of packaging materials that are used within one day's operation may be kept in the packaging area. These materials shall be kept on metal racks or tables at least six inches off the floor. Unnecessary fixtures, equipment, or

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false areas which may collect dust and harbor insects, shall not be allowed in the packaging room;

3. Hopper or dump room. A separate room shall be provided for the transfer of bulk dry dairy products from bags or drums to the hoppers and conveyors which lead to the fillers. This room shall be constructed in accordance with 2 VAC 5-531-60(C)(2)(a) through 2 VAC 5-531-60(C)(2)(n). Areas and facilities provided for the transfer of dry dairy products from portable bulk bins will be acceptable if gasketed surfaces or direct connections are used that appreciably eliminate the escape of product into the area;

4. Repackaging room. A separate room shall be provided for the filling of small packages and shall be constructed in accordance with 2 VAC 5-531-60(C)(2)(a) through 2 VAC 5-531-60(C)(2)(n);

5. Equipment and utensils. General construction, repair, and installation. All equipment and utensils necessary to the manufacture of dry dairy products, including pasteurizer, timing pump or timing device, flow diversion valve and recorder controller, shall meet the general requirements as outlined in subsection 2 VAC 5-531-60(C)(3). In addition, for certain other equipment the following requirements shall be met;

a. Preheaters. Each preheater shall be of stainless steel or other equally corrosion-resistant material, easily cleanable, accessible for inspection, and shall be equipped with suitable automatic temperature controls;

b. Hotwells. Each hotwell shall be enclosed or covered and equipped with indicating thermometers either in the hotwell or in the hot milk inlet line to the hotwell and, if used for holding high heat products, they shall also have recorders;

c. Evaporators or vacuum pans. Each open-type evaporator and each vacuum pan shall be equipped with an automatic condenser water level control, barometric leg, or constructed to prevent water from entering the product, and shall meet all applicable 3-A Sanitary

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Standards. When enclosed-type condensers are used, no special controls are needed to prevent water from entering the product:

d. Surge tanks. If surge tanks are used for hot milk and temperatures of product including foam being held in the surge tank during processing are not maintained at a minimum of 150° F, then two or more surge tanks shall be installed with cross connections to permit flushing and cleaning during operation. Covers easily removable for cleaning shall be provided and used at all times.

e. High pressure pumps and lines. High pressure lines may be cleaned in place and shall be of such construction that deadends, valves, and the high pressure pumps can be disassembled for hand cleaning. Each high pressure pump shall comply with 3-A Sanitary Standards for Homogenizers and Reciprocating Pumps:

f. Dryers. Spray dryers. Each spray dryer shall be of a continuous discharge type and all product contact surfaces shall be of stainless steel or other equally corrosion-resistant material. Each joint and seam in the product contact surface shall be welded and ground smooth. Each dryer shall be constructed to facilitate ease in cleaning and inspection. Sight glasses or ports of sufficient size shall be located at strategic positions. Each dryer shall be equipped with suitable air intake filters and with air intake and exhaust recording thermometers. The filter system shall consist of filtering media or devices that will effectively, and in accordance with good manufacturing practices, prevent the entrance of foreign substances into the drying chamber. The filtering system shall be cleaned or component parts replaced as often as necessary to maintain a clean and adequate air supply. In each gas-fired dryer, precautions shall be taken to ensure complete combustion. Air shall be drawn into the dryer from sources free from odors, smoke, dust, or dirt:

g. Roller dryers. The drums of each roller dryer shall be smooth, readily cleanable, and free of pits and rusts. The knives shall be maintained in such condition so as not to cause scoring of the drums:

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- (1) The end boards shall have an impervious surface and be readily cleanable. They shall be provided with a means of adjustment to prevent leakage and accumulation of milk solids. The stack, hood, the drip pan inside of the hood and related shields shall be constructed of stainless steel and be readily cleanable. The lower edge of the hood shall be constructed to prevent condensate from entering the product zone. The hood shall be properly located and the stack of adequate capacity to remove the vapors. The stack shall be closed when the dryer is not in operation. The augers shall be of stainless steel or properly plated and readily cleanable. The auger troughs and related shields shall be of stainless steel and be readily cleanable. All air entering the dryer room shall be filtered to eliminate dust and dirt. The filter system shall consist of filtering media or a device that will effectively, and in accordance with good manufacturing practices, prevent the entrance of foreign substances into the drying room. The filtering system shall be cleaned or component parts replaced as often as necessary to maintain a clean and adequate air supply. All dryer adjustments shall be made and the dryer operating normally before food grade powder can be collected from the dryer:
- h. Collectors and conveyors. Each collector shall be made of stainless steel or equally noncorrosive material and constructed to facilitate cleaning and inspection. Each filter sack collector, if used, shall be in good condition and the system shall be of such construction that all parts are accessible for cleaning and inspection. Each conveyor shall be of stainless steel or equally corrosion-resistant material and shall be constructed to facilitate thorough cleaning and inspection:
- i. Dry dairy product cooling equipment. Cooling equipment shall be provided with sufficient capacity to cool the dry dairy product to 110° F or lower immediately after removal from the dryer and prior to packaging. If bulk bins are used, the dry dairy product shall be cooled to approximately 90° F but shall be not more than 110° F. A dry air supply with effective filtering shall be provided where air cooling and conveying is used:

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- j. Special treatment equipment. All special equipment such as instant systems, flakers, pulverizers, or hammer mills used to further process dry dairy products shall be of sanitary construction, and all parts shall be accessible for cleaning and inspection;
- k. Sifters. Each sifter used for dry milk and dry dairy products shall meet all the requirements contained in 3-A Sanitary Standards for Sifters for Dry Milk and Dry Milk Products. The mesh size of sifter screen used for various dry dairy products shall be those recommended in the appendix of the 3-A Sanitary Standards for Sifters for Dry Milk and Dry Milk Products;
- l. Portable and stationary bulk bins. Each bulk bin shall be constructed of stainless steel, aluminum, or other equally corrosion resistant materials, free from cracks and seams, and must have an interior surface that is relatively smooth and easily cleanable. All product contact surfaces shall be easily accessible for cleaning;
- m. Automatic sampling device. If automatic sampling devices are used, they shall be constructed in such a manner to prevent contamination of the product, and all parts must be readily accessible for cleaning;
- n. Dump hoppers, screens, mixers, and conveyors. The product contact surfaces of dump hoppers, screens, mixers, and conveyors which are used in the process of transferring dry products from bulk containers to fillers for small packages or containers, shall be of stainless steel or equally corrosion-resistant material and designed to prevent contamination. All parts shall be accessible for cleaning. Each dump hopper shall be of such height above floor level to prevent foreign material or spilled product from entering the hopper;
- o. Filler and Packaging equipment. All filling and packaging equipment shall be of sanitary construction and all parts, including valves and filler heads, accessible for cleaning;
- p. Heavy-duty vacuum cleaners. Each plant handling dry dairy products shall be equipped with a heavy-duty industrial vacuum cleaner. Regular scheduling shall be established for its use in vacuuming applicable areas;

