

Brussels, XXX
[...] (2017) XXX draft

COMMISSION REGULATION (EU) .../...

of XXX

implementing

Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for standby, networked standby and off mode electric power consumption of electrical and electronic household and office equipment

repealing

Commission Regulation (EC) No 1275/2008 with regard to ecodesign requirements for standby and off mode electric power consumption of electrical and electronic household and office equipment

(Text with EEA relevance)

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Text shown to CF as with changes (new, deleted or edited)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Directive 2009/125/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for the setting of ecodesign requirements for energy-related products ⁽¹⁾, and in particular Article 15(1) thereof,

After consulting the Ecodesign Consultation Forum referred to in Article 18 of Directive 2009/125/EC,

Whereas:

- (1) Commission Regulation (EC) No 1275/2008 of 17 December 2008 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for standby and off mode electric power consumption of electrical and electronic household and office equipment has been substantially amended several times ⁽²⁾. Since further amendments are to be made, a new regulation should be adopted in the interests of clarity.
- (2) Under Directive 2009/125/EC ecodesign requirements shall be set by the Commission for energy-using products representing significant volumes of sales and trade, having significant environmental impact and presenting significant potential for improvement in terms of their environmental impact without entailing excessive costs.
- (3) Article 16(2) second indent of Directive 2009/125/EC makes provision for an implementing measure, one of the priority measures being to reduce standby, off mode and networked standby losses for a group of products.

¹ OJ L 285, 31.10.2009, p. 10.

² See Commission Regulation (EC) No 278/2009, Commission Regulation (EC) No 642/2009, Commission Regulation (EU) No 617/2013, Commission Regulation (EU) No 801/2013, and Commission Regulation (EU) 2016/2282.

- (4) The Commission has carried out in 2006-07 a preparatory study which analysed the technical, environmental and economic aspects of standby mode and off-mode losses. The study was developed together with stakeholders and interested parties from the EU and third countries, and indicated that standby functionalities and off-mode losses occurred for the majority of electrical and electronic household and office equipment products sold in the European Union. The annual electricity consumption related to standby functionalities and off-mode losses has been estimated at 47 TWh in 2005, corresponding to 19 Mt CO₂ emissions. Without taking any specific measures, that consumption was predicted to increase to 49 TWh in 2020. It was concluded that the electricity consumption of standby functionalities and off-mode losses could be significantly reduced.
- (5) Improvements in electricity consumption of standby functionalities and off-mode losses have been achieved by setting ecodesign requirements for the power consumption of standby mode and off mode in the Regulation (EC) No 1275/2008.
- (6) The networked standby electric power consumption of electrical and electronic household and office equipment was examined by a subsequent preparatory study in 2009-11. The study estimated a power consumption related to conditions providing networked standby to be 54 TWh in 2010, corresponding to 23 Mt CO₂ emissions. Without taking any specific measures, the consumption was predicted to increase to 90 TWh in 2020. It was estimated that energy savings of 36 TWh in 2020 and 49 TWh in 2025 could be obtained by setting ecodesign requirements for the networked standby.
- (7) Regulation (EU) No 801/2013 amended Regulation (EC) No 1275/2008 by adding specific provisions regarding ecodesign requirements for networked standby.
- (8) Article 7 of Regulation 1275/2008 as amended by Regulation 801/2013 states that the Regulation should be reviewed no later than 7 January 2016 in light of technological progress. Furthermore, the current Ecodesign Working Plan covering the period 2016-2019 includes this work item and reconsiders the timeline of the revision.
- (9) The Commission carried out in 2015-17 a review study which examined the appropriateness of the scope of the amended Regulation, the appropriateness and/or level of requirements for standby and off operating modes, and networked standby, and reviewed potentially ambiguous terms and definitions in the Regulation that could create loopholes and/or bring difficulties at the time of verifying the requirements.
- (10) The review study estimates that the annual energy consumption in standby, networked standby and off mode of all products in current scope will be approximately 14 TWh in 2020 and will increase to approximately 27 TWh in 2030. With regard to standby and off modes only, it is estimated that the energy consumption of products in the current scope will be approximately 5 TWh in 2020 increasing to 5.5 TWh in 2030. If the scope is extended to other product groups, which are already technologically capable of complying with the current requirements, the respective consumption will be around 7 TWh in 2020 increasing to 9.5 TWh in 2030.
- (11) The review study identified further improvements that could be made to the current Regulation, resulting in lower overall energy consumption and related emissions achievable at no perceived excessive life cycle costs for the products. The scope of the Regulation should be extended to include electrically powered adjustable furniture and local building controls. By doing so annual energy savings of 0.3 TWh/year in 2020 and 2.8 TWh /year in 2030 are estimated. Lowering the off mode requirement to 0.3 W for the current scope could yield additional savings of 0.7 TWh/year in 2020 and 1

