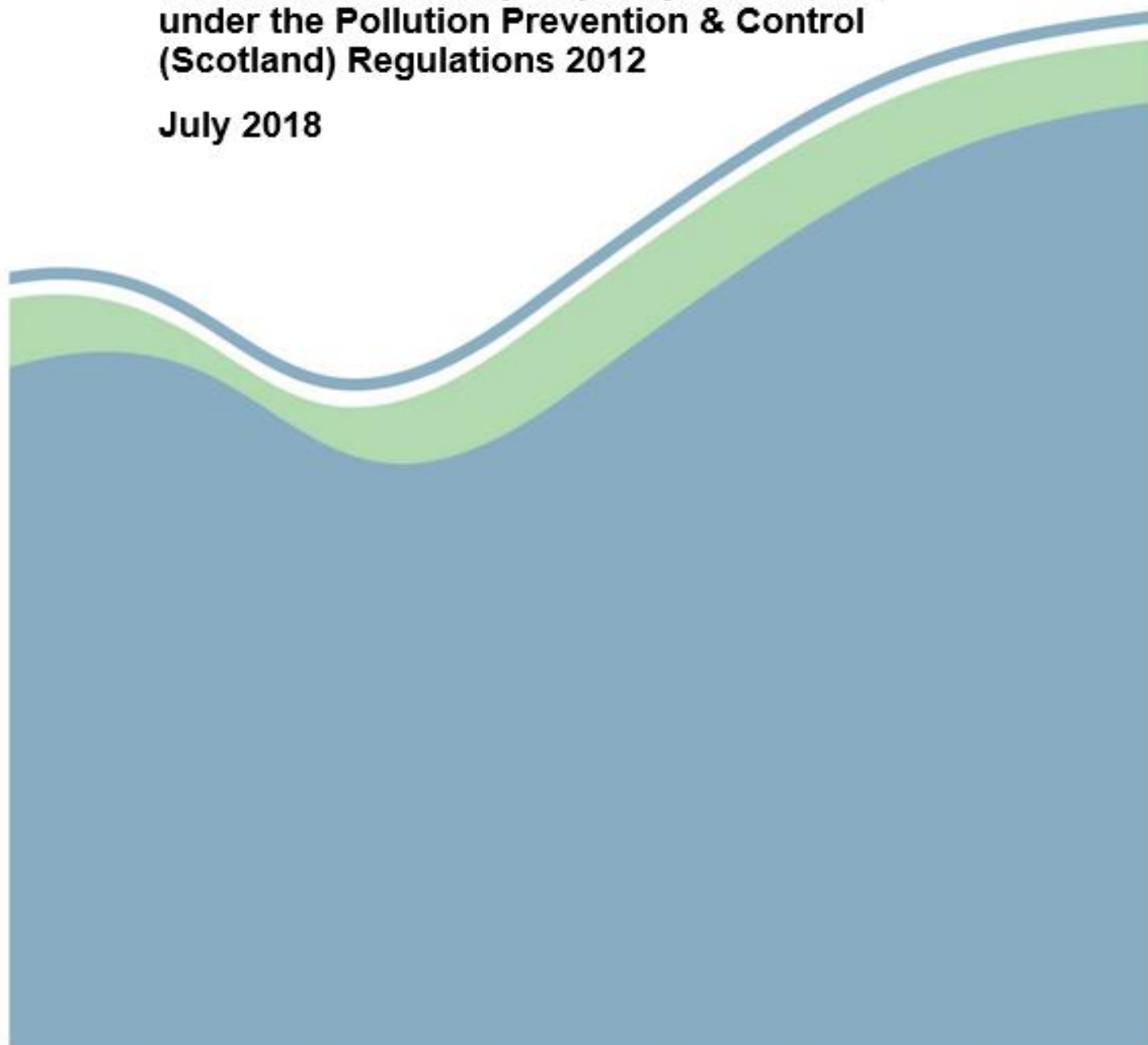




## **IED-TG-09**

# **Guidance on Activity Capacity / Threshold under the Pollution Prevention & Control (Scotland) Regulations 2012**

**July 2018**



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## 1 REGULATORY POSITION

- 1.1 An operator should determine the maximum capacity of its activities to establish what regime, if any, the activities are subject to. An operator should satisfy itself that it is compliant with the law, any operation that exceeds the threshold could constitute an offence
- 1.2 If SEPA considers an operator needs a permit and that operator refuses to apply for a permit, the operator must be warned that continued operation may constitute an offence under Regulation 67(1)(a). SEPA may take enforcement action in line with its enforcement policy, which could include a report to the Procurator Fiscal for a contravention of Regulation 11(2).
- 1.3 SEPA cannot include conditions within a PPC permit that limit capacity to keep a Part B installation from becoming a Part A installation

## 2 TYPES OF QUANTITATIVE THRESHOLDS

- 2.1 A quantitative threshold included in an activity description in Schedule 1, Schedule 1A, or Schedule 2 to PPC 2012 can be expressed in terms of:
  - (a) processing or production capacity;
  - (b) rated thermal input;
  - (c) holding capacity (i.e. size) of plant item(s);
  - (d) quantity likely to be processed or produced;
  - (e) quantity intended to be processed;
  - (f) quantity actually processed, produced, or consumed; or
  - (g) quantity of a pollutant that may be emitted
- 2.2 Annex 1 to this document provides a list of all the activity descriptions that have a quantitative threshold, along with an indication of the particular type of threshold that applies in each case.

### 3 GENERAL RULES FOR THE APPLICATION OF QUANTITATIVE THRESHOLDS

#### 3.1 Theoretical versus Actual Capacity<sup>1</sup>

Capacity is not the actual throughput of an installation, instead is the potential capacity of the process based on maximum possible utilisation of the plant operating at 24 hours a day, 7 days a week, 52 weeks of the year, minus all process steps that limit the throughput of a process such as loading, unloading, cleaning between process batches, etc., and subject to any technical or legal restrictions in place (see section 5.1.1 and 5.1.2 below).

Regulation 12(3) of PPC 2012 provides the following:

*An installation or mobile plant where an activity is described by reference to a threshold is such an installation or plant where the installed capacity is above the threshold, whether or not it is operated below the threshold.*

Therefore, where a threshold is mentioned in an activity description, the only relevant consideration for capacity is whether the **installed** capacity exceeds the threshold.

The European Commission provided [Guidance on determining capacity for the purposes of the IPPC Directive](#), and it has confirmed that this guidance remains valid for the purposes of the IED. This guidance is therefore also for relevant activity descriptions in Part 1 of Schedule 1, Schedule 1A, and Schedule 2 to PPC 2012. This is explored further in section 5 below

#### 3.2 Multiple Activities

Paragraph 7 of Part 2 of Schedule 1 to PPC 2012 provides rules for determining whether a threshold has been exceeded where more than one activity falling within the same description in Part A or Part B to Schedule 1 is carried out in the same stationary technical unit, or different stationary technical units on the same site.

