

**Capacity & Thresholds guidance for EASR Industrial Emissions and Other Emissions Activities**

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**This guidance has been updated to meet accessibility standards and to replace certain references to legislation with references to the Environmental Authorisations (Scotland) Regulations 2018. It has not been reviewed beyond this. We are aware that sections of this guidance may need to be updated, and this work will be completed in due course.**

If you would like this document in an accessible format, such as large print, audio recording or braille, please contact SEPA by emailing equalities@sepa.org.uk

## Introduction

A number of the activity descriptions in schedules 20 to 28 to the Environmental Authorisations (Scotland) Regulations 2018 (as amended) (“EASR”) are qualified by reference to a threshold or capacity. These references are not expressed in a uniform manner, with threshold or capacity expressed as various types of quantitative threshold, eg, production capacity or rated thermal input, or by reference to the activity being operated on an “industrial scale”. This note provides guidance on the appropriate interpretation of quantitative and qualitative thresholds across the different EASR industrial emissions and other emissions activities.

The capacity of an activity can determine whether the activity is subject to the EASR regime, what technical schedule of EASR applies, and the extent to which it applies. It may also determine the appropriate tier of authorisation applicable to the activity as set out in the in the SEPA Practical Guide for schedules 20 & 26 EASR Permit-level Industrial Activities and individual activity pages. It is therefore important for SEPA and the operator to understand the capacity of a process or activity, the basis on which this was derived, and the implications in relation to regulation of that site’s operations.

The capacity of an installation may be given in an application for a registration or permit or variation of a permit, or may be the subject of discussion between an operator and SEPA. SEPA can require anyone (not just an authorised person) to supply capacity information using a Regulation 37(1) Information Notice.

## Regulatory Position

An operator should determine the maximum capacity of its activities to establish what regulated activity, if any, they are carrying out. An operator should satisfy itself that it is compliant with the law. It is an offence to carry on a regulated activity that is not authorised under EASR and carried on in accordance with, and to the extent authorised by, that authorisation.

If it appears to SEPA that a person is carrying on a regulated activity and that operator refuses to apply for an authorisation, SEPA may treat the activity as one in which an application for a registration or permit has been made. It is an offence under Regulation 69(1)(a) to contravene Regulation 7 which requires a person to be authorised under EASR to carry on a regulated activity. SEPA may take enforcement action in line with its enforcement policy for a contravention of Regulation 7, which could include a report to the Procurator Fiscal.

SEPA cannot include conditions within an EASR authorisation for an ‘other emissions activity’ that limit capacity to keep it from becoming an ‘industrial emissions activity’ (see also section 4.1 on theoretical vs actual capacity). Conditions cannot be included in the permit specifically to limit the throughput of the activities. For example, adding details on working hours for the sole reason of limiting throughput, or for a combustion plant with a capacity of 55 MW, a limit cannot be included in a permit for an ‘other emissions activity’ to state that the operator may restrict the flow of fuel to the combustion plant to below 49 MW equivalent and therefore evade regulation as an ‘industrial emissions activity’.

The installed capacity should be included in the activity description in the permit – therefore there is a capacity limit, and any breach is an offence. Note, the capacity listed should be the capacity of the specific process, not the threshold in the activity description in the Regulations. This ensures that any modifications to the process that change the capacity are subject to permit variation procedures.

## Types of Quantitative Thresholds and Interpretation

### Types of Thresholds

Quantitative thresholds are included in EASR activity descriptions and technical requirements for industrial emissions activities in:

* Schedule 20 (chapter 2 Annex I Industrial Emissions Directive 2010/75/EU (IED) list of activities, formerly PPC schedule 1 Part A).
* Schedule 21 (chapter 3 IED large combustion plant (LCP) activity provisions, formerly PPC schedule 1 Part A).
* Schedule 22 (chapter 4 IED incineration and co-incineration activity provisions, formerly PPC schedule 1 Part A).
* Schedule 23 (Directive 1999/13/EC activities on the limitation of emissions of volatile organic compounds, formerly PPC schedule 2).
* Schedule 24 (chapter 6 IED titanium dioxide activities provisions, formerly PPC schedule 1 Part A).

and other emissions activities:

* Schedule 26 (“other emissions activities” domestically regulated, formerly PPC schedule 1 Part A and Part B).
* Schedule 27 (MCPD medium combustion plant 1-50MW, formerly PPC schedule 1 Part B and Schedule 1B) and
* Schedule 28 (Article 3(1)(a) and (b) to Directive 2009/126/EC activities on recovery of petrol vapours, formerly PPC schedule 1 Part B).

and the energy efficiency requirements for specified activities:

* Schedule 25 (Energy Efficiency Directive Article 14 requirements, formerly PPC schedule 1 Part A and schedule 1A).

A quantitative threshold can be expressed in terms of:

1. Processing or production capacity.
2. Rated thermal input.
3. Holding capacity (ie, size) of plant item(s).
4. Quantity likely to be processed or produced;
5. Quantity intended to be processed.
6. Quantity actually processed, produced, or consumed or
7. Quantity of a pollutant that may be present or emitted.

Annex A to this document provides a list of all the EASR (and former PPC) activity descriptions that have a quantitative threshold, along with an indication of the particular type of threshold that applies in each case.

### Interpretations of Threshold and Capacity

There are slight differences to the interpretation of threshold or capacity in schedules 20, 23, 26, 27 and 28, as detailed in sections 3.2.1 to 3.2.5 respectively below.

