SCHEDULE 1 Regulation 24

Rendering requirements

Part I

Requirements to be met where specified risk material is rendered

1. The premises shall be adequately separated from the public highway and other premises. Notwithstanding this, they may occupy the same site as premises where animal products which are not specified risk material are rendered provided that specified risk material is stored, handled and processed separately from other animal material and by means of equipment used only for specified risk material.

2. Unauthorised persons and animals shall not be permitted to have access to the premises.

3. The premises or part of the premises used to process specified risk material must have a clean and unclean section specified by the occupier, adequately separated. The unclean section must have a covered place to receive and store the specified risk material for processing and must be constructed in such a way that it is easy to clean and disinfect. Floors must be laid in such a way as to facilitate the draining of liquids. The premises must have adequate lavatories, changing rooms and washbasins for staff.

4. The premises shall have sufficient capacity of hot water and steam production to render specified risk material in accordance with the method in Part II of this Schedule chosen by the operator.

5. The equipment used to render specified risk material shall include—

(a) measuring equipment to check temperature and, if necessary, pressure at critical points;

(b) recording devices to record continuously the results of measurements; and

(c) an adequate safety system to prevent insufficient heating.

6. To prevent recontamination of processed specified risk material by incoming specified risk material, there must be clear separation between the area of the premises where the incoming specified risk material is unloaded and rendered and the areas set aside for further processing of the heated specified risk material and the storage of finished specified risk material products.

7. The premises must have adequate facilities for cleaning and disinfecting the containers or receptacles in which unprocessed specified risk material is received and the vehicles in which it is transported.

8. Adequate facilities must be provided for disinfecting the wheels, immediately before their departure, of vehicles transporting specified risk material or leaving the unclean section of the premises.

Part II

Methods of rendering

Method 1

Natural fat batch atmospheric (150 mm particle size)

Equipment

1. The premises shall be equipped with apparatus to crush specified risk material to the appropriate particle size, at least one cooker to cook the specified risk material, sufficient capacity of hot water and steam production to render specified risk material in accordance with this method, and equipment to separate protein from tallow and store those products.

Crushing

2. The raw material shall be reduced in size by crushing so that the particle size does not exceed 150 mm. Final reduction equipment shall be checked daily and its condition recorded. Any broken equipment shall be repaired without delay to ensure that the final particle size is achieved.

Cooking

3. Crushed material shall then be heated in a steam jacketed vessel to remove the inherent moisture at atmospheric pressure. The times and temperatures achieved during the cooking process shall be recorded in a permanent form. During the course of cooking, the material shall be maintained at a temperature in excess of 100°C for at least 125 minutes, a temperature in excess of 110°C for at least 120 minutes and a temperature in excess of 120°C for at least 50 minutes. Material may be cooked so that two or more time/temperature requirements are carried out at the same time.

Separation and storage of final products

4. After cooking, the material shall be discharged from the cookers and separated into its tallow and protein components. Protein and tallow shall be stored separately.

Records

5. All records shall be kept for one year.

Method 2

Natural fat batch atmospheric (30 mm particle size)

Equipment

1. The premises shall be equipped with apparatus to crush specified risk material to the appropriate particle size, at least one cooker to cook the specified risk material, sufficient capacity of hot water and steam production to render specified risk material in accordance with this method, and equipment to separate protein from tallow and store those products.

Crushing

2. The raw material shall be reduced in size by crushing so that the particle size does not exceed 30 mm. Final reduction equipment shall be checked daily and its condition recorded. Any broken equipment shall be repaired without delay to ensure that the final particle size is achieved.

Cooking

3. Crushed material shall then be heated in a steam jacketed vessel to remove the inherent moisture at atmospheric pressure. The times and temperatures achieved during the cooking process must be recorded in permanent form. During the course of cooking, the material shall be maintained at a temperature in excess of 100°C for at least 95 minutes, a temperature in excess of 110°C for at least 55 minutes and a temperature in excess of 120°C for at least 13 minutes. Material may be cooked so that two or more time/temperature requirements are carried out at the same time.

Separation and storage of final products

4. After cooking, the material shall be discharged from the cookers and separated into its tallow and protein components. Protein and tallow shall be stored separately.

Records

5. All records shall be kept for one year.

Method 3

Added fat batch atmospheric (30 mm particle size)

Equipment

1. The premises shall be equipped with apparatus to crush specified risk material to the appropriate particle size, at least one cooker to cook the specified risk material, sufficient capacity of hot water and steam production to render specified risk material in accordance with this method, and equipment to separate protein from tallow and store those products.

Crushing

2. The raw material shall be reduced in size by crushing so that the particle size does not exceed 30 mm. Final reduction equipment shall be checked daily and its condition recorded. Any broken equipment shall be repaired without delay to ensure that the final particle size is achieved.

Cooking

3. Crushed material shall then be heated with added tallow in a steam jacketed vessel to remove the inherent moisture at atmospheric pressure. The times and temperatures achieved during the cooking process must be recorded on a permanent recording system. During the course of cooking, the material shall be maintained at a temperature in excess of 100°C for at least 16 minutes, a temperature in excess of 110°C for at least 13 minutes and a temperature in excess of 120°C for at least 8 minutes. Material may be cooked so that two or more time/temperature requirements are carried out at the same time.

Separation and storage of final products

4. After cooking, the material shall be discharged from the cookers and separated into its tallow and protein components. Protein and tallow shall be stored separately.

Records

5. All records shall be kept for one year.

Method 4

Natural fat batch (Batch Pressure)

Equipment

1. The premises shall be equipped with apparatus to crush specified risk material to the appropriate particle size, at least one cooker to cook the specified risk material, sufficient capacity of hot water and steam production to render specified risk material in accordance with this method, and equipment to separate protein from tallow and store those products.