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6. Clothing and shoe covers. Clean clothing and shoe covers shall be provided exclusively for the purpose of cleaning the interior of the drier when it is necessary to enter the drier to perform the cleaning operation;
7. Operations and operating procedures.
 - a. Pasteurization.
 - (1) All milk, buttermilk, and whey used in the manufacture of dry dairy products shall be pasteurized at the plant where dried, except that condensed whey and acidified buttermilk containing 40 percent or more solids may be transported to another plant for drying without re-pasteurization. Milk or skim milk to be used in the manufacture of nonfat dry milk shall be heated prior to condensing to at least the minimum pasteurization temperature of 161° F for at least 15 seconds or its equivalent in bacterial destruction. Condensed skim milk made from pasteurized skim milk may be transported to a drying plant, provided that it shall be effectively re-pasteurized at the drying plant, prior to drying, at not less than 175° F for 25 seconds or its equivalent in bacterial destruction;
 - (2) All buttermilk or cream from which it is derived shall be pasteurized prior to condensing at a temperature of 185° F for 15 seconds or its equivalent in bacterial destruction;
 - (3) All cheese whey or milk from which it is derived shall be pasteurized prior to condensing at a temperature of 161° F for 15 seconds or its equivalent in bacterial destruction;
 - b. Condensed surge supply. Each surge tank or balance tank used between the evaporator and dryer shall be used to hold only the minimum amount of condensed product necessary for a uniform flow to the dryer. Such tanks holding product at temperatures below 150° F shall be completely emptied and washed after each four hours of operation or less. Alternate tanks shall be provided to permit continuous operation during washing of tanks;
 - c. Condensed storage tanks;

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- (1) Excess production of condensed dairy product over that which the dryer will take continuously from the pans shall be bypassed through a cooler into a storage tank at 50° F or lower and held at this temperature until used;
 - (2) Dairy product cut-off points shall be made at least every 24 hours and the tank completely emptied, washed, and sanitized before reuse;
- d. Drying. Each dryer should be operated at not more than the manufacturer's rated capacity for the highest-quality dry product consistent with the most efficient operation. This does not preclude the remodeling or redesigning of dryers after installation when properly engineered and designed. The dry products shall be removed from the drying chamber continuously during the drying process;
- e. Cooling dry products. Prior to packaging and immediately following removal from the drying chamber the dry product shall be cooled to a temperature not exceeding 110° F;
- f. Packaging, repackaging and storage.
- (1) Containers. Packages or containers used for the packaging of nonfat dry milk or other dry dairy products shall be any clean, sound, commercially accepted container or packaging material which will satisfactorily protect the contents through the regular channels of trade, without significant impairment of quality with respect to flavor, wholesomeness, or moisture content under normal conditions of handling. In no instance will containers which have previously been used for nonfood items or food which would be deleterious to the dairy product be allowed to be used for the bulk handling of dairy products;
 - (2) Filling. Empty containers shall be protected at all times from possible contamination, and containers which are to be lined shall not be prepared more than one hour in advance of filling. Every precaution shall be taken during the filling operation to minimize product dust and spillage. When necessary a mechanical shaker shall be provided; the tapping or pounding of containers shall be prohibited. The containers shall be closed

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immediately after filling, and the exteriors shall be vacuumed or brushed when necessary to render them practically free of product remnants before being transferred from the filling room to the palleting or dry storage areas.

(3) Repackaging. The entire repackaging operation shall be conducted in a sanitary manner with all precautions taken to prevent contamination and to minimize dust. All exterior surfaces of individual containers shall be practically free of product before overwrapping or packing in shipping containers. The flow shall be kept free of dust accumulation, waste, cartons, liners, or other refuse. Conveyors, packaging and carton-making equipment shall be vacuumed frequently during the operating day to prevent the accumulation of dust. No bottles or glass materials of any kind shall be permitted in the repackaging or hopper room. The inlet openings of all hoppers and bins shall be of minimum size, screened, and placed well above the floor level. The room and all packaging equipment shall be cleaned as often as necessary to maintain a sanitary operation. Close attention shall be given to cleaning points of equipment where residues of the dry product may accumulate. A thorough cleanup, including windows, doors, walls, light fixtures, and ledges, shall be performed as frequently as is necessary to maintain a high standard of cleanliness and sanitation. All waste dry dairy products including dribble product at the fillers shall be identified as not for human consumption and destroyed or used as animal feed;

(4) Storage.

(a) Product. All packaged dry dairy product shall be stored or so arranged in aisles, rows, or subsections and lots at least 18 inches from any wall and in such a manner to be orderly, easily accessible for inspection and for cleaning of the room. All bags and small containers of product shall be placed on pallets elevated approximately six inches from the floor. The storage room shall be kept clean and dry and all openings protected against entrance of insects and rodents;

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- (b) Supplies. All supplies shall be placed on dunnage or pallets and arranged in an orderly manner for accessibility and cleaning of the room. Supplies shall be kept enclosed in their original wrapping material until used. After removal of supplies from their original containers, they shall be kept in an enclosed metal cabinet, bin, or on shelving and if supplies are not enclosed they shall be protected from powder and dust or other contamination. The room shall be vacuumed and kept clean and orderly;
- (5) Product adulteration. All necessary precautions shall be taken throughout the entire operation to prevent the adulteration of one product with another. The commingling of one type of liquid or dry product with another shall be considered an adulteration of that product. This does not prohibit the normal standardization of like products in accordance with good manufacturing practices or the production of specific products for special uses, provided applicable labeling requirements are met;
- (6) Checking quality. All milk, dairy products, and dry dairy products shall be subject to inspection and analysis by the dairy plant for quality and condition throughout each processing operation. Line samples shall be taken periodically as an aid to quality control in addition to the regular routine analysis made on the finished products;
- (7) Requirements for instant nonfat dry milk:
- (a) Sampling and testing. All instant nonfat dry milk offered for sale shall be sampled and tested by the regulatory agency at least once each month to ensure that the product meets the requirements of subsection 2 VAC 5-531-60(D)(7)(f)(8). In addition, the dry milk plant shall have each sub-lot of approximately 4,000 pounds tested and analyzed prior to being packaged or offered for sale. Instant nonfat dry milk not meeting the requirements of subsection 2 VAC 5-531-60(D)(7)(f)(8) shall not be offered as Extra Grade;
- (8) Requirements for Extra Grade instant nonfat dry milk:

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- (a) Flavor and odor. The flavor and odor shall be sweet, pleasing, and desirable but may possess the following flavors to a slight degree: Chalky, cooked, feed, flat;
 - (b) Physical appearance. The physical appearance shall possess a uniform white color to light cream color; shall be reasonably free-flowing and free from lumps except those that readily break up with very slight pressure;
 - (c) Bacterial estimate. The standard plate count shall not be more than 10,000 per gram;
 - (d) Coliform count. The coliform count shall not be more than 10 per gram;
 - (e) Milkfat content. The milkfat shall not be more than 1.25 percent;
 - (f) Moisture count. The moisture shall not be more than 4.5 percent;
 - (g) Scorched particle content. Scorched particles shall not be more than 15 mg;
 - (h) Solubility index. The solubility index shall not be more than 1 ml;
 - (i) Titrate acidity. The titrate acidity shall not be more than 0.15 percent;
 - (j) Dispersibility. The dispersibility shall not be less than 85 percent by the Modified Moats-Dabbah Method;
 - (k) Direct microscopic clump count. The direct microscopic clump count shall not be more than 75 million per gram;
- (9) Cleaning of dryers, conveyors, sifters, and storage bins. Each dryer, conveyor, sifter, and storage bin shall be cleaned as often as is necessary to maintain the equipment in a clean and sanitary condition. The kind of cleaning procedure either wet or dry and the frequency of cleaning shall be based upon observation of actual operating results and conditions;
- (10) Insect and rodent control program. In addition to any commercial pest control service, if one is utilized, a specially designated employee shall be made responsible for the performance of an effective insect and rodent control program. The insect and rodent

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control program shall be considered effective only if evidence of insects and rodents is absent on inspection of plant premises and facilities;

E. Each person who holds a permit to manufacturer dairy products and who manufactures, processes, or packages butter and related products shall comply with the following requirements:

1. Rooms and compartments.

a. Coolers and freezers. The coolers and freezers shall be equipped with facilities for maintaining proper temperature and humidity conditions, consistent with good manufacturing practices for the applicable product, to protect the quality and condition of the products during storage or during tempering prior to further processing. Coolers and freezers shall be kept clean, orderly, free from insects, rodents, and mold, and maintained in good repair. They shall be adequately lighted and proper circulation of air shall be maintained at all times. The floors, walls, and ceilings shall be of such construction to permit thorough cleaning;

b. Churn rooms. Churn rooms in addition to proper construction and sanitation shall be so equipped that the air is kept free from odors and vapors and extreme temperatures by means of adequate ventilation and exhaust systems or air conditioning and heating facilities;

c. Print and bulk packaging rooms. Rooms used for packaging print or bulk butter and related products shall, in addition to proper construction and sanitation, provide an atmosphere relatively free from mold (no more than 10 mold colonies per cubic foot of air), dust, or other airborne contamination and be maintained at a reasonable room temperature;

d. Equipment and utensils.

(1) General construction, repair, and installation. All equipment and utensils necessary to the manufacture of butter and related products shall meet the general requirements specified in subsection 2 VAC 5-531-60(C)(3). In addition, for certain other equipment, the following requirements shall be met;

(2) Continuous churn. All product contact surfaces shall be of noncorrosive material. All nonmetallic product contact surfaces shall comply with 3-A Standards for Multiple-Use

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Rubber and Rubber-Like Materials Used as Product Contact Surfaces in Dairy Equipment and 3-A Standards for Multiple-Use Plastic Materials Used as Product Contact Surfaces for Dairy Equipment. All product contact surfaces shall be readily accessible for cleaning and inspection:

(3) Conventional churn. Churns shall be constructed of aluminum, stainless steel, or other equally corrosion-resistant metal, free from cracks, and in good repair. All gasket material shall be fat resistant, nontoxic, and reasonably durable. Seals around the doors shall be tight:

(4) Bulk butter trucks, boats, and packers. Bulk butter trucks, boats, and packers shall be constructed of aluminum, stainless steel or other equally corrosion resistant metal, free from cracks and seams and must have a surface that is relatively smooth and easily cleanable:

(5) Butter, frozen or plastic cream melting machine. Shavers, shredders, or melting machines used for rapid melting of butter, frozen or plastic cream shall be of stainless steel or other equally corrosion resistant metal, sanitary construction, and readily cleanable:

(6) Printing equipment. All printing equipment shall be designed to be readily demountable for cleaning of product contact surfaces. All product contact surfaces shall be aluminum, stainless steel, or other equally corrosion resistant metal, or plastic, rubber, and rubber like material which meet 3-A Sanitary Standards, except that conveyors may be constructed of material which can be cleaned and maintained in good repair:

(7) Brine tanks. Brine tanks used for the treating of parchment liners shall be constructed of noncorrosive material and have a safe and adequate means of heating the salt solution to a temperature sufficient to bring the salt solution to a boil and to maintain the boiling salt solution continuously thereafter for the treatment of the parchment liners. The brine tank shall be provided with a drainage outlet:

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- (8) Starter vats. Bulk starter vats shall be of stainless steel or equally corrosion-resistant metal and constructed according to applicable 3-A Sanitary Standards. The vats shall be in good repair, equipped with tight-fitting lids, and have effective temperature controls;
- e. Operations and operating procedures.
- (1) Pasteurization. The milk or cream shall be pasteurized at the plant where the milk or cream is processed into the finished product.
- (2) Cream for butter making;
- (a) The cream for butter-making shall be pasteurized at a temperature of not less than 165° F and held continuously in a vat at such temperature for not less than 30 minutes; or pasteurized by the HTST method at a minimum temperature of not less than 185° F for not less than 15 seconds; or by any other equivalent time and temperature combination. Additional heat treatment above the minimum pasteurization requirement is advisable to insure improved keeping-quality characteristics;
- (b) Adequate pasteurization control shall be used and the diversion valve shall be set to divert at no less than 185° F with a 15 second holding time or its equivalent in time and temperature to assure pasteurization. If the vat or holding method of pasteurization is used, vat covers shall be closed prior to the holding period to ensure temperature of air space reaching the minimum temperature before holding time starts. Covers shall also be kept closed during the holding and cooling period;
- (3) Cream for plastic or frozen cream. The pasteurization of cream for plastic or frozen cream shall be accomplished in the same manner as in 2 VAC 5-531-60(E)(1)((e)(2)(a) above, except, that the temperature for the vat method shall be not less than 170° F for not less than 30 minutes, or pasteurized by the HTST method at a minimum temperature of not less than 190° F for not less than 15 seconds;