#### Schedule 20 – emissions activities

Schedule 19, Part 1, paragraph 3(1) of EASR provides the following interpretation of terms:

*“schedule 20 emissions activity” means an activity listed in Part 4 of schedule 20 where the installed capacity is at or above any applicable threshold in that schedule, whether or not the activity is carried on below the threshold,*

Paragraph 5 to schedule 19, Part 1 provides further interpretation of capacity thresholds for schedule 20, Part 4 activities:

***Interpretation: threshold values***

*5. For the purposes of this schedule and schedule 20—*

1. *threshold values generally refer to production capacities or outputs,*
2. *where an activity is described by reference to a threshold value, the threshold value refers to the installed capacity or output, whether or not the activity is carried on below the threshold,*
3. *where several activities falling under the same activity description containing a threshold are operated in the same installation, the capacities of those activities are to be added together in order to determine whether a threshold is met,*
4. *for the waste management activities in paragraphs 23 and 25(1) and (2) of Chapter 3[[1]](#footnote-2) [should read Chapter 5 – please see footnote] of Part 4 of schedule 20, the calculation in sub-paragraph (c) applies at the level specified for each of those activities in that schedule.*

The European Commission provided [Guidance on determining capacity for the purposes of the IPPC Directive](https://wayback.archive-it.org/12090/20230310201603/https%3A/ec.europa.eu/environment/archives/air/stationary/ippc/pdf/capacity_guidance.pdf), 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 schedule 20 to EASR. This is explored further in section 5 below.

#### Schedule 23 – organic solvent emissions activities

Paragraph 2 to schedule 23 provides an interpretation of threshold values for schedule 23, Part 1 activities:

***Interpretation: organic solvent emissions activity***

*2.—(1) An activity listed in column 1 of Table 1 is an organic solvent emissions activity if it is operated at or above the solvent consumption threshold (“SCT”) as described in column 2 of that table.*

1. *An activity listed in Table 1 is deemed to be operated above the solvent consumption threshold if it is likely to be operated above that threshold in any period of 12-months.*
2. *An activity listed in Table 1 includes the cleaning of equipment in respect of the activity but not, except for a surface cleaning activity, the cleaning of products.*
3. *Where an activity listed in Table 1 is carried out in different parts of a stationary technical unit, or in different units on the same site, the capacities of each part or unit are added together and the total capacity attributed to each part or unit for the purpose of determining whether the activity is operated above the threshold.*

Schedule 23 paragraph 2(2) applies the theoretical capacity for a rolling 12-month period to organic solvent activities. Schedule 23 activities are all type (VI) in section 3.1 above.

#### Schedule 26 – other emissions activities

Paragraph 2 to schedule 26 provides an interpretation of threshold values for Schedule 26, Part 3 activities:

***Interpretation: threshold values***

*2.—(1) For the purposes of Part 3 of this schedule, a “threshold value” generally refers to production capacities or outputs.*

1. *Where several activities falling under the same activity description containing a threshold are operated in the same place, the capacities of those activities are to be added together in order to determine whether a threshold value is met.*

Schedule 26 has no explicit reference to the installed capacity or output. However, a production capacity infers this relates to the installed capacity, whether or not the activity is carried on below the threshold, unless detailed otherwise in the activity description. The thresholds in Schedule 26 activities fall into all types (I) to (VII) in section 3.1 above, details of each activity description and the category of that threshold are included in Annex A.

#### Schedule 27 – medium combustion plant activities

The capacity of any combustion plant is designated by the rated thermal input, and therefore always a type (II) threshold in section 3.1 above. See details in section 5.2 below.

Paragraph 3 to schedule 27 provides an interpretation of operating hours for schedule 27 Part 1 paragraph 2(1) activities:

*“operating hours” has the meaning given in paragraph 2 of schedule 21 of these Regulations* (thus *“operating hours” means the time, expressed in hours, during which a combustion plant, in whole or in part, is operating and discharging emissions into the air, excluding start-up and shut-down periods*)

In addition, paragraph 4 to schedule 27 provides aggregation rules:

***Aggregation***

1. *A combination formed by two or more new medium combustion plants is considered to be a single medium combustion plant for the purposes of this schedule and their rated thermal input are added together for the purpose of calculating the total rated thermal input of the plant, where—*
2. *the waste gases of the plants are discharged through a common stack, or*
3. *in the opinion of SEPA, the waste gases of the plant could be discharged through a common stack, taking into account technical and economic factors.*

#### Schedule 28 – petrol vapour recovery activities

Paragraph 2 (b) to (e) to schedule 28 provides the activity descriptions and incorporates the interpretation of threshold values for those activities.

***2.*** *“Petrol vapour recovery activity” means any of the following—*

1. *…,*
2. *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 500 m3,*
3. *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 3000 m3,*
4. *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, 500 m3 or more,*
5. *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, 100 m3 or more and the service station is under permanent living quarters or working areas.*

Thus, (b) refers to total quantity unloaded and is therefore a type (IV) threshold in section 3.1 above, (c), (d) and (e) each refer to throughput, with (c) a type (VI) threshold, and (d) and (e) additionally qualifying this as “or is intended to be”, and therefore a type (V) threshold.

## General Rules for the Application of Quantitative Thresholds

### Theoretical vs Actual Capacity

Capacity is not the actual throughput of an installation, instead it 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 restrictions, or legal restrictions in place such as hours of operation under planning (see sections 5.1.1 and 5.1.2 below).

Therefore, where a threshold is mentioned in an activity description, the only relevant consideration for capacity is whether the ***installed*** capacity exceeds the threshold, subject to any technical restrictions, or legal restrictions (see sections 5.1.1 and 5.1.2), not whether the activity is actually operated above the threshold.

Schedule 19 paragraph 5(b) has the effect of applying the theoretical annual capacity for industrial emissions activities operated only part of the year. Similarly, schedule 23 paragraph 2(2) applies the theoretical capacity for a rolling 12-month period to organic solvent activities.

These rules on theoretical vs actual capacity apply to threshold types (I) to (III) listed in section 3.1 above. Types (I) and (III) make explicit mention of capacity, and the definition of rated thermal input (II) relies on the capacity of an appliance to consume fuel.