In such circumstances, the sum of the capacities of all the activities within that description in Schedule 1 carried on by the operator(s) at a site is used to determine whether an individual activity exceeds a threshold. Therefore, even when the capacity of any activity that individually does not meet a threshold, it must still be included in the summed capacity, and therefore the aggregation rules may result in such an activity being deemed to meet the description.

If activities covered by the same description are operated by two or more operators, the capacities of all of these activities must still be summed<sup>2</sup>.

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<sup>1</sup> Relevant for threshold types (a) to (c) listed in Section 2 above. Types (a) and (c) make explicit mention of capacity, and the definition of rated thermal input (b) relies on the capacity of an appliance to consume fuel. Type (d) may indicate the installed capacity if it is assumed the likely quantity processed or produced would be limited by the maximum capacity available.

<sup>2</sup> The only exception is the activity description for Section 1.1 Part A. This is more restrictive than the IED (with an aggregate rated thermal input of >50MW are operated on the same site by the same operator). The preamble to Annex I in the IED has removed the reference to “the same operator” that featured in the IPPCD. Scottish Government intends to delete this wording from the PPC Regulations at the next opportunity to amend the Regulations.

These rules on multiple activities apply to all the threshold types listed in section 3 above.

### **3.3 Net vs Gross Quantities**

The quantity that needs to be taken into account is the net amount of the material specified in the threshold, i.e. excluding any containers, packaging, etc. However, unless specifically stated to the contrary (see Annex 1), where a diluent (such as water or an organic solvent) is added to a material, this should be included within the net amount (see also section 4.4 below). These rules on net vs gross apply to all the threshold types listed in section 3 above.

### **3.4 Finished Product**

Some activity descriptions are framed in terms of the quantity of a finished product. For the purposes of comparison with a threshold defined in such terms, any product that will not be subject to further processing on the installation is considered a finished product of that installation.

This applies irrespective of whether or not the product is subject to further processing elsewhere, including on a part of the same site that is outside the installation boundary. Consequently, if the product is subject to subsequent weight or volume reduction outside the installation, this has no bearing on the quantity that needs to be compared with the threshold. Where some of the materials produced at the installation is either further processed on the installation or leaves the installation for further processing elsewhere, and the split between the two fates is variable, it may be necessary to make a judgement about what is actually a finished product.

If an activity also generates materials that are wastes or by-products, these are not included, as they are not viewed as finished products. However where the process results in two or more co-products, all co-products from the process need to be summed to calculate the capacity.

Also, for the purposes of comparison with a threshold, the weight, or quantity of any product shall be as produced, and not a theoretical weight that would result, for example, if the moisture in the product were removed.

Packaging (primary or secondary) should not be included in the weight of the finished products (see section 4.3). These rules on finished product apply to all the threshold types listed in section 3 above.

### **3.5 Automated v Manual Capacity**

The only reference in the PPC 2012 Regulations to manual operations, as opposed to machine processes, is under the definition of dry cleaning in Part 4 to Schedule 2:

*“dry cleaning” means any industrial or commercial activity using volatile organic compounds in an installation to clean garments, furnishing and similar consumer goods excluding the manual removal of stains and spots in the textile and clothing industry,*

There are no other references as to whether activities are carried out by machine or by hand and therefore this should have no effect on the interpretation of production capacity for any activity other than dry cleaning.

## 4 SPECIFIC CONSIDERATIONS FOR QUANTITATIVE THRESHOLD TYPES

### 4.1 Production or Processing Capacity

This type of threshold is common for activity descriptions that are listed in Annex I to the IED, however it is not restricted to IED derived Part A activity descriptions, and several Part B descriptions include reference to production or processing capacity.

Such a threshold is expressed as a rate (such as tonnes or m<sup>3</sup> per hour, day, or year), and may apply to the processing of inputs/intermediates, or the production of products.

The Commission's capacity guidance states that the capacity must be the maximum rate to which the activity is limited technically or legally, i.e. the capacity when operating at maximum possible throughput for 24 hours a day, 7 days a week, unless the activity is technically or legally restricted from operating in that way. This is consistent with Regulation 12(3) of PPC 2012.

Where an activity can manufacture different products and/or use different raw materials, the capacity must reflect the product and/or raw materials that would give the highest throughput. In some circumstances, it may be appropriate to consider products and/or raw materials that have not yet been produced/used, but could credibly be produced/used.

The Commission's guidance describes the types of technical and legal restrictions that can be taken into account when determining the capacity for the purpose of comparison with a threshold.

#### 4.1.1 Technical Restrictions

In determining the capacity of an installation, it is appropriate to consider the actual design capacity in conjunction with all process steps that could limit the output of a process. A technical restriction can be either inherent to the activity or introduced specifically in order to limit throughput to below a threshold.

Consideration should be taken of 'bottlenecks' in the process, such as:

- down time for critical maintenance;
- loading and unloading operations; and
- constraints within the process itself:
  - e.g. overall capacity of a meat processing line may be technically constrained by the installed cooling or freezing capacity of the installation;
  - e.g. the capacity of the treatment vessel when considered against the volume of timber that can be treated when operating the quickest treatment cycle on the most easily treated wood allowing for loading/unloading and voidage.

However, **not** bottlenecks that are the operator's choice, such as not to use an available production line for commercial or other reasons, or management decisions on the number of hours/shifts worked or numbers of staff available, or batches produced etc.

Where an activity involves a sequence of two or more steps, the throughput does not necessarily need to be limited at each step, and a restriction at only one of the steps can normally be relied upon. However, care must be taken in respect of a restriction

that exists only at an early step if subsequent steps could process material that does not need to pass through the limiting step, including material that can be brought onto the installation partially processed. If this is the case, the restriction on the early step of the process should not be used to assess the capacity of the process.

An inherent restriction can relate to the physical processing capacity of equipment used in the throughput-limiting step. However, it may alternatively relate to essential ancillary operations that, for example, affect the cycle time required for a batch process. Examples of the latter include loading, unloading, and cleaning operations, but care must be exercised where limited workforce availability is claimed to be a decisive factor in such a scenario.

A restriction that is introduced specifically to limit throughput can take the form of a physical restriction. Examples might include the fitting of a smaller diameter feed pipe, using a smaller feed pump, installing a smaller control valve (eg for a steam heating service), and reducing the physical volume of processing equipment (thereby reducing the batch size).

However, the European Commission's guidance makes it clear that such a restriction must be reasonably secure and reliable, and one that could be removed without significant effort would not suffice. Additionally, a SEPA officer should be able to inspect and verify continued compliance of any technical restriction without specialist training.

The Commission's guidance also states that a simple undertaking from the operator that it would not exceed the threshold cannot be relied upon.

Consequently, any technical restriction must be sufficiently extensive that significant effort and/or time would be required to uninstall it. Examples would include a reduced diameter pipe that requires lifting equipment to replace, and would be undertaken using a 'permit to work' system that produces a record of the work undertaken.

