

**Department of Primary Industry**

**AUSTRALIAN CODE OF PRACTICE  
FOR DAIRY FACTORIES**

**June 1986**

**Appendix III – V**

Produced Under the Auspices of:  
Chief Dairy Officers Committee

Australian Government Publishing Service  
Canberra 1986

R85/1301 Cat. No. 86 0639 7

# Appendix III— Dairy products defined in acts and regulations

The following definitions of "dairy produce" apply in the respective Acts and Regulations:

## 1 Dairy produce orders (Export)

"Dairy Produce" means any produce other than ice cream wholly or mainly prepared from milk, including butter, butler concentrate or butter mix, butter spread, casein, cream, cheese, ghee, concentrated milk, condensed milk, condensed skimmed milk, dried milk and dried milk products, milk (pasteurised, sterilised or frozen), milk sugar, dry butter fat.

## 2 Queensland

*The Queensland Dairy Produce Act 1978–79* defines dairy produce as meaning milk, cream, butter, cheese, anhydrous milk fat (butler oil), baker's powder, butter concentrate, buttermilk, buttermilk powder, casein, concentrated milk, cultured buttermilk, cultured milk, dairy blend, evaporated milk, flavoured milk, ghee (clarified butter), heat-treated milk, homogenised milk, ice cream, ice cream mix, powdered ice cream mix, milk sugar, modified milk, recombined milk, skim milk powder, sodium caseinate, standardised milk, ultra heat treated (UHT) milk, flavoured milk, modified whey, whey cream, whey powder, whole milk powder, yoghurt and any other substance declared by Order in council to be dairy produce.

## 3 New South Wales

"Dairy Produce" means milk, cream, butter, cheese, dried milk, condensed milk, concentrated milk, malted milk, or any other prescribed product of milk and includes margarine (*Dairy Industry Act 1979*).

## 4 Victoria

"Dairy Produce" means milk, market milk, cream, butter, butter/oil, casein, cheese, concentrated milk, condensed milk, evaporated milk, milk powder, separated milk, skim milk powder, sweetened condensed milk, yoghurt, dairy blend, whey powder, and any other product or class of product prescribed as dairy produce for the purposes of the *Dairy Industry Act 1984*.

## 5 Tasmania

"Dairy Produce" means milk, cream, butter, cheese, condensed milk and any other product of milk and includes margarine and dairy blend.

## 6 South Australia

"Dairy Produce" means milk, cream, butter, dairy blend, cheese concentrate or condensed milk or cream, or any article derived or prepared from milk or cream (*Dairy Industry Act*).

## 7 Western Australia

For the purpose of this Code, "Dairy Produce" means milk or any substance declared to be dairy produce under the *Dairy Industry Act* and includes margarine.

# Appendix IV— List of legislation relevant to the code

## **Queensland**

*Dairy Produce Act 1978–79 and Dairy Produce Regulations 1980*  
*Food Act 1981 and Food Standards Regulations 1982*  
*Health Act 1937–1971 and Milk Sellers Regulations 1973*  
*Milk Supply Act 1977 and Milk Supply Regulations 1978*  
*State Development and Public Works Organisation Act 1971–1979*

## **Tasmania**

*Dairy Produce Act 1932*  
*Dairy Produce Regulations*

## **South Australia**

*Dairy Industry Act and Regulations*  
*Health Act and Regulations*  
*Food and Drugs Act and Regulations*  
*Metropolitan Milk Supply Act and Regulations*

## **Victoria**

*Dairy Industry Act 1984*  
*Dairy Industry Regulations 1985*  
*Dairy Industry (Quality Assurance) Regulations 1985*

## **Western Australia**

*Dairy Industry Act 1973–1983*  
*Dairy Industry Regulations 1977*  
*Health Act 1911–1979*

## **Department of Primary Industry**

*Export Control Act 1982 (No. 47)*  
*Prescribed Goods (General) Orders 1985 (No. 1)*  
*Dairy Produce Orders 1985 (No. 4)*

## Appendix V— 3-A: accepted practices for a method of producing steam of culinary quality

Number 609-00

Formulated by International Association of Milk, Food and Environmental Sanitarians, United States Public Health Service, The Dairy Industry Committee

It is the purpose of the IAMFES, USPHS and DIC in connection with the new development of the 3-A Sanitary Standards program to allow and encourage full freedom for inventive genius or new developments. Methods of producing steam of culinary quality heretofore or hereafter developed which so differ in material, fabrication and installation or otherwise as not to conform with the following practices, but which, in the opinion of the operator, manufacturer or fabricator are equivalent or better, may be submitted for the joint consideration of IAMFES, USPHS, and DIC, at any time.