### Multiple Activities

Each of the EASR threshold interpretations detailed in sections 3.2.1 to 3.2.4 above provides rules for determining whether a threshold has been exceeded where more than one activity falling within the same description under schedules 20, 23, 26 and 27, respectively, is carried out in the same installation, different parts of a stationary technical unit, or different stationary technical units on the same site, at the same place or where the emissions could be discharged through the same stack.

In such circumstances, the sum of the capacities of all the activities within that description in that schedule carried on at a site is used to determine whether an individual activity exceeds a threshold. Therefore, even when the capacity of any activity does not meet a threshold individually, it must still be included in the summed capacity, and 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 authorised persons, the capacities of all of these activities must still be summed. In addition, in order to be compatible with schedule 19 paragraph 5(c), schedule 23 paragraph 2(4), schedule 26 paragraph 2(2), or schedule 27 paragraph 4(b), where there are multiple activities at a site, the stationary technical unit(s) must be considered a single installation and permitted accordingly. Similarly, for schedule 28 paragraph 2(b) to (e) activities, as the threshold is based on the service station, all activity at that service station is aggregated.

Where there are multiple activities covered by the same description, each will be regulated by the permit, eg, on sites with both wastewater treatment and waste treatment that are not sequential processes for the same waste, the capacity of each is aggregated to determine whether the site is operating above the activity description threshold, and if above the threshold, each would be regulated.

Additionally, in accordance with paragraph 5(d) to schedule 19, for waste management activities in activities in paragraphs 23 or 25(1) or (2) of Chapter 5 of Part 4 of schedule 20, then the aggregation rules apply to any and all activities prescribed in the respective activity descriptions (see example in Annex B).

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

### Net vs Gross Quantities

The quantity that needs to be taken into account is the net amount of the material specified in the threshold, ie, excluding any containers, packaging, etc. However, unless specifically stated to the contrary (see Annex A), 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.

### 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. It includes all materials that are to be used directly as a product, or which go on to be further processed prior to being used as a product. The finished product weight or volume is the production from the installation.

This applies irrespective of whether 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.

### Automated v Manual Capacity

The only reference in the EASR to manual operations, as opposed to machine processes, is under the definition of dry cleaning in paragraph 3(1) to Part 1 to schedule 23:

*“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 (Activity 12 in Table 1 to schedule 23).

## Specific Considerations for Quantitative Threshold Types

### 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 Schedule 20 activity descriptions, and several schedule 26 descriptions include reference to production or processing capacity. Such a threshold is expressed as a rate (such as tonnes or m3 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 theoretical 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 schedule 19, Part 1, paragraph 5(b).

Schedule 26 paragraph 2 has no explicit reference to the installed capacity or output. However, a production capacity infers this relates to the installed capacity, and therefore this is the capacity that should be examined for determination of carrying on a prescribed activity under any of the relevant schedule 26 activity descriptions, whether or not the activity is carried on below the threshold.

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. These are applicable to schedule 20 activities, and there is nothing to suggest they are not equally applicable to schedule 26 activities.

#### Technical Restrictions

In determining capacity, 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:
* eg, overall capacity of a meat processing line may be technically constrained by the installed cooling or freezing capacity;
* eg, 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 authorised place 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.

An undertaking by the operator not to exceed the threshold is not a sufficient or acceptable restriction to capacity. A restriction that is introduced specifically to limit throughput should 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 such restrictions should be assessed carefully as it may make the process less efficient or effective).

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. It is reasonable to expect an officer to inspect the equipment visually or to check records, for example of ‘permit to work’ activity, or records of emissions to verify the production. Specialist inspector advice is available to officers to confirm the technical restriction is appropriate during initial determination of capacity.

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 include a reduced diameter pipe that requires lifting equipment to replace and would be undertaken using a system that produces a record of the work undertaken.

Many activities are at least partially automated, and the possibility of limiting throughput through the control system may be an option in certain circumstances. Examples might include restricting the maximum speed of a variable speed feed pump, setting a minimum time period between batches, or restricting batch sizes. However, the ease with which control systems can be modified or overridden, and the difficulty in tracking such modifications, means that there would be a challenge in ensuring that the restriction is sufficiently secure and reliable.

Therefore, the use of a control system to limit throughput may be acceptable if there is tamper proof seal on the controller used for the process, the software controls have more than one layer of protection, the batch size or throughput is limited by a physical restriction (eg, vessel size), and where the software controls would not have the effect of de-regulating a process.

Note also, software controls do not limit the capacity of the plant, instead the quantity produced is limited; this is a subtle but important legal difference. The use of software controls does not constitute a viable technical restriction and therefore the use of software controls cannot be employed to reduce production capacity to bring an activity below a threshold in schedules 20 to 28.

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 or variation application is not made, the operator will be committing an offence by virtue of Regulation 69(1)(a) of EASR. 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 37(1) of EASR 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 69(1)(f) of EASR.

#### Legal Restrictions

Where the technical capacity of an installation exceeds a threshold of an activity as defined in schedules 20, 23, 26, 27 or 28 of EASR, it is possible that the capacity is limited to a capacity below the threshold in EASR by legal means so that the installation does not come under the scope of the Regulations, or is under a different schedule with a lower threshold. However, such a legal restriction must be by another legal instrument, not an EASR permit or authorisation unless there are conditions limiting the quantity of waste received or similar. Examples are Health and Safety legislation, planning restrictions, or another type of environmental licence. For example: restricted hours of operation imposed under planning consent; a Scottish Water effluent discharge consent limiting the quantity of effluent that may be discharged; or 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 eg, 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.

Therefore, quantitative threshold restrictions are limited to:

* legal instruments with general validity (such as hours of operation under planning regulations); or
* a licence issued under separate regime (eg, planning consent).

A legal restriction is different from a condition in an authorisation. For example, if an operator has a concrete pad for waste treatment windrows that could process > 75 tepd, but chooses to operate at a rate of 50 tepd, including a permit condition with a waste receipt limit of 50 tepd may be considered a legal restriction, but would require several other conditions, possibly including technical restrictions that stop the operator increasing the waste accepted, and details waste throughput/receipt records and reporting duties.