Although restrictions must be secure and reliable, there remains a potential that a restriction may be removed or relaxed by the operator for some reason. If this results in the capacity of the activity exceeding the threshold, and if a permit application is not made, the operator will be committing an offence by virtue of Regulation 67(1)(a) of PPC 2012. Accordingly, SEPA inspectors may use their powers under Section 108 of the Environmental Protection Act 1990 periodically to check that an adequate restriction still exists. SEPA may also choose to serve a notice on an operator under Regulation 63(2) of PPC 2012 requiring the operator to provide information about any changes of a specified nature, and a failure to comply with such a notice would be, in itself, an offence by virtue of Regulation 67(1)(e) of PPC 2012

#### *4.1.2 Legal Restrictions*

Where the technical capacity of an installation exceeds a threshold of an activity as defined in Schedules 1 or 2 of PPC 2012, it is possible that the capacity is limited to a capacity below the threshold in PPC 2012 by legal means so that the installation does not come under the scope of the Regulations. However, such a legal restriction must be by another legal instrument, not the PPC permit. Examples are Health and Safety legislation or planning restrictions, restricted hours of operation imposed under planning consent; an effluent discharge consent limiting the quantity of effluent that may be discharged; down time for essential cleaning required as a result of food hygiene regulations.

The legal instrument must be subject to licensing and inspection, and consequently contractual agreements do not meet the requirement of regulations and as such are not legal restrictions.

In terms of legal restrictions, the European Commission's guidance makes a distinction between general and site-specific restrictions. A general restriction covers all installations of a particular type e.g. laws restricting working hours, laws requiring times of noise reduction, traffic restriction times, etc. A site-specific restriction requires periodic inspection and reporting by the operator to SEPA concerning the on-going verification of the capacity.

Quantitative threshold restrictions are limited to legal instruments with general validity such as hours of operation under planning regulations, or licence issued under separate regime e.g. waste management regulations

#### **4.2 (Total) Rated Thermal Input**

This threshold is relevant for combustion activities, or activities whose scale can be defined by an associated combustion activity. It is therefore used in the context of IED, MCP, EED, and domestically regulated Schedule 1 Section 1 Part A and Part B activities.

The rated thermal input (RTI) is the rate at which fuel can be burned at the maximum continuous capacity of the appliance multiplied by the calorific value of the fuel, expressed as megawatts thermal (MWth). The maximum capacity of the appliance must be judged in the context of technical and legal limitations as discussed in Section 5.1.1 and 5.1.2 above.

The calorific value of a fuel can be expressed as either a net or a gross value. As the net calorific value (NCV) excludes the energy associated with the vaporisation of any water present in the fuel, and the water produced as a result of combustion, it is a lower value than the gross calorific value. It is therefore sometimes referred to as the lower heating value (LHV) or lower calorific value (LCV).

Part 1 of Schedule 1 to PPC 2012 includes a statement that the net calorific value should be used when calculating the RTI of an appliance for the purpose of comparison with a threshold. Although Annex I does not include the word 'net', SEPA believes the use of NCV is consistent with the IED. Two mentions of net calorific value indicate the use of 'net' in Schedule 1 is appropriate. The first is in Article 33(4) in relation to a threshold for limited lifetime derogation. The second use of net calorific value is in Article 72(3)(f) detailing the information that Chapter III combustion plant must report to the Competent Authority (and for the CA to report to the Commission). This includes the net calorific value of the fuel used during the previous 12 months. Hence, NCV should be used to assess the RTI for combustion plant in Schedule 1 Section 1 Part A and Part B activities.

Where different fuels or fuel mixes with different calorific values can be used, and a range of maximum thermal inputs can therefore be achieved, the highest possible thermal input must be used when making a comparison with a threshold.

The maximum RTI is normally specified by the manufacturer, and may be displayed on a plate attached to the appliance (the "nameplate" capacity). However, if no information from the manufacturer is available, or the manufacturer's information no longer reflects either the fuel in use or the capacity of the appliance, the RTI will need



to be calculated. This would involve measuring the maximum fuel throughput achievable, and multiplying the result by the net calorific value of the fuel

### **4.3 Plant Size or Holding Capacity**

This threshold generally relates to vessel size and is normally defined in terms of volume (i.e. m<sup>3</sup>), holding capacity (i.e. tonnes), or “places” for intensive agriculture installations.

The common use of the term “design” in association with the threshold infers that a decision on capacity has been made by the operator. Whilst the volume of a vessel will not change unless it is modified, over time the purpose served by different items of plant can change, and it is therefore not certain that the original design holding capacity will automatically be the current design holding capacity. It is therefore necessary to assess the holding capacity based on records of weight received etc., or calculate the holding capacity of the material held in the plant based on the physical characteristics of the material (e.g. weight and density to assess volume etc.), or records of the number of poultry kept, etc.

### **4.4 Quantity Likely to be or Intended to be, or Actually Processed or Produced**

These three categories have significant similarities. None relate to activity descriptions derived from Annex I to the IED. However Section 1.2 Part B (d) and (e) (transpose Article 3(1)(a) and (b) to Directive 2009/126/EC on recovery of petrol vapours) quantifies on intended or actually processed, and Schedule 2 quantifies on actually used (transposes Directive 1999/13/EC on the limitation of emissions of volatile organic compounds).

#### *4.4.1 Quantity Likely to be Processed or Produced*

This threshold applies to several domestically regulated activities (see Annex I).

This is expressed as a rate, and normally on the basis of annual processing or production rate.

In making a judgement, reference will inevitably be drawn to the theoretical capacity of the activity. However, it is legitimate to include consideration of a wider range of issues than is possible where capacity is mentioned.

#### *4.4.2 Quantity Intended to be Processed*

This threshold relates exclusively to Section 1.2 Part B paragraphs (d) and (e) in relation to petrol refuelling stations. However, this is complicated by the reference to ‘quantity actually processed’ within the same paragraphs. This is a direct transposition of the requirements of Article 3(1)(a) and (b) to Directive 2009/126/EC on Stage II petrol vapour recovery during refuelling of motor vehicles at service stations.

This is expressed on the basis of annual throughput. Past processing volumes may be an indicator of intended quantities in future years

#### *4.4.3 Quantity Actually Processed, Produced or Used*

This threshold applies several domestically regulated activities (see Annex I), and to Schedule 2 activities. It is often expressed relative to a specified time period, such as solvent consumption in a year.

The challenge with this approach is that, for at least part of the averaging period, uncertainty will remain about what will actually be throughput. However, where the throughputs are on a basis of 'in any 12 month period', this is effectively a rolling average, and therefore for existing sites, data will be available on which to make a judgement

#### **4.5 Quantity of Pollutant Emitted**

This is a very unusual scenario, and applies to two activity descriptions only (Section 2.3 Part A paragraph (b) and Section 4.2 Part A paragraph (d)).

