Brussels, XXX
[…](2018) 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 electronic displays

and repealing Regulation 642/2009 with regard to ecodesign requirements for televisions

(Text with EEA relevance)

COMMISSION REGULATION (EU) …/…

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and repealing Regulation 642/2009 with regard to ecodesign requirements for televisions

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to Article 114 of 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 Consultation Forum referred to in Article 18 of Directive 2009/125/EC,

Whereas:

(1) Directive 2009/125/EC requires the Commission to set ecodesign requirements for energy-related products representing significant volumes of sales and trade, having a significant environmental impact and presenting significant potential for improvement through design in terms of their environmental impact, without entailing excessive costs.

(2) Article 16(2)(a) of Directive 2009/125/EC provides that the Commission should, where appropriate, introduce implementing measures for products which offer significant potential for reducing greenhouse gas emissions in a cost-effective way, such as the electronic displays in the scope of this Regulation. These implementing measures should be introduced in accordance with the procedure referred to in Article 19(3) and the criteria set out in Article 15(2) of the same Directive.

(3) The Commission established ecodesign requirements for televisions in Commission Regulation (EC) No 642/2009 of 22 July 2009 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for televisions[2].

(4) Article 6 of Commission Regulation (EC) No 642/2009 requires the Commission to review the Regulation in light of technological progress no later than 3 years after its entry into force.

(5) The Commission has reviewed Commission Regulation (EC) No 642/2009 and analysed the technical, environmental and economic aspects of televisions and other electronic displays as well as real-life user behaviour. The review was undertaken in close cooperation with stakeholders and interested parties from the Union and third

[1] OJ L 285, 31.10.2009, p. 10.
[2] OJ L 191, 23.07.2009, p. 42.

countries. The results of the review were made public and presented to the Consultation Forum established by Article 18 of Directive 2009/125/EC.

(6) The review study concluded that there was a need for the introduction of new ecodesign energy-related requirements for televisions.

(7) The review also showed that the same requirements should also apply to computer displays because of the rapidly increasing functionality overlap between such displays and televisions.

(8) Signage displays, used in public spaces such as airports, metro and train stations, retail stores, shop windows, restaurants, museums, hotels, conference centres or in prominent positions outside buildings, represent an emerging market. Their energy needs are different and greater than those of other electronic displays, because they are often used in luminous places and continuously on. Consequently, the scope of the Regulation should include electronic displays that are primarily intended for household, office or commercial use, including televisions, computer displays and signage displays.

(9) Displays integrated into computers, such as tablets, laptops or integrated desktops, should be covered by the specific Commission Regulation (EU) No 617/2013 on computers and computer servers.

(10) The annual energy consumption in 2016 of televisions in the Union constituted more than 3% of the European Union's electricity consumption. The projected energy consumption of televisions, monitors and signage displays in a business as usual scenario is expected be close to 100 TWh/yr in 2030. This Regulation, together with the accompanying energy labelling regulation, is estimated to reduce the overall consumption by 39 TWh/yr by 2030.

(11) This Regulation should lay down specific requirements for standby, networked standby and off mode electric power demand of electronic displays. Therefore, the requirements of Commission Regulation (EC) No 1275/2008[3] should no longer apply to electronic displays covered by the scope of this Regulation, and should be amended accordingly.

(12) Electronic displays have different features with respect to sound processing, with some having neither sound management nor loudspeakers whilst others may include management of multiple audio channels and sophisticated home-theatre sound processing and reproduction features. To ensure equal treatment of electronic displays and considering that sound equipment is subject to other regulatory measures, the on-mode energy use of audio components integrated into electronic displays should be exempted from the requirements of this Regulation.

(13) Electronic displays for professional use such as video-editing, CAD/CAM, graphics or the broadcast sector, possess enhanced performance and very specific features that, although usually involve higher energy use, should be not subject to on-mode energy efficiency requirements set for more generic products.

(14) Article 1.3 of Directive 2009/125/EC excludes means of transport for persons or goods. Therefore, displays that are specifically designed and constructed only for application in means of transport (including motorhomes and caravans), and no other application, are exempted from the ecodesign requirements set in this proposal.