### Therefore, whilst SEPA can and should include permit conditions for the waste quantity, in most cases this should be based on the installed capacity at the site (ie, the concrete pad). Therefore, if an operator has a pad suitable for a maximum of 60 tepd, the permit should be for <60tepd. This is no different to other activities that have thresholds included in the activity description. In general, any operator of a waste recovery/treatment process with installed capacity >75 tepd should require a schedule 20 permit, with similar requirements for each activity type.(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 regulated activities falling within EASR schedules 20, 21, 25, 26 and 27.

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). Regulation 2(1) of EASR defines RTI as:

*“rated thermal input” means 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 expressed as megawatts thermal,*

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).

In accordance with the interpretation in Regulation 2(1) above, NCV should be used to assess the RTI for combustion plant in schedules 20, 21 and 26. Therefore, the RTI capacity assessment for all combustion plant regulated under EASR (LCP, MCP, EED etc) is based on the NCV.

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 by the operator, with the details of the calculation supplied to SEPA. This would involve measuring the maximum fuel throughput achievable and multiplying the result by the net calorific value of the fuel.

### Plant Size or Holding Capacity

This threshold generally relates to vessel size and is normally defined in terms of volume (ie, m3), holding capacity (ie, 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 (eg, weight and density to assess volume, etc), or records of the number of poultry kept, etc.

### 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 (schedule 20, Part 4). However, schedule 26, Part 3 includes the activities with quantities likely to be processed or produced, schedule 28 paragraph 2 (which 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 23 quantifies on actually used (transposes Directive 1999/13/EC on the limitation of emissions of volatile organic compounds).

#### Quantity Likely to be Processed or Produced

This threshold applies to several “other emissions activities” under schedule 26 (see Annex A). 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.

#### Quantity Intended to be Processed

This threshold relates exclusively to schedule 28 paragraph 2 (b) to (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. It is expressed on the basis of annual throughput. Past processing volumes may be an indicator of intended quantities in future years.

#### Quantity Actually Processed, Produced or Used

This threshold applies several domestically regulated “other emissions activities” under schedule 26 (see Annex A), and to schedule 23 organic solvent emissions 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 the 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.

### Quantity of Pollutant Present or Emitted

This is an unusual scenario and applies to three activity descriptions (schedule 26, Part 3, Chapter 2 paragraphs 13, 15 and 19).

Schedule 26, Part 3, Chapter 2 Activities 13 and 15 relates to quantity of pollutant that may be present (note paragraph 15 has a general quantity threshold for the plant size, with the pollutant present threshold relating to tin only, see below).

For schedule 26, Part 3, Chapter 2 Activity 13, the processes of producing, melting or recovering cadmium or mercury, or any of their alloys is prescribed under this paragraph, where the resulting material could contain more than 0.05% of either Cd or Hg, or an aggregate of the two metals. The processes are widely specified as by chemical, heat or electrolysis means, and therefore any process that handles Cd or Hg is likely to be applicable, and the threshold is relatively low.

For schedule 26, Part 3, Chapter 2 Activity 15, the processes of producing, melting, or recovering or refining non-ferrous metals in general has a 5 tonne plant capacity (ie, a type (III) threshold type in section 3.1 above). In addition, there is a specific threshold for tin and its alloys. The threshold of 50% or more by weight of tin applies irrespective of the design holding capacity (ie, there is no lower threshold for tin processes).

For both schedule 26, Part 3, Chapter 2 Activities 13 and 15, the assessment of whether the threshold is met will rely on the records of the alloy assays, therefore this may need to be sought by Regulation 37(1) information notice and maintained by permit conditions of alloy assay at a suitable internal (this may depend on the variability of the process/raw materials, and initially a frequent assay requirement may be needed to determine the variability).

Schedule 26, Part 3, Chapter 2 Activity 19 relates to quantity of pollutant that may be emitted. In deciding whether the activity meets the threshold, information will be required about the emission of cadmium to air and/or water. 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, any 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.

Schedule 26 Chapter 4 Activity 52 no longer has an emission threshold. This existed for the former PPC schedule 1, Section 4.2 Part A paragraph (d) activity, however the threshold qualification has been removed for EASR. There is no threshold and any activity that “may result in the release into the air of any of those elements or their compounds” is required to be regulated. Thus, any operator with an activity that involves any of the 13 metals listed will need to apply for an authorisation. Any operator that is already permitted may need a variation to those permit conditions to reflect the removal of the threshold.

## 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 A provides details.

## Qualitative Threshold - Industrial Scale in Chemicals Manufacture

The various activity descriptions within Chapter 4 of Part 4 of schedule 20 to EASR 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 in paragraph 22 that such activity descriptions apply only to “production on an industrial scale”;

***22.*** *In this Chapter, “production” means the production on an industrial scale by chemical or biological processing of substances or groups of substances listed in paragraphs 16 to 21.*

This qualitative threshold is not defined in either EASR or the 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. Therefore, this note also provides interim guidance on how to interpret the concept of “industrial scale” practically and consistently.

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 may not itself be traded (eg, it could be transferred to another site operated by the company). 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", etc, 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 (eg, 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 (eg, building construction or repair activities), may be considered to be a physical process.

## Annex A – Individual Activity Descriptions with a Quantitative Threshold

The types (I) to (VII) of quantitative capacity used in activity descriptions that include a threshold are set out in the table below with guidance on the application of the threshold.