For Section 2.3 Part A paragraph (b), in deciding whether the activity meets the threshold, information will be required about the emission of cadmium to air and/or water in Table 1 to paragraph 10 in Part 2 to Schedule 1. The threshold is 1000g of Cd above the background quantity in any 12 month period. However, the background quantity in the air local to the site and in the receiving water is not required to assess whether an activity is above the threshold, and process that emits >1000g of Cd is prescribed. Where there are emissions to both air and water, the emissions should be aggregated to assess whether the activity emits a quantity of Cd >1000g in any 12 month period. A discharge to sewer should be treated as an emission to water. Note the qualification is in any 12 month period, this is a rolling period, and therefore if the activity is operated on a campaign basis, care needs to be taken to assess whether the emissions are able the threshold.

Section 4.2 Part A paragraph (d) similarly refers to Table 1 in paragraph 10 in relation to releases to water of any substance listed in column 1 to that table. The qualification is again for releases above the background quantity in any 12 month period. However, the background quantity in the air local to the site and in the receiving water is not required to assess whether an activity is above the threshold. It is unlikely the activities involving the metal compounds listed in Section 4.2 Part A paragraph (d) will emit many of the substances listed in Table 1, Hg and Cd from activities involving those metals are the most likely. Releases to air in Section 4.2 Part A paragraph (d) do not relate to a threshold

## **5 QUANTITATIVE THRESHOLDS APPLIED TO INDIVIDUAL ACTIVITY DESCRIPTIONS**

An issue can arise with the application of a threshold to a particular activity description, and a specific interpretation may be required in such a scenario. Annex 1 provides details

## 6 QUALITATIVE THRESHOLD - INDUSTRIAL SCALE IN CHEMICALS MANUFACTURE

The various activity descriptions within Chapter 4 of Part 1 of Schedule 1 to PPC 2012 that relate to chemicals manufacture do not include a quantitative threshold (note, the storage of chemicals does include a threshold). Instead, there is a general proviso that such activity descriptions apply only to “production on an industrial scale”, a qualitative threshold that is not defined in either PPC 2012 or the Industrial Emissions Directive (“IED”). In the commentary on the introduction to Annex I the IED states *“The Commission shall establish guidance on...(b) the interpretation of the term “industrial scale” regarding the description of chemical industry activities described in this Annex”*. SEPA has previously asked whether this guidance has been developed, but as far as it is aware, no guidance is available from the Commission.

This note also provides guidance on how to interpret the concept of “industrial scale” practically and consistently.

Chapter 4 Part A Sections 4.1 to 4.6 are prefaced with:

*“Producing” means the production by chemical or biological processing on an industrial scale of any listed substance or group of substances.”*

This is a transposition from the IED, however it has been applied to all chemical processes. The scale of chemical manufacture can vary from a few grams of a highly specialised product to many tonnes of a bulk chemical product, yet both scales may correspond to “industrial scale” for that particular activity.

If the activity is carried out for "commercial purposes", it should be considered as production on an industrial scale, even if the material is an intermediate product and therefore not itself traded. By contrast, other activities producing chemicals exclusively for their own consumption - for example domestic, academic or laboratory activities - would not be covered.

"Commercial purposes" may be taken generally to imply that the activity is being undertaken principally as a professional business activity. The existence of a form of trading account associated with the activity, or other such indicators, may illustrate the conduct of a business. If such indicators are absent, for example as may be the case in the small-scale production of "artisanal soap", it may be concluded that the activity is not being undertaken for "commercial purposes" and hence is not on an industrial scale.

“Chemical processing” implies that transformation by one or several chemical reactions takes place during the production process. An activity involving only physical processing (for instance simple blending or mixing of substances that do not chemically react, dewatering, dilution, repackaging of acids/bases) would not be covered.

For activities involving essentially physical processing but to a certain degree some chemical reactions (e.g. the mixing of two or more chemical substances to produce a third one which is then immediately sprayed or painted onto a surface, or where a two-component adhesive reacts to provide the actual adhesive material); a judgement will be required. Such types of activities carried out in places not normally considered to be a chemical installation (e.g. building or repair activities), may be considered to be a physical process.

## 7 ANNEX 1 - INDIVIDUAL ACTIVITY DESCRIPTIONS WITH A QUANTITATIVE THRESHOLD

The scenario used in activity descriptions that include a threshold are set out in the table below, along with guidance on the application of the threshold.

PPC 2012 Schedule 1 Section	IED Annex I	Type	Comments
1.1 Part A	1.1	Rated thermal input	Aggregation is limited to appliances operated by the same operator, however this is not consistent with the IED Annex I requirements and Scottish Government intends to amend Schedule 1 to PPC 2012.
1.1 Part B (a)	-	Rated thermal input	
1.1 Part B (b)	-	Rated thermal input	
1.1 Part B (c)	-	Rated thermal input	EED activities with upper and lower thresholds
1.1 Part B (d)	-	Rated thermal input	MCP activities with upper and lower thresholds
1.2 Part A (d)	-	Rated thermal input	Mention is made of "total" thermal input, which relates to the aggregate capacity.
1.2 Part B (b) (ii)	See comments	Quantity likely to be processed	Transposed from Article 6 to Directive 94/63/EC on recovery of petrol vapours
1.2 Part B (c)	-	Quantity actually processed	
1.2 Part B (d)	See comments	Either quantity intended to be processed, or quantity actually processed	Transposed from Article 3(1)(a) to Directive 2009/126/EC on recovery of petrol vapours
1.2 Part B (e)	See comments	Either quantity intended to be processed, or quantity actually processed	Transposed from Article 3(1)(b) to Directive 2009/126/EC on recovery of petrol vapours
2.1 Part A (b) (i)	2.2	Plant size	
2.1 Part A (c)	2.3(a)	Processing capacity	
2.1 Part A (d)	-	Quantity actually processed	
2.1 Part A (e)	2.2	Production capacity	
2.1 Part A (f)	2.3(b)	Rated thermal input	
2.1 Part A (g)	2.3(c)	Processing capacity	
2.1 Part A (h)	2.4	Production capacity	

PPC 2012 Schedule 1 Section	IED Annex I	Type	Comments
2.1 Part B (a)	-	Production capacity	
2.1 Part B (b) (i)	-	Plant size	
2.1 Part B (d) (i)	-	Rated thermal input	This is an upper threshold!
2.1 Part B (e)	-	Plant size	
2.2 Part A (b)	2.5(b)	Processing capacity	
2.2 Part A (d)	-	Plant size	
2.2 Part B (a)	-	Plant size	This is actually an upper threshold, rather than a lower one. The purpose is to ensure mutual exclusivity between Part A and Part B activity descriptions.
2.2 Part B (c) (i)	-	Rated thermal input	This is an upper threshold...
2.2 Part B (d)	-	Quantity actually processed	This activity threshold overlaps with the capacity in 2.1 A (g) (20 te melted zinc is capable of galvanising significantly more than 2 te/hr of steel). Scottish Government intends to delete this activity or reduce the threshold at the first opportunity to amend the Regulations.
2.2 Part B (e)	-	Quantity actually processed	
2.3 Part A (a)	2.6	Plant size	
2.3 Part A (b)	-	Quantity of an emission	
3.1 Part A (a)	3.1(a)	Production capacity	
3.1 Part A (b)	3.1(b) & (c)	Production capacity	
3.3 Part A	3.3	Production (throughput) capacity	
3.3 Part B (a)	-	Processing capacity	
3.4 Part A	3.4	Processing capacity	
3.5 Part B (b)	-	Quantity likely to be processed	An upper threshold is provided for via the definition of an "exempt location".
3.6 Part A (a)	3.5	Production capacity	
3.6 Part A (b)	3.5	Plant size	
4.1 Part B (a) (i)	-	Quantity actually processed	
4.1 Part B (a) (ii)	-	Quantity actually processed	