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(4) Composition and wholesomeness. All ingredients used in the manufacture of butter and related products shall be subject to inspection and shall be wholesome and practically free from impurities. Chlorinating facilities shall be provided for butter wash water and all other necessary precautions shall be taken to prevent contamination of products. All finished products shall comply with the requirements of the Federal Food, Drug, and Cosmetic Act regarding their composition and wholesomeness;

(5) Containers. Containers used for the packaging of butter and related products shall be commercially acceptable containers or packaging material that will satisfactorily protect the quality of the contents in regular channels of trade. Caps or covers which extend over the lip of the container shall be used on all cups or tubs containing two pounds or less, to protect the product from contamination during subsequent handling;

(6) Liners and wrappers.

(a) Supplies of parchment liners, wrappers, and other packaging material shall be protected against dust, mold, and other possible contamination;

(b) Prior to use, parchment liners for bulk butter packages shall be completely immersed in a boiling salt solution in a suitable container constructed of stainless steel or other equally noncorrosive material. The liners shall be maintained in the solution for not less than 30 minutes. The solution should consist of at least 15 pounds of salt for every 85 pounds of water and shall be strengthened or changed as frequently as necessary to keep the solution full strength and in good condition;

(c) Other liners such as polyethylene shall be treated or handled in such a manner to prevent contamination of the liner prior to filling;

(7) Filling bulk butter containers. The lined butter containers shall be protected from possible contamination prior to filling;

(8) Printing and packaging. Printing and packaging of consumer size containers of butter shall be conducted under sanitary conditions;

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(9) General identification. Commercial bulk shipping containers shall be legibly marked with the name of the product, net weight, name and address of manufacturer, processor, or distributor or other assigned plant identification (manufacturer's lot number, churn number, etc.) and any other identification that may be required. Packages of plastic or frozen cream shall be marked with the percent of milkfat;

(10)Storage of finished product in coolers. All products shall be kept under refrigeration at temperatures of 45° F or lower after packaging and until ready for distribution or shipment. The products shall not be placed directly on floors or exposed to foreign odors or conditions, such as drippage due to condensation, which might cause package or product damage;

(11)Storage of finished product in freezer;

(a) Sharp freezers. Plastic cream or frozen cream intended for storage shall be placed in quick freezer rooms immediately after packaging for rapid and complete freezing within 24 hours. The packages shall be piled or spaced in such a manner that air can freely circulate between and around the packages. The rooms shall be maintained at -10° F or lower and shall be equipped to provide sufficient high-velocity air circulation for rapid freezing. After the products have been completely frozen, they may be transferred to a freezer storage room for continued storage;

(b) Freezer storage;

(1) The room shall be maintained at a temperature of 0° F or lower. Adequate air circulation is desirable;

(2) Butter intended to be held for more than 30 days shall be placed in a freezer room as within one hour after packaging. If not frozen, before being placed in the freezer, the packages shall be spaced in a manner to permit rapid freezing and re-piled, if necessary, at a later time;

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F. Each person who holds a permit to manufacture dairy products and manufactures or packages any cheese shall comply with the following requirements:

1. Rooms and compartments:

- a. Starter room. If starter cultures are propagated in the dairy plant separate and dedicated starter rooms or areas shall be provided that are properly equipped and maintained for the propagation and handling of starter cultures. All necessary precautions shall be taken to prevent contamination of the starter, room, equipment, and the air therein;
- b. Make room. A separate room in which the cheese is manufactured shall be provided in each dairy plant that is of adequate size with the cheese vats adequately spaced to permit movement around the cheese vats and presses for proper cleaning and satisfactory working conditions. Ventilation sufficient to prevent condensation shall be provided;
- c. Drying room. If cheese is to be paraffined, a separate drying room of adequate size shall be provided in the dairy plant to accommodate the maximum possible production of cheese on any given day for the specific dairy plant. Adequate shelving and air circulation shall be provided for proper drying. Suitable temperature and humidity control facilities shall be provided;
- d. Paraffining room. For rind cheese, a separate room or compartment in the dairy plant shall be provided for paraffining and boxing the cheese. The room or compartment shall be of adequate size to accommodate the maximum possible amount of cheese needing to be paraffined on any given day for the specific dairy plant and the temperature of the paraffining room shall be maintained within five degrees Fahrenheit, plus or minus of the temperature of the drying room to avoid sweating of the cheese prior to paraffining;
- e. Rindless block wrapping area. For rindless blocks of cheese a separate room shall be provided in the dairy plant for wrapping and boxing of the cheese. The room shall be free from dust, condensation, mold, or other conditions which may contaminate the surface of the cheese or contribute to an unsatisfactory packaging of the cheese;

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- f. Coolers or curing rooms. Separate curing rooms or coolers shall be provided in each dairy plant where cheese is held for curing or storage. Each cooler and curing room shall be clean and maintained at the proper uniform temperature and humidity to adequately protect the cheese. Proper circulation of air shall be maintained at all times. The rooms shall be free from rodents, insects, and pests. The shelves shall be kept clean and dry;
 - g. Cutting and packaging rooms. When packages of cheese are cut and wrapped, separate rooms shall be provided in the dairy plant: (i) for the cleaning and preparation of the bulk cheese; and (ii) for the cutting and wrapping operation. The rooms shall be well lighted, ventilated, and provided with filtered air. Air movement shall be outward to minimize the entrance of unfiltered air into the cutting and packaging room;
2. Equipment and utensils;
- a. General construction, repair, and installation. All equipment and utensils necessary to the manufacture of cheese and related products shall meet the same general requirements as outlined in subsection 2 VAC 5-531-60(C)(3). In addition, for certain other equipment the following requirements shall be met;
 - b. Starter vats. Bulk starter vats shall be of stainless steel or equally corrosion-resistant metal and shall be in good repair, equipped with tight-fitting lids and have adequate temperature controls such as valves and indicating and/or recording thermometers. All starter vats shall be constructed according to the applicable 3-A Sanitary Standards;
 - c. Cheese vats:
 - (1) The outer jacket of vats used for making cheese shall be of metal construction, smooth, corrosion-resistant, and easily cleanable with adequate jacket capacity for uniform heating. The inner liner shall be minimum 16-gage stainless steel or other equally corrosion-resistant metal, properly pitched from side to center and from rear to front for adequate drainage. The inner liner shall be smooth, free from excessive dents or creases and shall extend over the edge of the outer jacket. The outer jacket shall be constructed

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of stainless steel or other metal which can be kept clean and sanitary. The junction of the liner and outer jackets shall be constructed to prevent milk or cheese from entering the inner jacket.