1. processing or production capacity;
2. rated thermal input;
3. holding capacity (ie, size) of plant item(s);
4. quantity likely to be processed or produced;
5. quantity intended to be processed;
6. quantity actually processed, produced, or consumed; or
7. quantity of a pollutant that may be present or emitted.

| **EA(S)R** | **PPC 2012 Schedule 1 Section** | **IED Annex I** | **Type** | **Comments** |
| --- | --- | --- | --- | --- |
| **Schedule 20, Part 4 – INDUSTRIAL EMISSIONS ACTIVITES** |
| **Chapter 1 – Energy Industries** |
| Activity 1 | 1.1 Part A and Schedule 1A | 1.1 | Rated thermal input | Includes requirements transposed from Directive 2012/27/EC on energy efficiency (EED) |
| Activity 4 | 1.2 Part A (d) | 1.4 | Rated thermal input | Mention is made of “total” thermal input, which relates to the aggregate capacity |
| **Chapter 2 – Production and Processing of Metals** |
| Activity 6 | 2.1 Part A (e) | 2.2 | Production capacity |  |
| Activity 7 (a) | 2.1 Part A (c) | 2.3(a) | Processing capacity |  |
| Activity 7 (b) | 2.1 Part A (f) | 2.3(b) | Rated thermal input |  |
| Activity 7 (c) | 2.1 Part A (g) | 2.3(c) | Processing capacity |  |
| Activity 8 | 2.1 Part A (h) | 2.4 | Production capacity |  |
| Activity 9 (b) | 2.2 Part A (b) | 2.5(b) | Processing capacity |  |
| Activity 10 | 2.3 Part A (a) | 2.6 | Plant size |  |
| **Chapter 3 – Mineral Industries** |
| Activity 11 (a) | 3.1 Part A (a) | 3.1(a) | Production capacity |  |
| Activity 11 (b) & (c) | 3.1 Part A (b) | 3.1(b) & (c) | Production capacity |  |
| Activity 13 | 3.3 Part A | 3.3 | Production (throughput) capacity |  |
| Activity 14 | 3.4 Part A | 3.4 | Processing capacity |  |
| Activity 15 | 3.6 Part A (a) | 3.5 | Production capacity |  |
| Activity 15 | 3.6 Part A (b) | 3.5 | Plant size |  |
| **Chapter 5 – Waste Management** |
| Activity 23 | 5.3 Part A (b) | 5.1 | Processing capacity |  |
| Activity 24 (a) | 5.1 Part A (c) | 5.2(a) | Processing capacity |  |
| Activity 24 (b) | 5.1 Part A (d) | 5.6 | Processing capacity |  |
| Activity 25 (1) | 5.4 Part A (a) | 5.3(a) | Processing capacity |  |
| Activity 25 (2) | 5.4 Part A (b) | 5.3(b) | Processing capacity |  |
| Activity 25 (3) | 5.4 Part A (b) | 5.3(b) | Processing capacity |  |
| Activity 26 | 5.2 Part A (a) (i) | 5.4 | Processing capacity |  |
| Activity 26 | 5.2 Part A (a) (ii) | 5.4 | Site size |  |
| Activity 27 | 5.6 Part A (a) | 5.5 | Plant size |  |
| Activity 28 | 5.6 Part A (b) | 5.6 | Plant size |  |
| **Chapter 6 – Other Activities** |
| Activity 29(b) | 6.1 Part A (b) | 6.1(b) | Production capacity |  |
| Activity 29(c) | 6.1 Part A (c) | 6.1(c) | Production capacity |  |
| Activity 30 | 6.4 Part A (a) | 6.2 | Processing capacity |  |
| Activity 31 | 6.8 Part A (a) | 6.3 | Processing capacity |  |
| Activity 32 (1) | 6.8 Part A (c) | 6.4(a) | Processing capacity |  |
| Activity 32 (2)(a) to (c) | 6.8 Part A (d) | 6.4(b) | Production capacity |  |
| Activity 32 (2)(d) | 6.8 Part A (e) | 6.4(c) | Processing capacity |  |
| Activity 33 | 6.8 Part A (b) | 6.5 | Processing capacity |  |
| Activity 34 (a) | 6.9 Part A (a) | 6.6(a) | Plant size |  |
| Activity 34 (b) | 6.9 Part A (b) | 6.6(b) | Plant size |  |
| Activity 34 (c) | 6.9 Part A (c) | 6.6(c) | Plant size |  |
| Activity 35 | 6.4 Part A (b) | 6.7 | Processing capacity |  |
| Activity 38 | 6.6 Part A | 6.10 | Production capacity |  |
| **Schedule 26, Part 3 – OTHER EMISSIONS ACTIVITIES** |
| **Chapter 1 – Thermal treatment and associated activities** |
| Activity 1 (1) | - | - | Rated thermal input | New activity |
| Activity 3(1)(c) | 1.2 Part A (d) | - | Rated thermal input | Mention is made of “total” thermal input, which relates to the aggregate capacity |
| Activity 4(b) | - | - | Rated thermal input | New activityMention is made of “total” thermal input, which relates to the aggregate capacity |
| **Chapter 2 – Metals Processes** |
| Activity 7  | 2.1 Part A (d) | - | Quantity actually processed |  |
| Activity 8 | 2.1 Part A (h) | - | Production capacity |  |
| Activity 11(a)  | 2.1 Part B (d) (i) and 2.2 Part B (c) (i) | - | Rated thermal input | This is an upper threshold |
| Activity 12  | 2.1 Part B (e) | - | Plant size |  |
| Activity 13  | 2.2 Part A (c) | - | Quantity likely to be present |  |
| Activity 14  | 2.2 Part A (d) | - | Plant size |  |
| Activity 15  | 2.2 Part B (a) | - | Plant size combined with quantity likely to be present | This is an upper threshold of plant size, rather than a lower one, the purpose is to ensure mutual exclusivity between schedule 20 and 26 activity descriptions, plus a lower threshold for the tin present that negates the plant size threshold for tin processes (see section 5.5 above) |
| Activity 17 | 2.2 Part B (d) | - | Quantity actually processed |  |
| Activity 18 | 2.2 Part B (e) | - | Quantity actually processed |  |
| Activity 19 | 2.3 Part A (b) | - | Quantity of an emission |  |
| **Chapter 3 – Mineral Industry** |
| Activity 30 | 3.3 Part B (a) | - | Processing capacity |  |
| Activity 37 | 3.5 Part B (b) | - | Quantity likely to be processed | An upper threshold is provided for via the definition of an “exempt location” |
| **Chapter 4 – Chemical Industry** |
| Activity 47 (a) | 4.1 Part B (a) (i) | - | Quantity actually processed |  |
| Activity 47 (b) | 4.1 Part B (a) (ii) | - | Quantity actually processed |  |
| Activity 49 (1) | 4.1 Part B (c) | - | Quantity likely to be processed |  |
| Activity 49 (2) | 4.1 Part B (d) | - | Quantity likely to be processed |  |
| Activity 55 | 4.8 Part B | - | Plant size |  |
| **Chapter 5 – Other Activities** |
| Activity 59 (1) | 6.3 Part A and Part B (a) | - | Quantity likely to be processed |  |
| Activity 59 (2) | 6.3 Part B (b) | - | Quantity likely to be processed | “Qualifying quantity” |
| Activity 60 | 6.7 Part A | - | Quantity actually processed |  |
| Activity 62 (1) | 6.4 Part B (a) (i) to (iv) | - | Quantity likely to be processed |  |
| Activity 62 (2) | 6.4 Part B (b) | - | Quantity likely to be processed |  |
| Activity 62 (3) | 6.4 Part B (c) | - | Quantity likely to be processed |  |
| Activity 62 (4) (a) | 6.5 Part B (a) | - | Quantity likely to be processed |  |
| Activity 62 (4) (b) | 6.5 Part B (b) | - | Production capacity |  |
| Activity 63 (1) | 6.6 Part B (a) and (b) | - | Quantity likely to be processed |  |
| Activity 65 | 6.8 Part B (b) | - | Quantity actually processed |  |
| Activity 66 | 6.8 Part B (c) | - | Plant size |  |
| **Schedule 27, Part 1 – OPERATING A MEDIUM COMBUSTION PLANT** |
| Activity 2(1) | 1.1 Part B (a), (b) and (d) | - | Rated thermal input |  |
| **Schedule 28, Part 1 – PETROL VAPOUR RECOVERY ACTIVITIES** |
| Activity 2(b) | 1.2 Part B (b) (ii) | - | Quantity likely to be processed | Transposed from Article 6 to Directive 94/63/EC on recovery of petrol vapours |
| Activity 2(c) | 1.2 Part B (c) | - | Quantity actually processed |  |
| Activity 2(d) | 1.2 Part B (d) | - | 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 |
| Activity 2(e) | 1.2 Part B (e) | - | 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 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **EA(S)R** | **PPC 2012 Schedule 2** |  | **Type** | **Comments** |
| **Schedule 23 – ORGANIC SOLVENT EMISSIONS ACTIVITIES** |
| Table 1 Activities 1 to 20  | Schedule 2 Table 1 |  | 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 |