PPC 2012 Schedule 1 Section	IED Annex I	Type	Comments
4.1 Part B (c)	-	Quantity likely to be processed	
4.1 Part B (d)	-	Quantity likely to be processed	
4.2 Part A (d)	-	Quantity of an emission	
4.8 Part B	-	Plant size	
5.1 Part A (c)	5.2(a)	Processing capacity	
5.1 Part A (d)	5.6	Processing capacity	
5.1 Part B (a)	-	Processing capacity	Both lower and upper thresholds!
5.1 Part B (b)	-	Processing capacity	Both lower and upper thresholds!
5.2 Part A (a) (i)	5.4	Processing capacity	
5.2 Part A (a) (ii)	5.4	Site size	
5.3 Part A (b)	5.1	Processing capacity	
5.4 Part A (a)	5.3(a)	Processing capacity	
5.4 Part A (b)	5.3(b)	Processing capacity	
5.6 Part A (a)	5.5	Plant size	
5.6 Part A (b)	5.6	Plant size	
6.1 Part A (b)	6.1(b)	Production capacity	
6.1 Part A (c)	6.1(c)	Production capacity	
6.3 Part A	-	Quantity likely to be processed	
6.3 Part B (a)	-	Quantity likely to be processed	“Qualifying quantity”!
6.3 Part B (b)	-	Quantity likely to be processed	“Qualifying quantity”!
6.4 Part A (a)	6.2	Processing capacity	
6.4 Part A (b)	6.7	Processing capacity	
6.4 Part B (a) (i) to (iv)	-	Quantity likely to be processed	
6.4 Part B (b)	-	Quantity likely to be processed	
6.4 Part B (c)	-	Quantity likely to be processed	
6.5 Part B (a)	-	Quantity likely to be processed	
6.5 Part B (b)	-	Production capacity	

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PPC 2012 Schedule 1 Section	IED Annex I	Type	Comments
6.6 Part A	6.10	Production capacity	
6.6 Part B (a)	-	Quantity likely to be processed	
6.6 Part B (b)	-	Quantity likely to be processed	
6.7 Part A	-	Quantity actually processed	
6.8 Part A (a)	6.3	Processing capacity	
6.8 Part A (b)	6.5	Processing capacity	
6.8 Part A (c)	6.4(a)	Processing capacity	
6.8 Part A (d)	6.4(b)	Production capacity	
6.8 Part A (e)	6.4(c)	Processing capacity	
6.8 Part B (b)	-	Quantity actually processed	
6.8 Part B (c)	-	Plant size	
6.9 Part A (a)	6.6(a)	Plant size	
6.9 Part A (b)	6.6(b)	Plant size	
6.9 Part A (c)	6.6(c)	Plant size	
<b>PPC 2012 Schedule 1A</b>	-	Rated thermal input	Transposed from Directive 2012/27/EC on energy efficiency (EED)
<b>PPC 2012 Schedule 2</b>	-	Quantity actually used	Transposed from Directive 1999/13/EC on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain activities and installations (SED), relates to specified activities that use solvents.

## 8 ANNEX 2 – EXAMPLES OF INTERPRETATION OF ACTIVITY DESCRIPTIONS WITH A QUANTITATIVE THRESHOLD

### Section 1.1 Part A – Rated thermal input

*“Burning any fuel in a combustion appliance with a rated thermal input of 50 megawatts or more.”*

#### Interpretation of Part A

*For the purposes of Part A, where two or more appliances with an aggregate rated thermal input of 50 megawatts or more are operated on the same site **by the same operator** those appliances are to be treated as a single appliance with a rated thermal input of 50 megawatts or more.*

*For the purposes of section 1.1, “rated thermal input” is the rate at which fuel can be burned at the maximum continuous rating of the appliance multiplied by the net calorific value of the fuel and expressed as megawatts thermal.*

Note: The “*by the same operator*” is not consistent with the IED Annex I requirements and Scottish Government intends to amend Schedule 1 to PPC 2012.

“Appliance” is not defined in the IED or Regulations for the purposes of section 1.1 Part A. However, the interpretation of section 1.1 Part B (Combustion Activity descriptions) includes a definition of “appliance” as a boiler, furnace, gas turbine or compression ignition engine. In addition, in section 2.1 and 2.2 of Schedule 1 (Chapter 2 activity descriptions for the production and processing of metals) the term “appliance” is used in the same context as a furnace. SEPA will therefore consider that any individual furnace, boiler, engine (either compression ignition engine or spark ignition engine), or turbine constitutes an appliance.

In the case of a linked system (such as a gas turbine with associated heat recovery boiler, whether independently fired or not) such a combination will be considered as a single appliance. In such cases, the rated thermal input capacity of each part of the linked system needs to be aggregated to derive the total rated thermal input of the appliance.

In this example, the type of appliance is considered to be a gas turbine (CCGT) for the purposes of determining which ELVs may apply under the IED, in other cases SEPA may consider the part of the linked system having the largest rated thermal input to define the appliance type. The limitation of rated thermal capacity of an appliance by physical restriction to the rate at which fuel can be burned (to fall below the 50 MWth capacity threshold) is permitted and has historically been accepted by SEPA.

However, as noted above, such physical restriction must be sufficiently extensive that significant effort and/or time would be required to uninstall it. Examples would include a reduced diameter pipe that requires lifting equipment to replace or the installation of an orifice plate within a fuel feed line that could only be removed using a ‘permit to work’ system that produces a record of the work undertaken. The limitation of rated thermal capacity of an appliance by control systems (such as restricting the maximum speed of a variable speed feed pump or by limiting the travel of flow control valves) is not usually accepted by SEPA. This is because such systems are not considered sufficiently secure/reliable. In addition, because of the ease with which such control



systems can be modified, continual compliance with any control system restriction cannot be verified by periodic SEPA inspection.

### **Section 1.1 Part B (c) – Rated thermal input**

*“Burning any fuel in a combination of appliances with a total rated thermal input of more than 20 megawatts and less than 50 megawatts in an installation to which Schedule 1A applies.”*

This paragraph reflects the requirements of Article 14(5) to (8) of the Energy Efficiency Directive (2012/27/EU), which requires certain industrial and thermal electricity generation installation to carry out a Cost Benefit Assessment to ascertain whether it is economically viable to recover waste heat, including potentially using it in a district heating or cooling system. The requirements apply to any **installation** with a total RTI >20MW.

