

## SCHEDULE 6

### Rendering requirements

## PART II

### Methods of Rendering

#### METHOD 1

##### NATURAL FAT BATCH

#### **Reduction**

1. If the particle size of the specified risk material to be rendered is more than 150 millimetres, the specified risk material shall be reduced in size using equipment specified in the licence, set so that the particle size after reduction is no greater than 150 millimetres or such smaller size as the licence shall specify. The effectiveness of the equipment shall be checked daily and its condition recorded. If checks disclose the existence of particles larger than is permitted in the licence, the process shall be stopped and repairs made before the process is resumed.

#### **Time and temperature**

2. After reduction the specified risk material shall be heated to a core temperature greater than 100°C for at least 125 minutes, a core temperature greater than 110°C for at least 120 minutes and a core temperature greater than 120°C for at least 50 minutes.

3. The rendering shall be carried out in a batch system.

4. The specified risk material may be cooked such that the time-temperature requirements are achieved at the same time.

#### METHOD 2

##### NATURAL FAT

##### CONTINUOUS OR BATCH

#### **Reduction**

1. If the particle size of the specified risk material to be rendered is more than 30 millimetres, the specified risk material shall be reduced in size using equipment specified in the licence, set so that the particle size after reduction is no greater than 30 millimetres or such smaller size as the licence shall specify. The effectiveness of the equipment shall be checked daily and its condition recorded. If checks disclose the existence of particles larger than is permitted in the licence, the process shall be stopped and repairs made before the process is resumed.

#### **Time and temperature**

2. After reduction, the specified risk material shall be heated to a core temperature greater than 100°C for at least 95 minutes, a core temperature greater than 110°C for at least 55 minutes and a core temperature greater than 120°C for at least 13 minutes.

3. The rendering may be carried out in batch or continuous systems.

4. The specified risk material may be cooked such that the time-temperature requirements are achieved at the same time.

*Status: This is the original version (as it was originally made).*

METHOD 3  
ADDED FAT  
CONTINUOUS OR BATCH

**Reduction**

1. If the particle size of the specified risk material to be rendered is more than 30 millimetres, the specified risk material shall be reduced in size using equipment specified in the licence, set so that the particle size after reduction is no greater than 30 millimetres or such smaller size as the licence shall specify. The effectiveness of the equipment shall be checked daily and its condition recorded. If checks disclose the existence of particles larger than is permitted in the licence, the process shall be stopped and repairs made before the process is resumed.

**Time and temperature**

2. After reduction the specified risk material shall be placed in a vessel with added fat and heated to a core temperature greater than 100°C for at least 16 minutes, a core temperature greater than 110°C for at least 13 minutes, a core temperature greater than 120°C for at least 8 minutes and a core temperature greater than 130°C for at least 3 minutes.

3. The rendering may be carried out in batch or continuous systems.

4. The specified risk material may be cooked such that the time-temperature requirements are achieved at the same time.

METHOD 4  
CONTINUOUS OR BATCH PRESSURE

**Reduction**

1. If the particle size of the specified risk material to be rendered is more than 50 millimetres, the specified risk material shall be reduced in size using equipment specified in the licence, set so that the particle size after reduction is no greater than 50 millimetres or such smaller size as the licence shall specify. The effectiveness of the equipment shall be checked daily and its condition recorded. If checks disclose the existence of particles larger than is permitted in the licence, the process shall be stopped and repairs made before the process is resumed.

**Time and temperature**

2. After reduction the specified risk material shall be heated to a core temperature of more than 133°C for at least 20 minutes without interruption at a pressure of at least 3 bar.

3. The rendering may be carried out in batch or continuous systems.

METHOD 5  
DEFATTED  
CONTINUOUS OR BATCH

**Reduction**

1. If the particle size of the specified risk material to be rendered is more than 20 millimetres, the specified risk material shall be reduced in size using equipment specified in the licence, set so that the particle size after reduction is no greater than 20 millimetres or such smaller size as the licence

shall specify. The effectiveness of the equipment shall be checked daily and its condition recorded. If checks disclose the existence of particles larger than is permitted in the licence, the process shall be stopped and repairs made before the process is resumed.

### **Time and temperature**

2. After reduction the specified risk material shall be heated until they coagulate and then pressed so that fat and water are removed from the proteinaceous material. The proteinaceous material shall then be heated to a core temperature greater than 80°C for at least 120 minutes and a core temperature greater than 100°C for at least 60 minutes.

3. The rendering may be carried out in batch or continuous systems.

4. The specified risk material may be cooked such that the time-temperature requirements are achieved at the same time.

## **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 cooked 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 a period of not less than 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 Scottish Ministers. 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 a period of not less than one year.