## Annex B – Examples of Interpretation of Activity Descriptions with a Quantitative Threshold

### Schedule 20 Part 4 Chapter 1 Activity 1 – Rated thermal input

“*Combustion of fuels in installations with a total rated thermal input of 50 MW or more.*”

With the aggregation rules provided in schedule 21 paragraph 3:

***Aggregation rules***

***3.****—(1) Where the waste gases of two or more separate combustion plants are discharged through a common stack—*

1. *the combination formed by such plants is to be considered a single combustion plant, and*
2. *their capacities added together for the purpose of calculating the total rated thermal input.*
3. *Where two or more separate combustion plants—*
4. *have been granted a permit for the first time on or after 1 July 1987 or in relation to which a complete application for a permit has been submitted on or after that date, and*
5. *are installed in such a way that taking technical and economic factors into account, their waste gases could, in the judgement of SEPA, be discharged through a common stack—*
6. *the combination formed by such plants is to be considered as a single combustion plant, and*
7. *their capacities added for the purpose of calculating the total rated thermal input.*
8. *For the purpose of calculating the total rated thermal input of a combination of combustion plants referred to in sub-paragraphs (1) and (2), individual combustion plants with a rated thermal input below 15 MW are not to be considered.*

“Appliance” is not defined in the IED or EASR for the purposes of Activity 1. However, the interpretation under paragraph 2 to schedule 21 includes definitions of combined cycle gas turbine (CCGT), diesel engine, gas engine, gas turbine, multi-fuel combustion plant. 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.

### Schedule 20 Part 4 Chapter 2 Activity 9(b) – Multiple activities

Where there are multiple activities covered by the same description, each will be regulated by the permit.

If a non-ferrous metals processing operation has processing for several different metal streams at the same site, the processing capacity for each line needs to be aggregated to determine whether the site is operating a prescribed activity.

For example, on a site with capacity to process 1 tonne per day of lead (threshold capacity 4 tonne per day), 1 tonne of cadmium (threshold capacity 4 tonne per day), and 12 tonne per day of nickel (threshold capacity 20 tonne per day) is operating an activity above the relevant threshold.

Based on the formula:

 q1 + q2 + q3 + q4 etc > 1

 Q1 Q2 Q3 Q4

Where q1, q2 etc are the quantities of each processing line, and Q1, Q2 etc are the relevant thresholds in EASR. Therefore, in the example above:

 1 + 1 + 12 = 1.1

 4 4 20

Therefore, greater than 1, therefore in aggregate greater than the threshold.

### Schedule 20 Part 4 Chapter 5 Activity 23, or 25 – Multiple activities

Similar to schedule 20 Part 4 Chapter 2 Activity 9(b) activities above, any site with multiple methods of waste treatment falling within the activities in paragraphs 23, 25(1) or 25(2) to Chapter 5 needs the aggregated capacity to be compared to the threshold to determine whether the activities are an industrial emissions activity.