### **Section 1.1 Part B (d) – Rated thermal input**

*“Burning any fuel in a medium combustion plant with a rated thermal input equal to or greater than 1 megawatt and less than or equal to 20 megawatts.”*

This paragraph reflects the requirements of the Medium Combustion Plant Directive (2015/2193/EU), which requires individual combustion **plant** with a RTI >1MW to register with SEPA and meet specified emission limits depended on fuel type and size. Any plant <1MW is outwith scope and should be discounted. New plant which is put into operation after 20 December 2018 may be aggregated in certain circumstances.

### **Section 1.2 Part B (b) – Quantity likely to be processed**

*“The following activities:*

*the storage of petrol in stationary storage tanks at a terminal, or the loading or unloading of petrol into or from a road tanker, a rail tanker or an inland waterway vessel at a terminal,*

*the unloading of petrol into stationary storage tanks at a service station if the total quantity of petrol unloaded into such tanks at the service station in any 12 month period is likely to be equal to or greater than 500m<sup>3</sup>.”*

This new legislation was phased in over 6 years for existing sites, which, as a result had several years historical trading figures on which to base their estimated 12 month throughput. The largest 12 month quantity of petrol loaded into stationary storage tanks during the preceding 3 years was taken to be an indicator of that which would be again be likely, and a permit applied for, or otherwise, on that basis. Should the highest 12 month figure for any permitted site fall below the threshold over 3 preceding years an operator may decide that this downward trend is likely to continue and therefore surrender the permit. The operator should be aware however that if this rises again, a new permit is required.

For new sites, see 1.2 Part B (d) below

### **Section 1.2 Part B (c) – Quantity actually processed**

*“Motor vehicle refuelling activities at an existing service station if the petrol refuelling throughput at the station in any 12 month period is more than 3000m<sup>3</sup>.”*

This is a definitive figure, the operator must keep detailed records in order to ascertain the total rolling annual throughput of petrol at the site. Should this increase to more than the threshold, a variation to the permit is required.

### **Section 1.2 Part B (d) – Quantity intended to be processed**

*“Motor vehicle refuelling activities at a new service station if the petrol refuelling throughput at the station in any 12 month period is, or is intended to be, 500m<sup>3</sup> or more.”*

A new site will not have any previous year's data in which to estimate what the likely 12 month petrol throughput is likely to be. Many factors will play a part in estimating what the 12 month throughput will be and any company setting up a new petrol station will in all likelihood have researched the market forces, projected national petrol sales, hours of opening, geographical location etc. and decided on the size of site, quantity of tanks and pumps etc. accordingly. As such it will be known what the throughput is intended to be and the company will duly apply for a permit, or otherwise. Should it become clear that an unpermitted site will have a 12 month throughput above the threshold, a permit application is required. In reality, it is thought there will be few new sites where the 12 month annual throughput is intended to be below the threshold, as this equates to less than 30 average sized cars filling up each day with petrol, assuming 365 day opening.

### **Section 2.2 Part A (d) – Plant size**

*“Unless described elsewhere in this Section, melting (including making alloys, of non-ferrous metals, including recovered products), refining and foundry casting in a furnace, bath or other holding vessel which has a design holding capacity of 5 tonnes or more.”*

Holding capacity references the amount of molten metal that is being held within the process – whether this metal is held in a melting furnace or a holding facility.

### **Section 5.1 Part B (b) – Processing capacity**

*“Incineration of animal carcasses in an incineration or co-incineration plant with a capacity (i) of more than 50 kg/hr, and (ii) equal to or less than 10 tepd.”*

The important consideration is the word 'incineration'. Incineration is not related to the loading rate, it is the rate at which the material loaded actually combusts. Where a large load is added, the hourly incineration rate will vary throughout the period taken to burn the whole batch (it will start fairly low and then rapidly increase, followed by a long period (about half the time) where it will be at a lower rate again to burn out the material). The PPC prescribed activity description does not say this is the averaged rate over a batch etc. The only qualification is the quantity incinerated per hour, and indeed the fact that it is an hourly rate (rather than daily or monthly etc.) suggests that it should not be averaged over a batch period. Therefore, if the maximum incineration rate will be greater than 50 kg/hr for some of the batch period, a Part B permit is appropriate.

The fact Animal Health has given type approval for the incinerator is not a material consideration for SEPA. Particularly as each incinerator can be operated in a number

of fashions (from several small batches each of which takes about an hour to combust to one large batch taking many hours to combust). It is worth noting the detail in the Chapter II, Annex III to Commission Regulation (EU) No 142/2011 (Animal By-Product EU Regulations):

*Incineration and co-incineration plants treating only animal by-products and derived products with a maximum capacity of less than 50 kg of animal by-products per hour or per batch (low-capacity plants) and which are not required to have a permit to operate in accordance with Directive 2000/76/EC*

which strongly suggests that only those incinerators that incinerate at an hourly rate of no more than 50kg/hr at every stage in the operation are ‘low capacity’.

The justification for requiring a Part B PPC permit is that the rate of incineration will not be <50kg/hr throughout the batch process.

### Section 6.4 Part A (b) – Processing capacity

This section describes surface treatment using organic substances with a consumption capacity of more than 150 kg per hour or more than 200 tonnes per year (whichever is the lesser). This requires an assessment to be made on the solvent use capacity of the installation which will be dependent on the type of coating used ie the coating’s solvent content.

Consumption is only defined for a 6.4 Part B description but it is reasonable to borrow this interpretation for the Part A description.

Consumption = (total input of solvents, including solvents in coating materials and solvents used for cleaning or other purposes) – (any solvents removed from the process for re-use or for recovery for re-use).

Productivity/consumption of solvent is different depending on the coating used and its solvent content. Section 6.4 Part B also includes the phrase ‘is likely to use’ in terms of solvent consumption. Therefore, the worst-case consumption against the 150 kg/hr rate needs to be established, but not for the 200 tonnes a year.

For the 200 tonnes per year, it is reasonable to look at the actual solvent consumption from historical data on coatings used, which can then be adjusted to take into account full use of plant time to give an estimate of capacity. This information may then be used later to determine whether there has been a change in the activity being carried out.

### Section 6.8 Part A (a) – Processing capacity

*“Tanning hides and skins where the treatment capacity exceeds 12 tonnes of finished products per day”*

**Tanneries** may manufacture a material called “wet blue” or “wet white” which are intermediaries in final leather production and contains a high level of moisture. SEPA’s determination is that the term “finished products” refers to the product that leaves the installation **without discount for water content**.

### Section 6.8 Part A (b) – Processing capacity

*“Disposing of or recycling animal carcasses and animal waste at installations with a capacity exceeding 10 tonnes per day other than by incineration or co-incineration at installations falling within Section 5.1 of this Schedule.”*

**Fish processing** by-products such as fish offal, off-cuts, etc. from the processed of fish for the purposes of human consumption, and which are then further processed for the purposes of manufacturing either animal feed or further human consumption (e.g. fish oil, etc.) are not considered to be “waste” and would therefore be covered by Section 6.8 (d)(i).