TWh/year in 2030. Further clarifications of exemptions, and terms and definitions used will ensure a level playing field and facilitate market surveillance.

- (12) Improvements of electricity consumption of standby and networked standby functionalities, and off-mode losses should be achieved by applying existing non-proprietary cost-effective technologies, which lead to a reduction of the combined expenses for purchasing and operating equipment.
- (13) The ecodesign requirements should not have negative impacts on the functionality of the product and should not affect negatively health, safety and environment. In particular, the benefits of reducing the electricity consumption during the use phase should over-compensate potential additional environmental impacts during the production phase of equipment having standby and networked standby functionalities and/or off-mode losses.
- (14) The application of this Regulation should be limited to products corresponding to household and office equipment intended for use in the domestic environment, which, for information technology equipment, corresponds to class B equipment as set out in EN 55022:2006. The scope should be defined such that equipment that is not yet available on the market, but have similar functionalities to those products explicitly named in this Regulation, are designed to fulfil the requirements. When appropriate, an amendment to this Regulation can complement the list of products.
- (15) Operating modes not covered by this Regulation, such as the ACPI S3 mode of computers, should be considered in product-specific implementing measures pursuant to Directive 2009/125/EC.
- (16) As a general rule, requirements on standby, networked standby and off mode set out in product-specific implementing measures pursuant to Directive 2009/125/EC should not be less ambitious than those set out in this Regulation.
- (17) In order to prevent unnecessary losses of energy, products should ideally enter into a '0-Watt' consumption state when providing no function. The technical feasibility and appropriateness should be considered on a product-by-product basis in the relevant implementing measure pursuant to Directive 2009/125/EC.
- (18) The two-staged entry into force of the ecodesign requirements should provide an appropriate time-frame for manufacturers to redesign products as far as standby, networked standby functionalities and off-mode losses are concerned. The timing of the stages should be set in such a way that negative impacts related to functionalities of equipment on the market are avoided, and cost impacts for manufacturers, in particular SMEs, are taken into account, while ensuring timely achievement of policy objectives. Measurements of the power consumption should be performed taking into account the generally recognised state of the art; manufacturers may apply harmonised standards in accordance with Article 9 of Directive 2009/125/EC.
- (19) Pursuant to Article 8(2) of Directive 2009/125/EC, this Regulation should specify that the applicable conformity assessment procedures are the internal design control set out in Annex IV and the management system set out in Annex V to Directive 2009/125/EC.
- (20) In order to facilitate compliance checks, manufacturers should be requested to provide information in the technical documentation referred to in Annexes IV and V to Directive 2009/125/EC on the operating conditions subject to the definitions of standby, networked standby and off mode, and the corresponding power consumption levels.

- (21) Benchmarks for currently available technologies with low standby, networked standby and off mode power consumption should be identified. This helps to ensure wide availability and easy access to information, in particular for SMEs and very small firms, which further facilitates the integration of best-design technologies for reducing the energy consumption of standby, networked standby and off mode.
- (22) The measures provided for in this Regulation are in accordance with the opinion of the Committee established by Article 19(1) of Directive 2009/125/EC,

DRAFT

HAS ADOPTED THIS REGULATION:

Article 1
Subject matter and scope

This Regulation establishes ecodesign requirements related to standby and off mode, and networked standby, electric power consumption for the placing on the market of electrical and electronic household and office equipment.