Where different waste streams are treated in processes in different sub-paragraphs in paragraphs 23, 25(1) or 25(2). For example, non-hazardous Waste A is treated by a biological treatment method and non-hazardous Waste B is treated by a physico-chemical treatment method, the capacities of these two processes need to be aggregated to determine whether the activity is prescribed under paragraph 25(1). However, if a single waste stream (Waste C) is first treated by a physico-chemical treatment method, and then further processed by biological treatment, that is, a single activity and with the capacity of the treatment stage with the lower capacity of the two stages (this is the limiting capacity, see section 5.1.1 above).

### Schedule 20 Part 4 Chapter 5 Activities 23 and 25 – Processing capacity

Activities 23 and 25 relate to the processing capacity of hazardous and non-hazardous waste respectively. These include open windrow composting facilities, the manufacture of refuse derived fuel (RDF), anaerobic digestion of waste, etc. The capacity of some waste activities may be influenced less by the processing equipment than for other industrial activities.

“Capacity” is the maximum amount of material that, in theory, could be accepted onto the site per day. It is not the total amount of waste on the site at any one time or the actual amount that has been accepted onto the site in the past. Also note that the limit is on daily capacity and cannot be averaged over a longer timescale.

The area available to carry out a particular activity may limit the amount of material that a site is able to handle. For example, at open windrow composting sites the capacity of the facility can be calculated by reference to the maximum amount of material that could be accepted onto the site on any one day (based on the area of concrete pad and the size of the windrows) and the minimum retention time possible (the minimum number of days or parts of days over which treatment takes place). This gives the theoretical daily capacity of the plant. The time it takes to achieve the desirable treated standard may change throughout the year so any capacity calculations must be based on the shortest retention time of the process, ie, the warmer summer months.

Many processes have a rate limiting step which will limit the amount of material that it can process, for example there may be a piece of process equipment that has been designed and manufactured to handle a set tonnage of waste per hour.

Where the restriction is on the throughput of a plant, this needs to be a physical restriction. For example, the operator could place physical restrictions on the area available to treat waste by using push walls or other physical barriers. This could contain the treatment process to a section of the concrete pad to ensure that the relevant daily threshold was not breached.

Legal restrictions on capacity may include planning restrictions on lorry movements which restrict the amount of material that can be brought onto the site.

### Schedule 20 Part 4 Chapter 6 Activity 31 – Processing capacity

*“Tanning of 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. Such material will be further processed, generally at another site. SEPA’s determination is that the term “finished products” refers to the product that leaves the installation ***without discount for water content or for any changes to the weigh that may result from further processes undertaken at another location.***

### Schedule 20 Part 4 Chapter 6 Activity 32 (1) – Processing capacity

*“Operating 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 (eg, 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, eg, 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 Scotland (FSS) 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 Scotland acts as a legal restriction on the operating hours of slaughterhouses. While it is true that the FSS must be on site before slaughtering can take place, advice received from the FSS indicates that the hours its inspectors spend on site are dictated by the operator and not the FSS. The FSS 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 FSS and the operator to be a legal limitation on slaughterhouse capacity.

### Schedule 20 Part 4 Chapter 6 Activity 32 (2) (a) to (c) – 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:*

1. *only animal raw materials (other than exclusively milk) with a finished product production capacity of greater than 75 tonnes per day;*
2. *only vegetable raw materials with a finished product production capacity greater than 300 tonnes per day, or 600 tonnes per day where the installation operates for a period of no more than 90 consecutive days in any year;*
3. *as shown in Graph 1, animal and vegetable raw materials, both in combined and separate products (except where the raw material is exclusively milk), with a finished product production capacity in tonnes per day greater than-*

*(i) 75 if A is equal to 10 or more, or*

*(ii) 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 and in the above calculations, packaging is not to be included in the final weight of the product.*

**Graphical representation of the 'sliding scale' rule:** Permit required for processing above the coloured section

**In schedule 20 activity 32(2)(b)** 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, the lower threshold value of 300 tonnes per day stated in schedule 20 activity 32(2)(b) would apply.

Examples, each falling under schedule 20 activity 32(2)(b):

* A single period of operation of less than 90 days a year processing over 600 tonnes a day.
* A series of periods of operation, but for less than 90 days a year in total, processing over 300 tonnes a day.
* Sites that operate on and off, but for more than 90 days a year, processing over 300 tonnes a day, 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 schedule 20 activity 32(2)(b) 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 Schedule 20 activity 32(2)(a).
* **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 aswhey, butter, cream, buttermilk, condensed milk, favoured milk or cheese.
* **Milk** however is **not** viewed as an animal raw material for the purposes of Schedule 20 activity 32(2)(a).
* **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** eg, 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 schedule 20 activities 19 and 20 respectively. Otherwise, their production should not generally be included as a listed activity under schedule 20 activity 32(2) as they are not themselves food products.
* **Mineral production (or purification)** of any mineral not derived from animal, vegetable or milk (eg, table salt (sodium chloride), baking soda (sodium bicarbonate), is excluded.

### Schedule 20 Part 4 Chapter 6 Activity 32 (2) (d) – Quantity actually processed

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

This paragraph is not related to processing capacity, instead it relates to the annual averaged quantity **received** at the processing plant.

The phrase “average value on an annual basis” has been included to take account of the fluctuating milk output from cows and the word “received” is used rather than a processing 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 prescribed activity whether or not the end product is best described as milk. The activity description also covers non-food production activities if they treat, 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, semi-skimmed and skimmed milk, evaporated or unsweetened condensed milk. It should not however, be taken to mean whey, butter, cream, buttermilk, sweetened 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; or
* 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).

### Schedule 20 Part 4 Chapter 6 Activity 33 – Processing capacity

*“Disposal or recycling animal carcasses or animal waste with a treatment capacity exceeding 10 tonnes per day.”*

**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 (eg, fish oil, etc) are not considered to be “waste” and would therefore be covered by schedule 20 activity 32 (2) (a).