### **A Scope**

- A.1 These 3-A Accepted Practices cover a method of producing steam of culinary quality. These practices are not intended for heating of rinse water or the sterilizing of equipment.

### **B Definitions**

- B.1 *Culinary steam:*  
Shall mean steam that will be used with product.
- B.2 *Product:*  
Shall mean milk, milk products, cheese, ice cream, ices and formulated dairy products.
- B.3 *Safe water:*  
Shall mean waters from a supply properly located, protected and operated and shall be of a safe sanitary quality. The water shall meet the standards prescribed in the Public Health Service Drinking Water Standards which are found in the Code of Federal Regulations, Title 42, Chapter 1, Part 72, Subpart J.<sup>1</sup>
- B.4 *Product contact surfaces:*  
Shall mean surfaces in contact with culinary steam from point B on Figure One to the point of attachment to the equipment in which it will be used.

<sup>1</sup> Code of Federal Regulations, published annually, are for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

Figure 1 — Piping assembly for direct steam injection

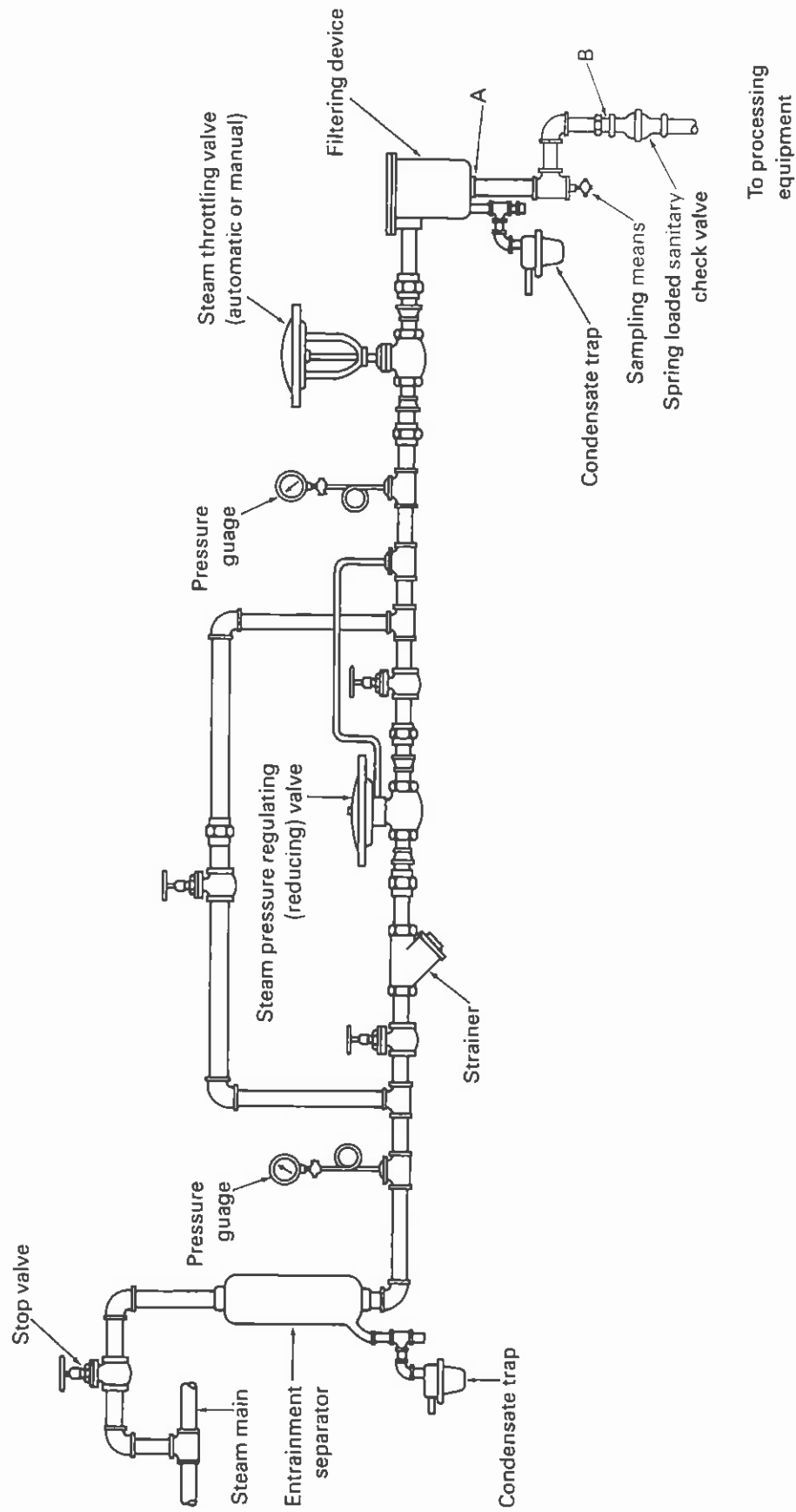
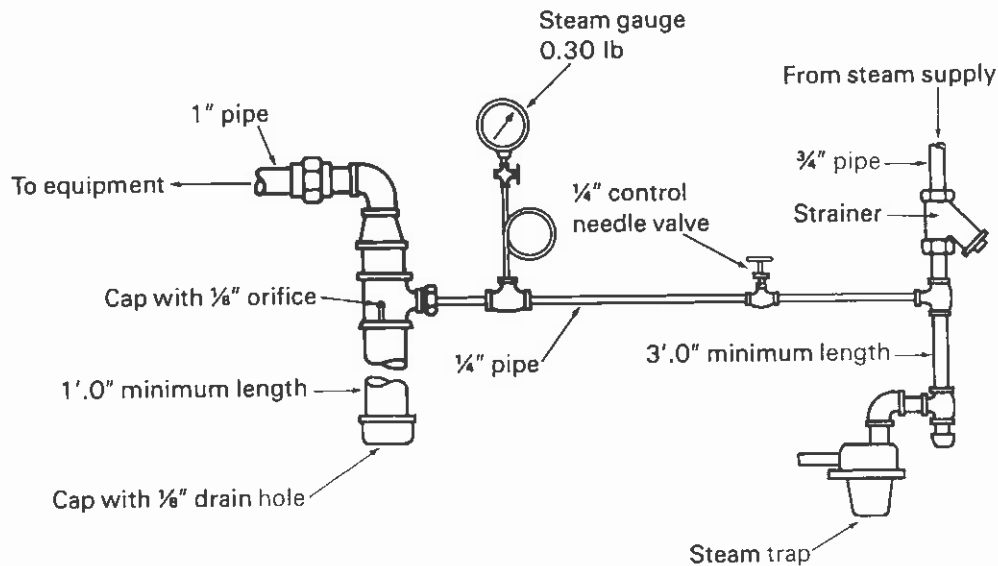


