

Briefing note

Waste (England and Wales) Regulations 2011

Version 2- April 2012

Qualifying for R1 status using the R1 energy efficiency formula

Purpose of this briefing note

To provide an overview of how, in England and Wales, an incineration plant dedicated to the processing of municipal solid waste can qualify as a recovery operation using the R1 Energy Efficiency formula in Annex II of the Waste Framework Directive 2008/98/EC (WfD).

Background to the formula

Article 3(15) of the WfD defines 'recovery' and refers to the non-exhaustive list of recovery operations in Annex II of WfD. Annex II of the WfD includes the energy efficiency formula¹ as a footnote to the R1 definition to provide an incentive for Municipal Waste Incinerators (MWI) to contribute to energy supply.

MWI operating at or above the stipulated thresholds can be classified as recovery operations for the purposes of the waste hierarchy. The threshold for plants which commenced operation prior to the end of 2008 is 0.6 and for plants which commenced operation thereafter is 0.65.

There is no requirement for MWI to achieve R1 status or have their performance assessed against the R1 formula in the Environmental Permitting Regulations 2010 (EPR). Therefore the R1 formula is only relevant for those MWI wishing to qualify as a recovery operation. The [European Commission's guidelines](#)² provide detailed guidance on how to interpret and apply the R1 Energy Efficiency formula.

Plants within the scope of the formula

The R1 formula applies only to those plants dedicated to the incineration of Municipal Solid Waste (MSW)³ where the following apply:

- the plant is an incineration plant as defined by the Environmental Permitting Regulations 2010 (EPR); and
- the EPR permit (or the permit application) is for a plant processing MSW.

Plants processing a mixture of MSW and other wastes are within the scope of the formula provided that the plant is principally designed to process MSW. Where the proportion of other wastes is

1 The formula calculates the energy efficiency of the plant and expresses it as a factor which is not equivalent to a percentage or a thermal efficiency

2 The guidelines are not legally binding and could be revised as explained in the foreword

3 'municipal waste' means waste from households, as well as other waste which, because of its nature or composition, is similar to waste from households

significant the applicant will need to demonstrate that the plant is not dedicated to incinerating non-MSW and is technically capable of incinerating mixed MSW⁴.

Plants processing only Solid Recovered Fuel (SRF), Refuse Derived Fuel (RDF) or similar pre-processed wastes will be considered within the scope of the formula when at least 50% of the waste being processed in the incineration plant is derived from MSW and the incineration plant is technically capable of incinerating mixed MSW⁴.

Incineration plants which do not achieve recovery status will be classified as disposal operations (D10 in Annex 1 of the WfD).

Applying for R1 status

Those plants wishing to qualify as recovery operations by virtue of the R1 formula need to make an application to the Environment Agency. The application forms are available from the [Waste Incineration Sector page](#) on our website. The assessment of applications is separate from the determination of the EPR Permit and will vary as outlined in Table 1 below.

Table 1	
Type of plant	Basis of assessment
A new plant applying for an EPR permit	Staged process based on: <ul style="list-style-type: none"> • Design information • Commissioning data • Performance data
A permitted plant which has yet to be built or commissioned	
An existing plant which is undergoing (or has undergone) a process change or contractual amendment which will influence the energy efficiency	
An existing plant which has been in operation less than 1 year	Staged process based on: <ul style="list-style-type: none"> • Commissioning data • Performance data
An existing plant which has been in operation for greater than 1 year	Assessment based on: <ul style="list-style-type: none"> • Performance data • Boiler efficiency data

⁴ This MSW may have undergone some pre-treatment such as sorting to remove dry recyclables

Existing plants can apply to us at any time. Operators applying for a new EPR permit or carrying out a variation of an existing EPR permit can make a R1 application at the time of the permit or variation application provided there is sufficient design information to complete the application form.

There is no fee associated with making an application but, in some cases, it may be necessary for us to instruct an independent expert to review or verify elements of the application. This is only likely to take place in stage 3 when actual plant data is being assessed and in these instances the costs will be recharged to the applicant.

The application process for new plants or modified plants

There are a maximum of 3 stages to the application process:

Stage 1 - An application based on the design information which takes into account that performance may vary over the course of a year.

Stage 2 - Provision of follow-up data following the commissioning of the plant which will include boiler efficiency data from the acceptance test.

Stage 3 - Final application based on one year's performance data.

The R1 status of new plants at the end of stages 1 and 2 is only provisional and is subject to final confirmation based on the Stage 3 assessment.

Ongoing monitoring

The operator of a qualifying plant will need to report annually to the Environment Agency on the performance of the plant as part of the annual report required by the EPR permit. The reporting period for ongoing R1 verification will be the same as that for the annual report even where the status is granted part way through the year.

A boiler efficiency derived from acceptance test is valid for five years for the purposes of an application or ongoing reporting. Thereafter the operator will need to repeat a comprehensive recalculation of the boiler efficiency at intervals not exceeding five years and provide this information to the Environment Agency.

Validity of the R1 status

The R1 status of a plant will need to be confirmed on an annual basis through the submission of the annual report. Failing to submit a report or achieve the relevant R1 threshold will generally result in the R1 status being withdrawn.

Should a plant not achieve the relevant threshold at the end of a year owing to circumstances beyond the operator's control the operator can request an extension of the R1 status while taking action to address the problems that led to the decrease in energy efficiency. The likelihood of obtaining an extension will depend on the performance of the plant over the past 3 years, the length of time it will take to address the problems and the probability of success. Plants that cannot achieve the relevant

customer service line
03708 506 506

incident hotline
0800 80 70 60

floodline
0845 988 1188

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threshold in the subsequent year will lose their R1 status. More detail is available from the Commission's guidance.

Communication of R1 status

The outcome of an application, each stage of the staged application process and the annual performance review will be communicated to the applicant in writing.

The status of plants that have applied to us for confirmation that they qualify as recovery operations by virtue of the R1 formula will also be available on our website.

Further information

Further information is available from the [Waste incineration sector page](#) on our website or the local PPC officer contactable through our customer service line below.

GEHO0911BUGD-E-E

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