

Uninterruptable Power Supplies

Summary of proposed Triple E eligibility criteria changes.

To facilitate a refinement of the eligibility criteria for uninterruptable power supplies it is proposed to make the following amendments:

- Change the definition of Uninterruptable Power Supply (UPS)
- Condition 1 – Introduce a new condition that products submitted must be a static uninterruptible power supply as defined in BS EN 62040-3:2021 (or IEC 62040-3:2021)
- Introduce a new Table 1 - UPS Efficiency Requirements based on rated output power and weighted efficiency

The proposed eligibility criteria document is contained on the following pages.

Please follow this [link](#) to view the currently published eligibility criteria.

Triple E Eligibility Criteria

Category: Information and Communications Technology (ICT)

Technology: Uninterruptible Power Supply

An ICT Uninterruptible Power Supply (UPS) is defined as energy efficient equipment which is designed to maintain the continuity and quality of a power supply to electrical appliances or electrically driven equipment in the case of input power failure. UPS is considered an important component of an overall advanced ICT Electrical Management system

ICT UPS equipment have the following operating modes:

- 1) Voltage and Frequency Dependent (VFD) UPS: A UPS that produces an ac output where the output voltage and frequency are dependent on the input voltage and frequency.
- 2) Voltage Independent (VI) UPS: Capable of protecting the load as required for VFD, above, and in addition from:
 - a. Under-voltage applied continuously to the input; and
 - b. Over-voltage applied continuously to the input
- 3) Voltage and Frequency Independent (VFI): A UPS where the device remains in normal mode producing an ac output voltage and frequency that is independent of input voltage and frequency variations and protects the load against adverse effects from such variations without depleting the stored energy source.

UPS Eligibility Criteria:

In order to be included on the Triple E Register, UPS equipment must meet *all* of the relevant requirements set out below.

***Note:** Supporting documentation that clearly demonstrates Triple E compliance according to the conditions below will be required as part of the Triple E checking process. Detailed information on the types of documents accepted can be found in the separate Supporting Documentation guidelines.*

No.	Condition
1.	Is a static uninterruptible power supply as defined in BS EN 62040-3:2021 (or IEC 62040- 3:2021) and includes electronic control system that controls the operation of the product, voltage inverter and rectifier devices, and one or more energy storage devices
3.	Must meet the minimum efficiency requirements set out in table 1. If the UPS is a multiple normal mode UPS then it shall comply with the minimum efficiency value of the lowest input dependency classification available in table 1
4.	Must comply with EN 62040-3 “Uninterruptible Power Systems (UPS) Method of specifying the performance and test requirements” and calculated weighted average efficiency, or scientific equivalent.
5.	Must have a control system for transmitting and receiving performance data. Operational and control systems are specified on the presumption that hardware must have power management built in, i.e. depending on the functionality

	required of the UPS, the hardware will automatically operate with the highest possible energy efficiency according to the normal mode
6	All equipment and/or components must be CE marked as required by the specific EU directive(s)

Table 1. UPS efficiency requirements

UPS Type	Rated output power, P	Weighted efficiency
VI, VFD	All	0.985
VFI	$5\text{kW} \leq P < 200\text{kW}$	$(0.0065 * \ln(P) + 0.885)$
VFI	$P \geq 200\text{kW}$	0.96

Where \ln is the natural logarithm and P is the rated output power in Watts.

----- End of ACA eligibility criteria -----
Please see next section for technical detail submission and supporting documentation guidance

The following information is not part of the official criteria document published within the relevant statutory Instrument; it has been added here for guidance purposes only in order to provide assistance with the submission of product details and the provision of the required supporting documentation.

Note: All information contained within this guidance document is subject to change without notice

Technical information required in product submission

The following are the specific technical values required as part of the product submission for this technology:

Uninterruptable Power Supply product type

You must select which type of UPS your product is. Only one type can be chosen per product.

Supporting documentation required

Described below is the list of documents that are accepted as proof of compliance for the specific Uninterruptible Power Supply condition.

Note: This information will only be requested AFTER you submit your product's basic details online

Important Notes to Product Providers

You must read this entire document prior to submitting products to the SEAI system, including the "Important Notes to Product Providers" section at the end of this document prior to submitting documentation.

All documentation supporting the product submission must clearly reference the correct product name and/or product code being submitted. The correct page number(s) must be detailed with each document supporting the submission.