**Rendering**, etc. is considered to be a disposal activity **if** the material from the rendering operation is disposed of e.g. by incineration or to landfill. Production less than 75 tonnes per day is likely to be a Section 6.8 Part B (a)(i) or (ii) activity if there is potential to release odour, dust, etc., unless it is an “exempt activity”.

**Fat melting** is classified as an activity under Section 6.8 (d)(i).

### **Section 6.8 Part A (c) – Processing capacity**

*“Slaughtering animals in slaughterhouses with a carcass production capacity greater than 50 tonnes per day.”*

**Carcass** means the body of a dead animal. Where head and offal are removed at point of slaughter (e.g. for mammals and birds), such material is excluded from the production capacity calculation. However, where the head and offal has not been removed, this material would be included in the calculation.

It should not be concluded that a dead animal only qualifies as a carcass after removal of head and offal e.g. a dead fish with head and offal intact would still constitute a carcass for the purposes of this section.

Where a fish is killed and bled, the carcass would be taken to be the intact dead body of the fish minus any blood that has been removed. Where the facility further processes the body, the carcass would normally be considered to the dead body once eviscerated.

### *Slaughtering*

In many slaughterhouses, animals are both killed and processed. The slaughtering activity is considered to have ended with the making of standard cuts for large animals or the production of a clean whole saleable carcass for poultry. Standard cuts are taken to mean carcasses, half carcasses or half carcasses cut into no more than three wholesale cuts or quarters.

### *Carcass production capacity limitations*

One limitation placed upon the carcass production capacity of a slaughterhouse is chilling capacity. Premises licensed by the Food Standards Agency (FSA) must have adequate refrigerated rooms for the storage of meat following slaughter to enable progressive chilling of the meat down to 7°C “without undue delay” (ie within 36 hours for beef and within 18 hours for pork or lamb/mutton). The chilling capacity of any particular installation should therefore generally be calculated on a 36 hour throughput time.

Storage for periods in excess of 36 hours are generally considered optional (for improved meat quality), and therefore would not constitute a legal limitation on the capacity of the plant. Note, the 36 hours chilling should only be used as a guide and site specific operating procedure such as the transfer of meat offsite for chilling, distribution of meat for the halal trade (not subject to the same chilling requirements) or the capabilities of the chilling equipment should be taken into consideration on a site specific basis.

It has also been suggested that the Food Standards Agency act as a legal restriction on the operating hours of slaughterhouses. While it is true that the FSA must be on site before slaughtering can take place, advice received from the FSA indicates that the hours its inspectors spend on site are dictated by the operator and not the FSA. The FSA has advised SEPA that it is legally required to provide cover for the slaughterhouse subject to 24 hours notification (beef). Therefore, SEPA would not normally accept the agreed working hours between the FSA and the operator to be a legal limitation on slaughterhouse capacity.

### **Section 6.8 Part A (d) – Processing capacity**

*“Treatment and processing, other than exclusively packaging, of the following raw materials, whether previously processed or unprocessed, intended for the production of food or feed from-*

- (i) only animal raw materials (other than milk only) with a finished product production capacity of more than 75 tonnes per day;*
  - (ii) only vegetable raw materials with a finished product production capacity of more than-*
    - (aa) 300 tonnes per day, or*
    - (bb) 600 tonnes per day where the installation operates for a period of no more than 90 consecutive days in any year;*
  - (iii) animal and vegetable raw materials (other than milk only), both in combined and separate products, with a finished product production capacity in tonnes per day greater than-*
    - (aa) 75 if A is equal to 10 or more, or*
    - (bb) 300 – (22.5 x A) in any other case*
- where ‘A’ is the portion of animal material in percent of weight of the finished product production capacity.*

**In Section 6.8 Part A (d)(ii)(bb)** the phrase “600 tonnes per day where the installation operates for a period of no more than 90 consecutive days” is used as a threshold for the treatment and processing of only raw vegetable materials.

The inclusion of this phrase is to allow a higher threshold value for activities that only operate on a seasonal basis according to the harvesting of a particular vegetable, fruit, grain, or fungi. An activity that occurs over one quarter of the year only can reasonably be regarded as seasonal activity hence the introduction of the higher threshold for plants operating for less than 90 consecutive days.

The 600 tonnes per day threshold only applies where the installation operates for one period of less than 90 consecutive days in a year. If the plant goes on to operate for another period then the lower threshold value of 300 tonnes per day stated in Section 6.8 Part A d (ii) (aa) would apply.

#### *Examples:*

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- A single period of operation of less than 90 days a year processing over 600 tonnes a day falls within Section 6.8 Part A (d)(ii) (bb).
- A series of periods of operation, but for less than 90 days a year in total, processing over 300 tonnes a day falls under Section 6.8 Part A (d)(ii) (aa).
- Sites that operate on and off, but for more than 90 days a year, processing over 300 tonnes a day, fall under Section 6.8 Part A (d)(ii) (aa) even if they never operate for a continuous period of 90 days.

This interpretation prevents an installation that operates all year round, but which never exceeds 90 day continuous operation, avoiding the 300 tonnes per day threshold. It would be an unreasonable result that a plant operating at 599 tonnes per day, 5 days a week, all year, would not need a permit; whereas a plant operating at 301 tonnes for 91 consecutive days only, would require a permit. The above interpretation also gives both provisions of subsection (d)(ii) more validity by removing the possibility of avoiding the 300 tonnes per day threshold by shutting down at least once every 90 days.

*Activities that ARE included:*

- **Treatment and processing** includes blanching, pasteurisation, fat melting, or food milling.
- **Treating and processing materials FROM animal raw materials** includes all activities that are part of the process of producing food products from or using animal raw materials. An argument was raised by an operator that the installation was not processing materials **from** animal raw materials, as what was processed **was** the animal raw material (fish). SEPA's position is that, as detailed in the Directive, it is clear that all activities that are part of the process of producing food products from animal raw materials are included.
- **Raw Materials** are any materials whether processed or not that are used as ingredients in the activity. Raw materials can include waste materials and accordingly a food product can be made from waste.
- **Food products** includes food intended for animals. Feed milling and pet-food manufacture are therefore covered within section 6.8(d)(i).
- **Animal raw materials** means anything from a living or dead animal and includes minerals derived from animal sources, such as bone.
- **Milk products** as ingredients are classified as animal raw materials.
- **Milk** to which something has been added is a **milk product**. Such as whey, butter, cream, buttermilk, condensed milk, flavoured milk or cheese.
- **Milk** however is **not** viewed as an animal raw material for the purposes of section 6.8(d)(i).
- **Honey** is classed as an animal raw material.
- **Vegetable raw material** includes fruits, grain and fungi.
- **Animal and vegetable products** (either combined or separately, eg in meat pies) on a sliding scale threshold between 300-75 tonnes per day for 0-10% animal material; and a set threshold of 75 tonnes per day if animal content is >10%.