Figure 2 — Piping assembly for air space heating or defoaming



**C Materials**

- C.1 Product contact surfaces shall be of stainless steel of the AISI 300 series<sup>2</sup> or corresponding ACI<sup>3</sup> types (See Appendix, Section G), or equally corrosion-resistant metal that is non-toxic and non-absorbent, except that:
  - C.1.1 Rubber and rubber-like materials may be used for multi-use gaskets.
  - C.1.2 Rubber and rubber-like materials when used for the above specified applications shall comply with the applicable provisions of the 3-A standard for rubber and rubber-like materials, Number 18-00.
  - C.1.3 Plastic materials may be used for multi-use gaskets.
  - C.1.4 Plastic materials when used for the above specified applications shall comply with the applicable provisions of the 3-A standard for plastic materials, Number 20-11.
  - C.1.5 Single-service sanitary-type gaskets may be used in connections which must be disassembled for cleaning.

**D Fabrication**

- D.1 Product contact surfaces not designed to be mechanically cleaned shall be readily accessible for cleaning and inspection either when in an assembled position or when removed. Removable parts shall be readily demountable.
- D.2 The piping assembly for direct steam injection is shown in Figure One. The piping assembly for direct steam injection shall include (1) a filtering device capable of removing particles 5 microns in size and larger, (2) an entrainment separator capable of removing particles 10 microns in size and larger and (3) a means of sampling the steam or condensate downstream of point A on Figure One. Stainless steel pipe and fittings or sanitary tubing and fittings shall be used between points A and B, and sanitary tubing and fittings only shall be used between point B and the processing equipment.