No.	Condition	Supporting documentation requirement
1.	Is a static uninterruptible power supply as defined in BS EN 62040-3:2021 (or IEC 62040- 3: 2021) and includes electronic control system that controls the operation of the product, voltage inverter and rectifier devices, One or more energy storage devices	Official and published manufacturer’s technical data sheet or brochure that demonstrates compliance with the requirements of the condition
2.	Must meet the minimum efficiency requirements set out in table 1.	Official and published manufacturer’s technical data sheet or brochure that demonstrates compliance with the requirements of the condition
3.	Must comply with EN 62040-3 “Uninterruptible Power Systems (UPS) Method of specifying the performance and test requirements”, or scientific equivalent.	Accredited certification that the equipment has been tested according to the named standard OR Evidence of official testing by manufacturer or independent test lab carried out according to the principles outlined in the named standard. Test reports should be of the format described in the ‘Important notes to Product Providers’ section of this document. Accepted Standard: EN 62040-3 See note on ‘Scientific Equivalence’ in the Important notes to Product Providers section of this document.
4.	Must have a control system for transmitting and receiving performance data.	Official and published manufacturer’s technical data sheet or brochure that demonstrates compliance with the requirements of the condition
5.	Operational and control systems are specified on the presumption that hardware must have power management built in, i.e. depending on the functionality required of the UPS, the hardware will automatically operate with the highest possible energy efficiency according to the normal mode	Official and published manufacturer’s technical data sheet or brochure that demonstrates compliance with the requirements of the condition
6.	All equipment and/or components must be CE marked as required by the specific EU directive(s)	Official and published manufacturer’s technical data sheet or brochure that demonstrates CE marking compliance for all relevant equipment included in the submission. The CE marked equipment must correlate to the “Component list” referenced below. OR A copy of an official signed declaration on headed paper which confirms CE marking compliance for all relevant equipment included in the submission. The CE marked equipment must correlate to the “Component list” referenced below.

Important Notes to Product Providers

General

There should be a clear link between all supporting documentation supplied and the product being submitted. This will typically take the form of a product code or product name that can be cross referenced between the submitted product and relevant supporting documentation. If product codes / names have been changed since publication of the supporting documentation, then official evidence of this must be provided with the supporting documentation supplied.

Any deviation from these requirements will result in the supporting documentation not being considered adequate for the purposes of demonstrating compliance with the criteria conditions. This will in turn delay the submission and/or result in the product not being considered eligible.

Where the Triple E criteria or help documentation references compliance to appropriate rather than specific standards, the onus is on the product provider to ensure that supporting documentation supplied references recognised standards that apply to the submitted product, i.e. the product must be covered under the scope of a recognised standard.

If any product submitted is later found not to meet the performance or specification criteria, then this product will cease to be considered eligible for the Triple E.

Note: When supplying the supporting documentation through the online process you must ensure that the correct page number(s) of the document is referenced when demonstrating compliance with the relevant condition. An explanatory note should also be given where more than one page number is referenced.

Test Report

A test report must include an outline of the complete test, including:

- √ Introduction
- √ Details on test conditions
- √ The specific model details of the product tested
- √ The steps taken in the test
- √ The results
- √ Graphical representations
- √ Conclusion

All documents should be on headed paper and the document should be officially signed off.

All documentation must be in English or include adequate translation.

Certification

Where certificates are provided, all tests must be carried out by an organisation that is accredited by a national accreditation body recognised via the European Cooperation for Accreditation (preferred) or the International Accreditation Forum. **All documentation must be in English** or include adequate translation.

Scientific Equivalence

Some Triple E criteria conditions allow for scientifically equivalent tests and/or standards to be used. In the event that a product has not been designed, manufactured or tested to the specific standard named, then documentation relating to an equivalent internationally recognised standard may be used (where the phrase 'Or scientific equivalent' is included in the Triple E condition or help documentation). In such applications, the onus will be on the product submitter to demonstrate satisfactory equivalence of the standards. However, submissions which reference such supporting documentation may take longer to process, and if the product provider does not provide satisfactory evidence of equivalence, then the product will not be considered eligible for the Triple E register.

All documentation must be in English or include adequate translation.

Note: Where specific standards are cited in a condition or in the Triple E help documentation, then documentation demonstrating that the relevant products have been designed, manufactured or tested to these specific standards is preferred. Scientific equivalence is considered the exception rather than the norm.