Crushing

2. The raw material shall be reduced in size by crushing so that the particle size does not exceed 50 mm. Final reduction equipment shall be checked daily and its condition recorded. Any broken equipment shall be repaired without delay to ensure that the final particle size is achieved.

Cooking

3. Crushed material should then be heated in a steam jacketed vessel. After all air in the vessel has been displaced by steam, the vessel shall be sealed and heating continued until the pressure reaches 3 bar and the temperature reaches at least 133°C. This state should be held for at least 20 minutes, after which the pressure should be lowered back to atmospheric pressure. The product should then be dried to remove all its inherent moisture. The times, temperatures and pressures achieved during the cooking process must be recorded on a permanent recording system.

Separation and storage of final products

4. After cooking, the material shall be discharged from the cookers and separated into its tallow and protein fractions. Protein and tallow shall be stored separately.

Records

5. All records shall be kept for one year.

Method 5

Natural fat continuous atmospheric

Equipment

1. The premises shall be equipped with apparatus to crush specified risk material to the appropriate particle size, at least one cooker to cook the specified risk material, sufficient capacity of hot water and steam production to render specified risk material in accordance with this method, and equipment to separate protein from tallow and store those products.

Crushing

2. The raw material shall be reduced in size by crushing so that the particle size does not exceed 30 mm. Final reduction equipment shall be checked daily and its condition recorded. Any broken equipment shall be repaired without delay to ensure that the final particle size is achieved.

Cooking

3. The material should be passed into a steam heated vessel. Passage of the raw material through the vessel shall be controlled by means of displacement and mechanical restrictions to ensure that the cooked dried material is discharged with all of its residual moisture removed as water vapour. The maximum feed rate for raw material and the minimum discharge temperature will be set for the vessel in the approval for the premises granted under this Order. The material shall be maintained at a temperature in excess of 100°C for at least 95 minutes, a temperature in excess of 110°C for at least 55 minutes and a temperature in excess of 120°C for at least 13 minutes. Material may be cooked so that two or more time/temperature requirements are carried out at the same time. The times and temperatures achieved during the cooking process must be recorded on a permanent recording system.

Separation and storage of final products

4. After cooking, the material shall be discharged from the cookers and separated into its tallow and protein components. Protein and tallow shall be stored separately.

Records

5. All records shall be kept for one year.

Method 6

Added fat continuous atmospheric

Equipment

1. The premises shall be equipped with apparatus to crush specified risk material to the appropriate particle size, at least one cooker to cook the specified risk material, sufficient capacity of hot water and steam production to render specified risk material in accordance with this method, and equipment to separate protein from tallow and store those products.

Crushing

2. The raw material shall be reduced in size by crushing so that the particle size does not exceed 30 mm. Final reduction equipment shall be checked daily and its condition recorded. Any broken equipment shall be repaired without delay to ensure that the final particle size is achieved.

Cooking

3. The material shall be passed into a steam heated vessel where a consistent level of hot liquid tallow is maintained by recycling tallow as appropriate. Passage of the raw material through the vessel shall be controlled by means of displacement and mechanical restrictions to ensure that the cooked dried material is discharged with all of its residual moisture removed as water vapour. The maximum feed rate for raw material, the maximum tallow recycle rate, and the minimum discharge temperature will be set for the vessel in the approval for the premises granted under this Order. The material shall be maintained at a temperature in excess of 100°C for at least 16 minutes, a temperature

in excess of 110°C for at least 13 minutes, a temperature in excess of 120°C for at least 8 minutes and a temperature in excess of 130°C for at least 3 minutes. Material may be cooked so that two or more time/temperature requirements are carried out at the same time. The times and temperatures achieved during the cooking process must be recorded on a permanent recording system.

Separation and storage of final products

4. On discharge from the vessel, any surplus tallow not required to maintain the vessel's operating level shall be removed, and the material separated into its tallow and protein components. Protein and tallow shall be stored separately.

Records

5. All records shall be kept for one year.

Method 7

Defatted continuous atmospheric

Equipment

1. The premises shall be equipped with apparatus to crush specified risk material to the appropriate particle size, at least one cooker to cook the specified risk material, sufficient capacity of hot water and steam production to render specified risk material in accordance with this method, and equipment to separate protein from tallow and store those products.

Crushing

2. The raw material shall be reduced in size by crushing so that the particle size does not exceed 20 mm. Final reduction equipment shall be checked daily and its condition recorded. Any broken equipment shall be repaired without delay to ensure that the final particle size is achieved.

Pre-heating

3. The crushed material shall then be passed to a pre-heater. Passage of the raw material through the pre-heater shall be controlled by means of displacement and mechanical restrictions to ensure that the cooked material is discharged at a temperature of at least 80°C and in a form in which water and tallow can be removed from the protein residue.

Pressing

4. The material discharged from the pre-heater must be passed through a screw press so adjusted that all water and tallow are removed from the protein residue.

Drying

5. The protein residue shall be passed into a steam heated vessel. Passage of the protein residue through the vessel shall be controlled by means of displacement and mechanical restrictions to ensure that the cooked dried protein is discharged with all of its residual moisture removed as water vapour. A maximum feed rate for protein residue and a minimum discharge temperature will be set for the vessel by an officer of the Department. The material shall be maintained at a temperature in excess of 80°C for at least 120 minutes and a temperature in excess of 100°C for at least 60 minutes. Material may be cooked so that both time/temperature requirements are carried out at the same time.

The times and temperatures achieved during the cooking process must be recorded on a permanent recording system.

Storage of final products

6. Protein and tallow shall be stored separately.

Records

7. All records shall be kept for one year.