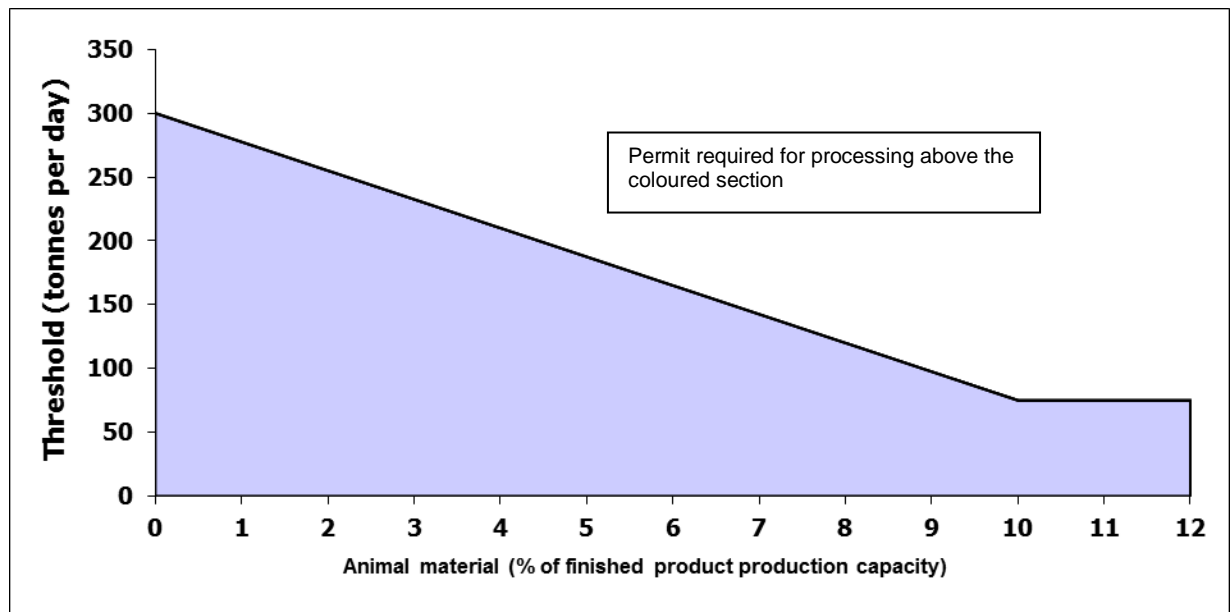
*Activities NOT included:*

The following activities are excluded from the calculation of finished product production capacity, as they do not result in a readily irreversible material change. Where these

activities do form part of an installation, they will still be permitted as part of the stationary technical unit or as directly associated activities.

- **Chilling** where no other processing activity is undertaken.
- **Freezing** including pelagic fish freezing.
- **Drying, blending** e.g. grain drying where no other activity is carried out.
- **Bottling of water** as water is neither vegetable nor animal raw material.
- **Carbonisation** of soft drinks where this is the only activity carried out on site. Where sugar, fruit juice, etc. is added then this is clearly vegetable processing. Artificial additives may also be considered vegetable matter and each process should be considered individually.
- **Washing, grading** where no other processing activity is undertaken.
- **Plant health products and pharmaceuticals**, many of these are enzymes, and their production is covered by Section 4.4 and 4.5 respectively. Otherwise their production should not generally be included as a listed activity under 6.8 as they are not themselves food products.
- **Mineral production (or purification)** of any mineral not derived from animal, vegetable or milk (e.g. table salt (sodium chloride), baking soda (sodium bicarbonate), is excluded.

**Graphical representation of the 'sliding scale' rule:**



**Section 6.8 Part A (e) – Processing capacity**

*“Treating and processing milk: the quantity of milk received being more than 200 tonnes per day (average value on an annual basis)”*

The phrase “average value on an annual basis” has been included to take account of the fluctuating milk output from cows along with the word “received” rather than capacity. This means that the average of the **actual daily received** volumes not the maximum potential capacity should be used to calculate the annual average received. Only days when milk is actually received should be considered.

Any process treating and/or processing milk over the activity threshold (based on volume of milk **received**) will be a listed activity whether or not the end product is best described as milk. The activity description would also cover non-food production activities if they treat and process milk, and receive milk above the threshold.

For example, manufacturing milk chocolate or chocolate crumb (an intermediate product in the production of chocolate) will fall under this description if it receives more than 200 tonnes of milk per day.

**Milk** means whole milk, dried milk, skimmed milk, evaporated or unsweetened condensed milk. It should not however, be taken to mean whey, butter, cream, buttermilk, condensed milk, flavoured milk or cheese. Milk to which something has been added constitutes a **milk product**.

Where **dried, unsweetened condensed or evaporated milk** is used; the weight should be calculated back to the raw “wet milk” equivalent state to assess whether the threshold is exceeded. Based on the relevant conversion factors, 200 tonnes of raw milk is equivalent to:

- 25 tonnes of full cream dried milk powder
- 20 tonnes of semi-skimmed dried milk powder
- 18 tonnes of skimmed dried milk powder

**Milk solids** is a loose term that requires qualification and is therefore best avoided. It is preferable to speak in terms of whole (or total) milk solids, skim milk solids, (both of which constitute milk) or whey solids (which constitutes a milk product).

### **Section 6.8 Part B (a)**

*“Processing, storage or drying by heat of any part of a dead animal or of vegetable matter, unless it is an exempt activity, or an activity described in paragraph (d) of this Part, which may-*

- result in the release into the air a substance referred to in paragraph 9 of Part 2 of this Schedule, or*
- give rise to an offensive smell noticeable outside the premises in which the activity is carried on.”*

**Exempt activity** refers only to activities listed under Part B (a) which are described as exempt activities in the interpretation of Section 6.8.

### **Schedule 1A**

See details under Section 1.1 Part B (c).

### **Schedule 1B**

See details under Section 1.1 Part B (d).

### **Schedule 2**

Part 1 of Schedule 2 lists 21 solvent emissions activities with various solvent consumption thresholds. Such activities are deemed to be operated above the solvent consumption threshold if it is **likely** that the threshold will be exceeded over a year. The cleaning of equipment is included within an activity except for surface cleaning activities (which are the cleaning of products).



Capacities of the activity carried out in different locations within the same installation are added together and the total capacity used to assess whether the threshold is likely to be exceeded for that activity. The nominal capacity is the maximum mass input of solvent averaged over one day when the installation is operated at its design output under normal operating conditions.

The solvent consumption threshold equals the total input of organic solvent into an installation in a year less any solvent recovered for reuse. The solvent input is the quantity of solvents used when carrying out the activity (including the solvents recycled inside and outside the installation) and which are counted every time they are used to carry out the activity. This is different to the calculation used to assess the amount of solvent used in a Schedule 1 section 6.4 activity where the solvent amount is only counted at the point of input and not every time it is used in the process