<sup>2</sup> The data for this series are contained in the following reference: *AISI Steel Products Manual* Stainless & Heat Resisting Steels, December 1974, Table 2-1, pp. 18-19. Available from: American Iron & Steel Institute, 1000 16th St., NW, Washington, DC 20036.

<sup>3</sup> Alloy Casting Institute Division, Steel Founders' Society of America, 20611 Center Ridge Road, Rocky River, OH 44116.

- D.2.1 The piping assembly may include the other units shown on the drawing with the following exceptions:
- D.2.2 The location of the filtering device and the entrainment separator may be interchanged.
- D.2.3 Additional valves, orifices, strainers, gauges and piping may be used for control and convenience in operation.
- D.2.4 The location of the steam throttling valve is not restricted to the position indicated on the drawing.
- D.2.5 The steam pressure (reducing) valve may be omitted if not required.
- D.2.6 Coil springs having product contact surfaces shall have at least 3/32 inch openings between coils including the ends when the spring is in a free position. Coil springs shall be readily accessible for cleaning and inspection.
- D.3 The piping assembly for air space heating or defoaming is shown in Figure Two.

## **E Boiler feed water**

E.1 *Source:*  
Safe water or water supplies acceptable to the regulatory agency having jurisdiction shall be used.

E.2 *Treatment:*  
Most boiler feed waters must be treated to prevent corrosion and scale in boilers and/or to facilitate sludge removal for proper boiler care and operation. Boiler feed water treatment and control shall be under the supervision of trained personnel or a firm specializing in industrial water conditioning. Such personnel shall be informed that the steam is to be used for culinary purposes. Pre-treatment of feed waters for boilers or steam generating systems to reduce water hardness before entering the boiler or steam generator by ion exchange or other acceptable procedures is preferable to addition of conditioning compounds to boiler waters. The list of boiler water additives that may be safely used in the preparation of steam that will be in contact with product will be found in the Code of Federal Regulations, Title 21, Chapter 1, Part 173, Subpart D, Section 173.310<sup>4</sup>. Boiler compounds containing cyclohexylamine, diethylaminoethanol, hydrazine, morpholine, octadecylamine and trisodium nitrilotriacetate shall not be permitted for use in steam in contact with milk and milk products.

Greater amounts of boiler water treatment compounds shall not be used than the minimum necessary for controlling boiler scale or other boiler water treatment purposes and no greater amount of steam shall be used than necessary.

Tannin is also frequently added to boiler water to facilitate sludge removal during boiler blow-down. This product, although included in the list of approved boiler additives, has been reported to give rise to odor problems, and for this reason should be used with caution.

E.3 Containers of boiler water additives for use in the processing plant must be clearly labelled as to the identity of the material that is added to boiler feed water.

## **F Boiler operation**

A supply of clean, dry and saturated steam is necessary for proper equipment operation; therefore, boilers and steam generation equipment shall be operated in such a manner as to prevent foaming, priming, carry-over and excessive

<sup>4</sup> Available from: American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

entrainment of boiler water into the steam. Carry-over of boiler water additives can result in the production of product off-flavors. Manufacturers' instructions regarding recommended water level and blow-down should be consulted and rigorously followed. The blow-down of the boiler should be carefully watched, so that over-concentration of the boiler water solids and foaming are avoided. It is recommended that periodic analysis be made of condensate samples. Such samples shall be taken from the condensate outlet of the final steam separating equipment or the line between the final steam separating equipment and the point of the introduction into the processing equipment.

## **Appendix**

### **G Stainless steel materials**

Stainless steel conforming to the applicable composition ranges established by AISI<sup>2</sup> for wrought products, or by ACI<sup>3</sup> for cast products, should be considered in compliance with the requirements of Section C.1 herein. Where welding is involved the carbon content of the stainless steel should not exceed 0.08%. The first reference cited in C.1 sets forth the chemical ranges and limits of acceptable stainless steels of the 300 series. Cast grades of stainless steel of the 300 series. Cast grades of stainless steel corresponding to types 302, 303, 304, and 316 are designated CF-20, CF-16F, CF-8, and CF-8M, respectively. These cast grades are covered by ASTM<sup>4</sup> specifications A296-68 and A351-70.