~~This Regulation shall not apply to electrical and electronic household and office equipment placed on the market with a low voltage external power supply to work as intended.~~

Article 2
Definitions

In addition to the definitions laid down in Article 2 of Directive 2009/125/EC, the following definitions shall apply for the purposes of this Regulation:

1. 'electrical and electronic household and office equipment' (hereafter referred to as 'equipment'), means any energy-using product which:
 - (a) is made commercially available as a single functional unit and is intended for the end-user;
 - (b) falls under the list of energy-using products of Annex I;
 - (c) is dependent on energy input from the mains power source in order to work as intended; and
 - (d) is designed for use with a nominal voltage rating of 250 V or below, also when marketed for non-household or non-office use;
2. 'standby mode(s)' means a condition where the equipment is connected to the mains power source, depends on energy input from the mains power source to work as intended and provides only the following functions, which may persist for an indefinite time:
 - (a) reactivation function, or reactivation function and only an indication of enabled reactivation function, and/or
 - (b) information or status display;
3. 'reactivation function' means a function facilitating the activation of other modes, including active mode, by remote switch, including remote control, internal sensor, timer to a condition providing additional functions, including the main function;
4. 'main function(s)' means the main service(s) for which a product is designed for, and that correspond to the intended use of the product;
5. 'information or status display' means a continuous function providing information or indicating the status of the equipment on a display, including clocks;
6. 'active mode(s)' means a condition in which the equipment is connected to the mains power source and at least one of the main function(s) providing the intended service of the equipment has been activated;

7. 'off mode' means a condition in which the equipment is connected to the mains power source and is not providing any function; the following shall also be considered as off mode:
 - (a) conditions providing only an indication of off-mode condition
 - (b) conditions providing only functionalities intended to ensure electromagnetic compatibility pursuant to Directive 2004/108/EC of the European Parliament and of the Council ⁽¹⁾;
8. 'information technology equipment' means any equipment which has a primary function of either entry, storage, display, retrieval, transmission, processing, switching, or control, of data and of telecommunication messages or a combination of these functions and may be equipped with one or more terminal ports typically operated for information transfer;
9. 'domestic environment' means an environment where the use of broadcast radio and television receivers may be expected within a distance of 10 m of the apparatus concerned;
10. 'low voltage external power supply' means an external power supply with a nameplate output voltage of less than 6 volts and a nameplate output current greater than or equal to 550 milliamperes;
11. 'network' means a communication infrastructure with a topology of links, an architecture, including the physical components, organisational principles, communication procedures and formats (protocols);
12. 'networked standby' means a condition in which the equipment is able to resume a function by way of a remotely initiated trigger from a network connection;
13. 'remotely initiated trigger' means a signal that comes from outside the equipment via a network;
14. 'network port' means a wired or wireless physical interface of the network connection located on the equipment through which the equipment can be remotely activated;
15. 'logical network port' means the network technology running over a physical network port;
16. 'physical network port' means the physical (hardware) medium of a network port. A physical network port can host two or more network technologies;
17. 'network availability' means the capability of the equipment to resume functions after a remotely initiated trigger has been detected by a network port;
18. 'networked equipment' means equipment that can connect to a network and has one or more network ports;
19. 'networked equipment with high network availability' (HiNA equipment) means equipment with one or more of the following functionalities, but no other, as the main function(s): router, network switch, wireless network access point, hub, modem, VoIP telephone, video phone;
20. 'networked equipment with high network availability functionality' (equipment with HiNA functionality) means equipment with the functionality of a router, network

¹ OJ L 390, 31.12.2004, p. 24.

switch, wireless network access point or combination thereof included, but not being HiNA equipment;