**Rendering**, etc, is considered to be a disposal activity **if** the material from the rendering operation is disposed of (eg, by incineration or to landfill), or recycled (eg, tallow used for production of biodiesel). If the resulting material is neither disposed of or recycled, or the quantity is <10tepd, and there is potential to release odour, dust, etc, the activity is likely to be a schedule 26 activity 64 (a) or (b) activity, unless it is an “exempt activity”.

**Fat melting** is classified as an activity under Schedule 26 activity 67 (a).

### Schedule 20 Part 4 Chapter 6 Activity 35 – 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 Schedule 26 Chapter 5 Activity 62 description, but it is reasonable to borrow this interpretation for the schedule 20 activity description. Thus, the schedule 26 Chapter 5 Activity 62 paragraph (5) definition of consumption is:

Consumption = A - B

where – “A” is the total input of organic solvents into the process, including both solvents contained in coating materials and solvents used for cleaning or other purposes

“B” is the amount of organic solvents that are 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. Schedule 26 Chapter 5 Activity 62 also includes the phrase ‘is likely to involve the 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.

### Schedule 20 Part 4 Chapter 6 Activity 38 – Production capacity

*Preservation of wood and wood products with chemicals with a production capacity exceeding 75 m3 per day other than exclusively treating against sapstain,*

It is the installed potential capacity that must be considered, not the actual production quantity. This should be calculated based on 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 time and voidage in the vessel, and assuming 24 hour, 7 day per week operation, even if this is not the normal way the process is operated.

The quickest treatment cycle should be the quickest that is used at the site (this may not be the quickest cycle possible in the vessel) and the most easily treated wood of the woods treated at the site (again there may be more easily treated woods that those handled at the site).

If the capacity threshold is not met, the capacity calculation needs to be repeated if it is proposed to change the treatment cycles or woods at the site, to ascertain how these changes may alter the calculated production capacity. If the new calculation results in a production capacity greater than 75 m3/day, an EASR permit is required before that production change is made.

However, SEPA will consider the following legal constraints on capacity:

* a planning consent restricting the operating hours of the timber treatment activity;
* any other legal constraint provided it is not related to EASR, and which directly limits the ability to operate the timber treatment activity.

Any legal constraint must be subject to statutory penalties and not only relate to a private contract.

### Schedule 23

Table 1 to Part 1 of schedule 23 lists 20 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 20 Part 4 Chapter 6 Activity 35 activity where the solvent amount is only counted at the point of input and not every time it is used in the process.

### Schedule 25 – Rated thermal input

See details under Schedule 25, paragraph 2(3) and (4).

This schedule 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 certain regulated activities set out in schedule 25, paragraph (2) that generate electricity and have a RTI >20MW or a total RTI >20MW where more than one activity is operated in the same place or under paragraph 2(4), any industrial emissions activity or other emissions activity with a RTI >20MW which generates waste heat at a useful temperature level, or forms part of a new or existing district heating or cooling network.

### Schedule 26 Part 3 Chapter 1 Activity 1 – Rated thermal input

*“Subject to sub-paragraphs (2) and (3), burning any fuel in combustion plant which generate electricity on the same site with an aggregated rated thermal input of 1 MW or more.”*

This activity is related to combustion devices used to generate electricity only. All individual combustion plant at the same site that when aggregated result in a combined RTI >1MW requires authorisation. Note the exclusion for purpose in sub-paragraph (2), and the time limited exclusions (until 31 December 2039) for some purposes in sub-paragraphs (3)

### Schedule 26 Part 3 Chapter 2 Activity 14 – Plant size

*“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.

### Schedule 26 Part 3 Chapter 5 Activity 64

*“Unless it is an exempt activity listed in paragraph 70(2), Processing, storage or drying by heat of any part of a dead animal or of vegetable matter, which may-*

1. *result in the release into the air a substance referred to in paragraph 71 of Chapter 6 of this schedule,*
2. *give rise to an offensive smell noticeable outside the premises in which the activity is carried on.”*

**Exempt activity** refers to activities listed under paragraph 70(2).

### Schedule 27 Part 1 paragraph 2(1) – Rated thermal input

*“operating a medium combustion plant” means operating a combustion plant with a rated thermal input equal to or greater than 1 megawatt and less than 50 megawatts but does not include the activities in sub-paragraph (2) [(a) to (q)].*

This schedule reflects the requirements of the Medium Combustion Plant Directive (2015/2193/EU), which requires individual combustion **plant** with a RTI >1MW toregister with SEPA and meet specified emission limits depended on fuel type and size. Any plant <1MW is outwith scope and should be discounted (but could be a schedule 26 Part 3 Chapter 1 Activity 1, see above). Note the exclusion for purposes in sub-paragraph (2) (a) to (q). New plant that is put into operation after 20 December 2018 may be aggregated in certain circumstances.

### Schedule 28 Petrol vapour recovery activity under paragraph 2 (a) and (b) – Quantity likely to be processed

*“The following activities:*

1. *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,*
2. *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 500m3.”*

This 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 likely again, 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 each of 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 Activity 2 (d) below.

### Schedule 28 Petrol vapour recovery activity under paragraph (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 3000m3.”*

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.

### Schedule 28 Petrol vapour recovery activity under paragraph 2 (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, 500m3 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 should 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.

## This guidance has been updated to meet accessibility standards and to replace certain references to legislation with references to the Environmental Authorisations (Scotland) Regulations 2018. It has not been reviewed beyond this. We are aware that sections of this guidance may need to be updated, and this work will be completed in due course.

## Disclaimer

This guidance is based on the law as it stood when the guidance was published.

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SEPA reserves the right to depart from this guidance and take appropriate action as it considers necessary or appropriate. Operators are responsible for ensuring that they are compliant with the law. If necessary, independent legal / specialist advice should be sought.

1. Note, there is a typographical error in paragraph 5(d) to Schedule 19, the reference to Chapter 3 should read Chapter 5. Scottish Government is aware of this error and will amend when the opportunity arises. [↑](#footnote-ref-2)