(2) The vat shall be equipped with a sanitary outlet valve. Adjustable valves shall be provided and properly maintained to control the application of heat to the vat;

d. Mechanical agitators. The mechanical agitators shall be of sanitary construction. The carriage and track shall be constructed to prevent the dropping of dirt or grease into the vat. Metal blades, forks, or stirrers shall be constructed of stainless steel or of material approved in the 3-A Sanitary Standards for Multiple-Use Rubber and Rubber-Like Materials Used as Product Contact Surfaces in Dairy Equipment or 3-A Sanitary Standards for Multiple-Use Plastic Materials Used as Product Contact Surfaces for Dairy Equipment and shall be free from rough or sharp edges which might scratch the equipment or remove metal particles;

e. Curd mill and miscellaneous equipment. Knives, hand rakes, shovels, paddles, strainers, and miscellaneous equipment shall be stainless steel or of material approved in the 3-A Sanitary Standards for Multiple-Use Rubber and Rubber-Like Materials Used as Product Contact Surfaces in Dairy Equipment or 3-A Sanitary Standards for Multiple-Use Plastic Materials Used as Product Contact Surfaces for Dairy Equipment. The product contact surfaces of the curd mill shall be of stainless steel. All pieces of equipment shall be constructed so that they can be kept clean. The wires in the curd knives shall be stainless steel, kept tight, and kept in good repair;

f. Hoops, forms, and followers. The hoops, forms, and followers shall be constructed of stainless steel or heavy tinned steel. If tinned, they shall be kept tinned and free from rust. All hoops, forms, and followers shall be kept in good repair. Drums or other special forms used to press and store cheese shall be clean and sanitary;

g. Press. The cheese press shall be constructed of stainless steel and all joints welded and all surfaces, seams, and openings readily cleanable. The pressure device shall be the

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continuous type. Press cloths shall be maintained in good repair and in a sanitary condition.

Single-service press cloths shall be used only once:

h. Rindless cheese press. The press used to heat seal the wrapper applied to rindless cheese shall have square interior corners, a reasonably smooth interior surface, and have controls that shall provide uniform pressure and heat to all surfaces:

i. Paraffin tanks. The metal tank shall be adequate in size, have wood rather than metal racks to support the cheese, have heat controls, and an indicating thermometer. The cheese wax shall be kept clean:

3. Operations and operating procedures

a. Cheese from pasteurized milk:

(1) If the cheese is labeled as pasteurized, the milk from which it is made shall be pasteurized by subjecting every particle of milk to a minimum temperature of 161° F for not less than 15 seconds in High Temperature Short Time Equipment or the milk shall be pasteurized by subjecting every particle of milk to a minimum temperature of 145° F for not less than 30 minutes in vat pasteurization equipment:

(2) HTST pasteurization units shall be equipped with the proper controls and equipment to assure pasteurization. If the milk is held for more than two hours between time of receipt or heat treatment and setting, it shall be cooled to 45° F or lower until time of setting:

(3) Cheese from unpasteurized milk. If the cheese is labeled as "heat treated," "unpasteurized," "raw milk," or "for manufacturing," the milk may be raw or heated at temperatures below pasteurization. If the milk is held for more than two hours between time of receipt or heat treatment and setting, it shall be cooled to 45° F or lower until time of setting:

(4) Whey disposal:

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- (a) Adequate sanitary facilities shall be provided for the disposal of whey. If outside, necessary precautions shall be taken to minimize flies, insects, and development of objectionable odors:
- (b) Whey or whey products intended for human food shall at all times be handled in a sanitary manner in accordance with the procedures of this chapter for handling of milk and dairy products:
- (5) Packaging and repackaging. Packaging rindless cheese or cutting and repackaging all styles of bulk cheese shall be conducted under sanitary conditions. The atmosphere of the packaging rooms, the equipment, and the packaging material shall be practically free from mold and bacterial contamination:
- (6) General identification. Each bulk cheese shall be legibly marked with the name of the product, code or date of manufacture, vat number, and officially designated code number or name and address of manufacturer. Each consumer sized container shall be plainly marked with the name and address of the manufacturer, packer, or distributor, net weight of the contents, name of product, and code or date of manufacture:
- (7) Required Records for the aging of cheese:
 - (a) Adequate records shall be maintained for the aging of all cheese to demonstrate that each and every unit and lot of the cheese has been held at or above 35 ° F for a minimum of 60 days or for the number of days specified in the standards of identity for the particular variety of cheese:
 - (b) Each and every unit and lot of cheese shall be identified or coded in a way to allow the traceback of the cheese from the final consumer to the dairy processor and provide a direct means of determining the conditions under which it was aged:
 - (c) The following records shall be maintained to document the aging of each batch or lot or unit of cheese produced:
 - (1) The date and time each lot of cheese is produced:

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- (2) The number and size or weight of each unit of cheese made from each lot;
 - (3) The production code or identification assigned for each specific lot of cheese;
 - (4) The date and time for each unit and lot of cheese that the aging process was started;
 - (5) The date and time for each unit and lot of cheese that the aging process was ended;
 - (6) The signature of the person recording each entry in the records;
 - (7) The aging temperature for each cheese;
 - (8) A daily log for each aging room or aging area which records the date, time, and actual temperature of the aging room or aging area a minimum of once each day;
- (d) The absence of complete records documenting that the aging of any unit or lot of cheese was continuously in compliance with the time and temperature requirements for aging of the cheese shall deem the cheese to not have been properly aged;
- (e) Any cheese which has not been properly aged shall be deemed a public health hazard and may not be offered for sale, sold, or provided to any person for human consumption;
- G. Each person who holds a permit to manufacture dairy products and manufactures, processes or packages pasteurized process cheese and related products shall comply with the following requirements:
- 1. Equipment and utensils:
 - a. General construction, repair, and installation. The equipment and utensils used for the handling and processing of cheese products shall be as specified in 2 VAC 5-531-60(C)(3). In addition, for certain other equipment the following requirements shall be met;
 - b. Conveyors. Conveyors shall be constructed of material which can be properly cleaned, will not rust, or otherwise contaminate the cheese and shall be maintained in good repair;