21. 'router' means a network device whose primary function is to determine the optimal path along which network traffic should be forwarded. Routers forward packets from one network to another, based on network layer information (L3);
22. 'network switch' means a network device whose primary function is to filter, forward and distribute frames based on the destination address of each frame. All switches operate at least at the data link layer (L2);
23. 'wireless network access point' means a device whose primary function is to provide IEEE 802.11 (Wi-Fi) connectivity to multiple clients;
24. 'hub' means a network device that contains multiple ports and is used to connect segments of a Local Area Network;
25. 'modem' means a device whose primary function is to transmit and receive digitally modulated analogue signals over a wired network;
26. 'printing equipment' means equipment that generates paper output from electronic input. Printing equipment may have additional functions and may be marketed as a multifunctional device or multifunctional product;
27. 'large format printing equipment' means printing equipment designed for printing on A2 media and larger, including equipment designed to accommodate continuous-form media of at least 406 mm width;
28. 'tele-presence system' means a dedicated system for high-definition video conferencing and collaboration which includes a user interface, a high-definition camera, a display, a sound system and processing capabilities for encoding and decoding video and audio;
29. 'household coffee machine' means a non-commercial appliance for brewing coffee;
30. 'drip filter household coffee machine' means a household coffee machine which uses percolation to extract the coffee;
31. 'heating element' means a component of the coffee machine which converts electricity into heat to warm up water;
32. 'cup preheating' means a function for warming cups that are stored on the coffee machine;
33. 'brewing cycle' means the process that has to be completed to produce coffee;
34. 'self-cleaning' means a process that the coffee machine carries out to clean its interior. This process can either be a simple rinse or a washing process using specific additives;
35. 'descaling' means a process that the coffee machine carries out to remove totally or partially potential scale in its interior;
36. 'desktop thin client' means a computer that relies on a connection to remote computing resources (e.g. computer server, remote workstation) to obtain primary functionality and has no rotational storage media integral to the product. The main unit of a desktop thin client must be intended for use in a permanent location (e.g. on a desk) and not for portability. Desktop thin clients can output information to either an external or, where included with the product, an internal display;

37. 'workstation' means a high-performance, single-user computer primarily used for graphics, Computer Aided Design, software development, financial and scientific applications among other compute intensive tasks, and which has the following characteristics:
- (a) has a mean time between failures (MTBF) of at least 15 000 hours;
 - (b) has error-correcting code (ECC) and/or buffered memory;
 - (c) meets three of the following five characteristics:
 - (1) has supplemental power support for high-end graphics (i.e. peripheral component interconnect (PCI)-E 6-pin 12 V supplemental power feed);
 - (2) its system is wired for greater than $\times 4$ PCI-E on the motherboard in addition to the graphics slot(s) and/or PCI-X support;
 - (3) does not support uniform memory access (UMA) graphics;
 - (4) includes five or more PCI, PCI-E or PCI-X slots;
 - (5) is capable of multi-processor support for two or more CPU (must support physically separate CPU packages/sockets, i.e. not met with support for a single multi core CPU);
38. 'mobile workstation' means a high-performance, single-user computer primarily used for graphics, Computer Aided Design, software development, financial and scientific applications among other compute intensive tasks, excluding game play, and which is designed specifically for portability and to be operated for extended periods of time either with or without a direct connection to an AC power source. Mobile workstations utilise an integrated display and are capable of operation on an integrated battery or other portable power source. Most mobile workstations use an external power supply and most have an integrated keyboard and pointing device.
- A mobile workstation has the following characteristics:
- (a) has a mean time between failures (MTBF) of at least 13 000 hours;
 - (b) has at least one discrete graphics card (dGfx) meeting the G3 (with FB Data Width > 128-bit), G4, G5, G6 or G7 classification;
 - (c) supports the inclusion of three or more internal storage devices;
 - (d) supports at least 32 GB of system memory;
39. 'small-scale server' means a type of computer that typically uses desktop computer components in a desktop form factor but is designed primarily to be a storage host for other computers and to perform functions such as providing network infrastructure services and hosting data/media, and which has the following characteristics:
- (a) is designed in a pedestal, tower, or other form factor similar to those of desktop computers such that all data processing, storage, and network interfacing is contained within one box;
 - (b) is designed to be operational 24 hours per day and 7 days per week;
 - (c) is primarily designed to operate in a simultaneous multi-user environment serving several users through networked client units;