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- c. Grinders or shredders. The grinders or shredders used in the preparation of the trimmed and cleaned natural cheese for the cookers shall be adequate in size. Product contact surfaces shall be of corrosion resistant material and constructed to prevent contamination of the cheese and to allow thorough cleaning of all parts and product contact surfaces;
 - d. Cookers. The cookers shall be the steam jacketed or direct steam type. They shall be constructed of stainless steel or other equally corrosion-resistant material. All product contact surfaces shall be readily accessible for cleaning. Each cooker shall be equipped with an indicating thermometer and a temperature recording device. The recording thermometer stem may be placed in the cooker if satisfactory time charts are used; if satisfactory time charts are not used, the stem shall be placed in the hotwell or filler hopper. Steam check valves on direct steam type cookers shall be mounted flush with the cooker wall, constructed of stainless steel, and designed to prevent the backup of product into the steam line, or the steam line shall be constructed of stainless steel pipes and fittings which can be readily cleaned. If direct steam is applied to the product, only culinary steam shall be used;
 - e. Fillers. The hoppers of each filler shall be covered but the cover may have sight ports. If necessary, the hopper may have an agitator to prevent buildup on side walls. The filler valves and head shall be kept in good repair and capable of accurate measurements;
2. Operations and operating procedures:
- a. Trimming and cleaning. The natural cheese shall be cleaned free of all non-edible portions. Paraffin and bandages, as well as, rind surface, mold, unclean areas, or any other part which is unwholesome or unappetizing shall be removed;
 - b. Cooking the batch. Each batch of cheese within the cooker, including the optional ingredients, shall be thoroughly commingled and the contents pasteurized at a temperature of at least 158° F and held at that temperature for not less than 30 seconds. All necessary precautions shall be taken to prevent the entrance of cheese particles or ingredients after the cooker batch of cheese has reached the final heating temperature. After holding the

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temperature for the required period of time, the hot cheese shall be emptied from the cooker as quickly as possible;

c. Forming containers. Containers either lined or unlined shall be assembled and stored in a sanitary manner to prevent contamination. The handling of containers by filler crews shall be done with extreme care and observance of personal cleanliness. Pre-forming and assembling of pouch liners and containers shall be kept to a minimum and the supply rotated to limit the length of time exposed to possible contamination prior to filling;

d. Filling containers. Hot fluid cheese from the cookers shall be held in hot wells or hoppers to assure a constant and even supply of processed cheese to the filler or slice former. Filler valves shall effectively measure the desired amount of product into the pouch or containers in a sanitary manner and shall cut off sharply without drip or drag of cheese across the opening. An effective system shall be used to maintain accurate and precise weight control. Damaged or unsatisfactory packages shall be removed from production, and the cheese may be salvaged into sanitary containers and added back to cookers, destroyed or sold as animal feed;

H. Each person who holds a permit to manufacturer dairy products and manufactures, processes, or packages evaporated, condensed, or sterilized dairy products shall comply with the following requirements:

1. Equipment and utensils;

a. General construction, repair, and installation. The equipment and utensils used for processing and packaging evaporated, condensed, or sterilized dairy products shall be as specified in 2 VAC 5-531-60(C)(3). In addition, for certain other equipment, the following requirements shall be met;

b. Evaporators and vacuum pans. All equipment used in the removal of moisture from milk or dairy products for the purpose of concentrating the solids shall meet the requirements of 3-A Sanitary Standards for Milk and Milk Products Evaporators and Vacuum Pans. All new or

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used replacements for this type of equipment shall meet the appropriate 3-A Sanitary Standards:

- c. Fillers. Both gravity and vacuum-type fillers shall be of sanitary design, and all product contact surfaces, if metal, shall be made of stainless steel or other equally corrosion-resistant material; except that certain evaporated milk fillers having brass parts may be approved if free from corroded surfaces and kept in good repair. Nonmetallic product contact surfaces shall meet the requirements for 3-A Sanitary Standards for Rubber and Rubberlike Materials or for 3-A Sanitary Standards for Multiple-Use Plastic Materials. Fillers shall be designed so that they will not contaminate or detract from the quality of the product being packaged:
 - d. Batch or continuous in-container sterilizers. Each batch or continuous in-container sterilizer shall be equipped with accurate temperature controls and effective valves for regulating the sterilization process. The equipment shall be maintained in such a manner to ensure control of the length of time of processing and to minimize the number of damaged containers:
 - e. Homogenizers. Homogenizers where applicable shall be used to reduce the size of the fat particles and to evenly disperse them in the product. Homogenizers shall meet all the applicable 3-A Sanitary Standards:
2. Operations and operating procedures:
- a. Preheat, pasteurization. When pasteurization is intended or required by either the vat method, HTST method, or by the Ultra High Temperature (UHT) method it shall be accomplished by systems and equipment meeting the requirements outlined in subsection 2 VAC 5-531-60(C)(3):
 - b. Sterilization. The complete destruction of all living organisms shall be performed in one of the following methods: (a) The complete in-container method, by heating the container and contents to a range of 212° F to 280° F for a sufficient time to sterilize the dairy product; (b) by a continuous flow Ultra High Temperature Short Time (UHTST) process at temperatures

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of 280° F and above for a sufficient time to sterilize the dairy product, then packaged aseptically; or (c) the product is first sterilized according to UHTST methods as in subdivision (b) of this subsection, then packaged and given further heat treatment to complete the sterilization process;

3. Filling containers:

a. The filling of small containers with product shall be done in a sanitary manner. The containers shall not contaminate or detract from the quality of the product in any way. After filling, the container shall be hermetically sealed;

b. Bulk containers for unsterilized product shall be suitable and adequate to protect the product in storage or transit. The bulk container (including bulk tankers) shall be cleaned and sanitized before filling and filled and closed in a sanitary manner;

4. Aseptic filling. A previously sterilized dairy product shall be filled under conditions which prevent contamination of the product by living organisms or spores. The container, prior to being filled, shall be sterilized and maintained in a sterile condition. The container shall be sealed in a manner that prevents contamination of the product; and

5. Storage. Proper facilities shall be provided for the storage and handling of finished product.

2 VAC 5-531-70 Requirements for small-scale cheese plants

A. Each person whose dairy plant qualifies as a small-scale cheese plant as defined in this regulation shall be exempt from complying with the provisions of:

1. 2 VAC 5-531-40(O) to test all milk for residues of beta lactam drugs prior to processing;
2. 2 VAC 5-531-60(C)(1)(b) to construct and maintain driveways and adjacent plant traffic areas with concrete, asphalt, or similar material to keep dust and mud to a minimum;
3. 2 VAC 5-531-60(C)(2)(n)(3) for a room to receive milk in cans separate from any room in which dairy products are processed if the person receives all their milk during times when no dairy products are being processed, handled, packaged, or exposed to contamination;

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4. 2 VAC 5-531-60(C)(2)(n)(8)(a) to provide dressing room facilities;
 5. 2 VAC 5-531-60(C)(2)(n)(8)(f) to provide each employee with a locker;
 6. 2 VAC 5-531-60(C)(2)(n)(9) to provide and maintain an adequately equipped laboratory;
 7. 2 VAC 5-531-60(C)(2)(n)(10) and 2 VAC 5-531-60(F)(1)(a) to provide separate and adequate sanitary facilities for the handling of starter cultures if the person purchases all of the starter culture used;
 8. 2 VAC 5-531-60(C)(2)(p) to provide drinking water facilities in the plant;
 9. 2 VAC 5-531-60(F)(1)(d) to provide a separate paraffining room for cheese that is being paraffined if no other milk or cheese is being processed, handled, packaged, or exposed to contamination in the processing room at the same time the cheese is being paraffined;
 10. 2 VAC 5-531-60(F)(1)(e) to provide a separate rindless block wrapping area if no other milk or cheese is being processed, handled, packaged, or exposed to contamination in the processing room at the same time the cheese is being wrapped;
 11. 2 VAC 5-531-60(F)(1)(f) to provide separate cooling or curing rooms if all cheese is cooled or cured in operating refrigerators with tightly closing doors or other suitable equipment for maintaining the appropriate temperature and humidity;
 12. 2 VAC 5-531-60(F)(1)(g) to provide separate rooms for the cleaning and preparation of bulk cheese from rooms used for cutting and wrapping of cheese if no other milk or cheese is being processed, handled, or exposed to contamination in the processing room at the same time the cheese is being cleaned or wrapped;
 13. 2 VAC 5-531-60(F)(2)(f) to provide hoops and followers constructed of stainless steel or heavy tinned steel. Hoops and followers may be constructed of food grade plastic; and
 14. 2 VAC 5-531-60(F)(2)(g) to provide and use only a cheese press constructed of stainless steel. The cheese press may be constructed of food grade plastic if kept in good condition;
- B. Each person whose dairy plant qualifies as a small-scale cheese plant shall comply with the following provisions:

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1. Maintain driveways and adjacent plant traffic areas with gravel or other suitable material to keep dust and mud to a minimum;
2. If separate rooms are not provided for receiving milk, paraffining cheese, wrapping cheese, or cleaning and preparing cheese, the processing room shall be thoroughly cleaned and all product contact surfaces sanitized after the completion of each of these processes and prior to proceeding to any other step in the processing, handling, or packaging of any milk or dairy product;
3. Ensure that each person processing, handling, or packaging any cheese, milk, or dairy products, or in the processing area of his dairy plant is wearing clean outer garments, shoes, and hair covering prior to entering the processing area; and
4. Ensure that no person who has been milking cows, goats, sheep, water buffalo, or other mammals may enter the processing area of a dairy plant before changing to clean clothes.

2 VAC 5-531-80 Animal health

- A. No person may produce, provide, manufacture, sell, offer for sale, store in the Commonwealth of Virginia, or, bring, send, or receive into the Commonwealth of Virginia any milk for manufacturing purposes unless the person complies with the following requirements:
 1. Milk for manufacturing purposes shall be from animals that are maintained in a healthy condition and which are properly fed and kept;
 2. Cow, goat, bison, and water buffalo milk for manufacturing purposes and all cows, goats, bison, or water buffalo added to each herd the milk from which is intended to be used for manufacturing purposes shall be from a herd that complies with the Uniform Methods and Rules; Bovine Tuberculosis Eradication-effective January 22, 1999, 9 CFR Part 77, and each herd shall be located in a Modified Accredited Tuberculosis Area or an Area Accredited Free of Bovine Tuberculosis as defined in Uniform Methods and Rules; Tuberculosis Eradication-effective

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January 22, 1999, and certified by the U.S. Department of Agriculture or shall have passed an annual tuberculosis test;

3. Sheep milk and the milk from other mammals for manufacturing purposes shall be from a flock or group of animals that have all been individually tested and have passed an annual tuberculosis test.
4. Cow, bison, and water buffalo milk for manufacturing purposes and each cow, bison, or water buffalo added to each herd the milk from which is intended to be used for manufacturing purposes shall be from a herd that complies with Uniform Methods and Rules; Brucellosis Eradication-effective February 1, 1998, 9 CFR Part 78; and the following:
 - a. Each herd shall be located in a Certified Brucellosis-Free Area or a Modified Certified Brucellosis Area as defined in Uniform Methods and Rules; Brucellosis Eradication-effective February 1, 1998, and certified by the United States Department of Agriculture and enrolled in a testing program for the Certified Brucellosis-Free Area or the Modified Certified Brucellosis Area; or
 - b. Each herd shall meet the requirements for an individually certified herd as defined in Uniform Methods and Rules; Brucellosis Eradication-effective February 1, 1998; or
 - c. Each herd shall participate in a milk ring testing program meeting the requirements specified in Uniform Methods and Rules; Brucellosis Eradication-effective February 1, 1998, in a state that conducts a milk ring testing program at least twice per year at approximately equal intervals, and any herd with a positive milk ring test result shall be blood tested within 30 days after the date of the positive milk ring test; or
 - d. Each cow, bison, and water buffalo in the herd shall be individually tested by an "official" blood test as defined in Uniform Methods and Rules; Brucellosis Eradication for the detection of Brucellosis annually;
5. Goat's milk, sheep's milk, and the milk from other mammals for manufacturing purposes shall:

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- a. Be from a herd or flock which has passed an annual whole-herd or whole-flock brucellosis test; or
 - b. Be from a herd or flock that participates in a milk ring testing program meeting the requirements specified by the United States Department of Agriculture for goats, sheep, or the milk from other mammals in a state that conducts a milk ring testing program at least two times per year at approximately equal intervals, and any herd or flock with a positive milk ring test result shall be blood tested within 30 days after the date of the positive milk ring tests; and
6. For diseases of cows, sheep, goats, bison, water buffalo, or other mammals which might affect human health, other than brucellosis and tuberculosis, the Virginia Department of Agriculture and Consumer Services may require physical, chemical, or bacteriological examinations or other tests as may be deemed necessary by a licensed veterinarian or a veterinarian employed by the Virginia Department of Agriculture and Consumer Services to diagnose the disease. Each permit holder shall dispose of any diseased animals disclosed by testing in a manner which prevents the spread of the disease to other animals or humans.