- (d) where placed on the market with an operating system, the operating system is designed for home server or low-end server applications;
 - (e) is not placed on the market with a discrete graphics card (dGfx)
 - (f) meeting any classification other than G1;
40. 'computer server' means a computing product that provides services and manages networked resources for client devices, such as desktop computers, notebook computers, desktop thin clients, internet protocol (IP) telephones, or other computer servers. A computer server is typically placed on the market for use in data centres and office/corporate environments. A computer server is primarily accessed via network connections, and not through direct user input devices, such as a keyboard or a mouse;
- A computer server has the following characteristics:
- (a) is designed to support computer server operating systems (OS) and/or hypervisors, and targeted to run user-installed enterprise applications;
 - (b) supports error-correcting code (ECC) and/or buffered memory (including both buffered dual in-line memory modules (DIMMs) and buffered on board (BOB) configurations);
 - (c) is placed on the market with one or more AC-DC power supply(ies);
 - (d) all processors have access to shared system memory and are independently visible to a single OS or hypervisor.
41. 'games console' is a computing device whose primary function is to play video games and which shares many of the hardware architecture features and components found in general in personal computers (e.g. central processing unit(s), system memory, video architecture, optical drives and/or hard drives or other forms of internal memory).
42. 'adjustable furniture' means furniture that includes motors, actuators, lifting columns or other electric means employed for adjusting height, position or form. These adjustments are operated by the end user through wired and/or wireless controls or via a network.
43. 'local building controls' are products that move or rotate access elements and/or climatic control elements used in buildings. The products incorporate electric motors or actuators and the control unit as one entity and are operated by the end user through wired and/or wireless controls or via a network, or controlled automatically with the use of sensors.

Article 3

Ecodesign requirements

The ecodesign requirements related to standby and off mode, and networked standby electric power consumption, are set out in Annex II.

Article 4

Conformity assessment

The procedure for assessing conformity referred to in Article 8(2) of Directive 2009/125/EC shall be the internal design control system set out in Annex IV to Directive 2009/125/EC or

the management system for assessing conformity set out in Annex V to Directive 2009/125/EC.

Article 5

Verification procedure for market surveillance purposes

Surveillance checks shall be carried out in accordance with the verification procedure set out in Annex III.

Article 6

Benchmarks

The indicative benchmarks for best-performing products and technology currently available on the market are identified in Annex IV.

Article 7

Revision

The Commission shall review this Regulation and present the results of the review to the Consultation Forum no later than 4 years after this Regulation enters into force.

The review shall in particular consider:

1. the requirements for standby mode;
2. the requirements for networked standby for HiNA equipment and equipment with HiNA functionality;
3. the possibility of extending the scope to other fast-growing groups of products (e.g. smart plugs);
4. the exemptions from non-HiNA requirements;
5. professional equipment and new products falling into non-HiNA category but having enhanced functionalities (e.g. coordinating the communication in small ad-hoc local networks).

Article 8

Repeal

Regulation (EC) No 1275/2008 of 17 December 2008 and Regulation (EU) No 801/2013 of 22 August 2013 are repealed.

(Note: Regulation 801/2013 is repealed only if and when Regulation 642/2009 is repealed when revising the Regulation on displays. Regulation 801/2013 amends both Regulation 1275 on standby and Regulation 642 on displays.)

Article 9

Entry into force and application

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*. It shall apply in accordance with Article 3.

This Regulation shall apply as from 12 months after the date referred to in the first paragraph to electrical and electronic household and office equipment placed on the market with a low voltage external power supply to work as intended.

Points 5 and 6 of Annex I shall apply as from 30 months after the date referred to in the first paragraph.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels,

For the Commission
The President
Jean-Claude JUNCKER

DRAFT