2 VAC 5-531-90 Construction plans for dairy farms and dairy plants

No permit holder may construct, reconstruct, or modify a milkhouse, milking barn, stable, parlor, transfer station, receiving station, or dairy plant regulated under this chapter without submitting to the Virginia Department of Agriculture and Consumer Services written plans for review and approval before construction work is begun.

2 VAC 5-531-100 Dairy products which may be sold

- A. From and after the effective date of this regulation no person may produce, provide, manufacture, sell, offer for sale, expose for sale, or store in the Commonwealth of Virginia, or bring, send, or

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receive into the Commonwealth of Virginia any manufactured dairy product in final package form for direct human consumption unless: (1) the product has been pasteurized in accordance with the requirements of this chapter; (2) the product is made from dairy ingredients (milk, milk products, or dairy products) that have all been pasteurized in accordance with the requirements of this chapter; or (3) in the case of cheese, the cheese complies with a standard of identity under 21 CFR 133 that allows for the cheese to be aged above 35° F for a minimum of 60 days or the minimum number of days specified under the standard of identity for that variety of cheese.

2 VAC 5-531-110 Personnel health

- A. No person affected with any disease in a communicable form, or while a carrier of a communicable disease, may work at any dairy farm or dairy plant in any capacity which brings the person into contact with the production, handling, storage, or transportation of milk or dairy products or into contact with milk or dairy product containers, equipment, or utensils.
- B. No person holding a permit may employ any person having, or suspected of having, any disease in a communicable form or being a carrier of a communicable disease.
- C. Each permit holder who produces or distributes milk or dairy products upon whose dairy farm or in whose dairy plant any communicable disease occurs or who suspects that any employee has contracted any disease in a communicable form or has become a carrier of a communicable disease shall notify the Virginia Department of Agriculture and Consumer Services within two hours after the time they had knowledge of the situation.

2 VAC 5-531-120 Procedure when infection is suspected

When reasonable cause exists to suspect the possibility of transmission of infection of a communicable disease from any person concerned with the handling of milk or dairy products to any

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other person, the person concerned with the handling of milk or dairy products and the person holding the permit shall comply with the following measures:

1. The immediate exclusion of the person suspected of having a communicable disease or being a carrier of a communicable disease from handling any milk or dairy product;

2. No permit holder may sell or offer for sale any milk or dairy products that have been handled by or exposed to a person who is suspected of having a communicable disease or being a carrier of a communicable disease; and

3. Each person who is suspected of having a communicable disease or being a carrier of a communicable disease and his associates, at the discretion of the Virginia Department of Agriculture and Consumer Services, shall submit to medical and bacteriological examination by a licensed physician in the Commonwealth of Virginia sufficient to make a medical diagnosis.

2 VAC 5-531-130 Interpretation and enforcement

A. This chapter is based on the USDA Milk for Manufacturing Purposes and its Production and Processing-Recommended Requirements, effective November 12, 1996. Except as otherwise provided in this chapter, the provisions of this chapter shall be interpreted in a manner consistent with interpretations accorded the USDA Milk for Manufacturing Purposes and its Production and Processing-Recommended Requirements, effective November 12, 1996

B. The administrative procedures used to conduct case decisions under this chapter shall conform to the provisions of the Virginia Administrative Process Act.

C. The Virginia Department of Agriculture and Consumer Services shall comply with the following administrative procedures when summarily suspending a permit as specified in 2 VAC 5-531-40 D of this chapter:

9. The Virginia Department of Agriculture and Consumer Services shall serve upon the permit holder a written notice of suspension. The written notice of suspension shall specify the

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violations in question and inform the permit holder of the right to appear before the Virginia Department of Agriculture and Consumer Services in person, by counsel, or by other qualified representative at a fact-finding conference for the informal presentation of factual data, arguments, and proof to appeal this determination of violation;

10. Upon receipt of written application from any person whose permit has been summarily suspended (within 30 days after the effective date of the summary suspension), the Virginia Department of Agriculture and Consumer Services shall within seven days after the date of receipt of a written application from any person whose permit has been summarily suspended, proceed to hold an informal fact-finding conference to ascertain the facts of the violations in question, and upon evidence presented at the informal fact-finding conference, shall affirm, modify, or rescind the summary suspension;

11. The Virginia Department of Agriculture and Consumer Services shall, unless the parties consent, ascertain the fact basis for their decisions of cases through informal conference proceedings. Such conference proceedings include the rights of parties to the case to have reasonable notice thereof, to appear in person or by counsel or other qualified representative before the Virginia Department of Agriculture and Consumer Services for the informal presentation of factual data, argument, or proof in connection with any case, to have notice of any contrary fact basis or information in the possession of the Department which can be relied upon in making an adverse decision, to receive a prompt decision of any application for license, benefit, or renewal thereof, and to be informed, briefly and generally in writing, of the factual or procedural basis for an adverse decision in any case;

12. No person whose permit has been summarily suspended may be granted an informal fact-finding conference by the Virginia Department of Agriculture and Consumer Services unless the Virginia Department of Agriculture and Consumer Services receives the person's written application within 30 days after the effective date of the summary suspension;

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13. From any adverse decision of an informal fact-finding conference, the permit holder may request a formal hearing under § 9-6.14:12 of the Code of Virginia by writing the Program Manager of the Office of Dairy and Foods within 30 days stating the request and providing the Virginia Department of Agriculture and Consumer Services with a statement of the issues in dispute. If the request for a formal conference is denied, the Virginia Department of Agriculture and Consumer Services shall notify the permit holder in writing and further may affirm or modify the decision of the informal fact-finding conference; and
14. If a formal fact-finding conference is denied, the Virginia Department of Agriculture and Consumer Services shall notify the permit holder of the right to file an appeal in the circuit court.

2 VAC 5-531-140 Regulation superseded

This chapter supersedes 2 VAC 5-530, Rules and Regulations Governing the Production, Handling and Processing of Milk for Manufacturing Purposes and Establishing Minimum Standards for Certain Dairy Products to be Used for Human Food, and is based upon a Notice of Intended Regulatory Action published in the Virginia Register of Regulations for January 15, 2001 at page 1251 under "Title 2. Agriculture".