[3] OJ L 339, 18.12.2008, p 45

(15) Standardisation of external DC power supplies and power delivery connectors, combined with automatic adaptive capabilities to different voltages and power drawn, provides the possibility of using the same power supply unit for a range of different products. Electronic displays, among other products, using DC current and a standardised power delivery interface may consequently be sold without an external power supply unit but specific testing methods should be indicated not to hinder such an opportunity for suppliers, possibly resulting in consumer savings and waste reduction.

(16) The Commission Communications on circular economy[4] and on the ecodesign working plan[5] underline the importance of using the ecodesign framework to support the move towards more resource efficient and circular economy. The WEEE Directive 2012/19/EU[6] refers to Directive 2009/125/EC indicating that ecodesign requirements should facilitate the re-use, dismantling and recovery of WEEE by tackling the issues upstream. In addition, Decision No 1386/2013/EU on a General Union Environment Action Programme to 2020 includes the goal "to turn the Union into a resource-efficient, green and competitive low-carbon economy". Implementable and enforceable requirements at the product design phase may be appropriate for optimising resource and material efficiency at end of life. Therefore this Regulation should lay down appropriate requirements contributing to circular economy objectives.

(17) Electronic displays with a surface area smaller than or equal to 1 square decimetre are exempted from the requirements set in Article 8 of the WEEE Directive. Considering also their very limited energy use they should be outside the scope of this Regulation.

(18) Once delivered to an electric and electronic equipment waste collection facility at the end of their life, televisions, computer monitors, signage displays, professional displays, broadcast displays, security displays, as well as displays integrated into tablets, "all-in-one" desktop or portable computers are, generally, not distinguishable from each other. Therefore they should be subject to the same requirements for proper WEEE treatment.

(19) Displays integrated into computers, such as tablets, laptops or integrated desktops, should be covered by the specific Commission Regulation (EU) No 617/2013/EU on computers and computer servers.

(20) Shredding of electronic displays causes large losses of resources and is not compatible with the recovery of some rare and precious materials. Article 8(1) and (2) of the WEEE Directive require Member States to ensure that all separately collected waste undergoes proper treatment including as a minimum, a selective treatment of a number of components – typically present in electronic displays – in preparation for re-use, recovery or recycling and before schredding. Dismantling of at least the specific components listed in Article 8(1) should therefore be facilitated. Furthermore, Article 15 of the WEEE Directive makes provision for information to be provided by producers to facilitate the preparation for re-use and the correct and environmentally sound treatment of WEEE, consequently the same information can be provided in the same location.

(21) Indium, used in manufacturing of display, has been identified as critical within the European Raw Material Initiative (COM(2014) 297 final[7]). However the current

[4] COM/2015/0614 final of 02.12/2015
[5] COM(2016) 773 final of 30.11.2016
[6] OJ L 197, 24.7.2012, p. 38
[7] http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2014:0297:FIN

recycling rate is very low, because of a lack of information about indium volumes by display technology type. Information on indium used in displayed should therefore be provided.

(22) Presence of cadmium, a highly toxic and carcinogenic substance in display panels is an additional obstacle. Use of cadmium is restricted by Directive 2011/65/EU but its use in electronic displays is among the applications in Annex III exempted from restriction for a limited time. A specific marking on displays that contain cadmium to facilitate re-use and the correct and environmentally sound treatment at end of life should therefore be required.

(23) The environmental aspects of electronic displays identified as significant for the purposes of this Regulation are the possible presence of components dangerous for the operations of automatic end of life treatment and the presence of substances classified as toxic, carcinogenic or dangerous for the environment. The presence of halogenated flame retardants represents a major issue in the recycling of plastic polymers as well, and their use in displays should therefore be prohibited.

(24) Measurements of the relevant product parameters should be performed through reliable, accurate and reproducible measurement methods, which take into account the recognised state-of-the-art measurement methods including, where available, harmonised standards adopted by the European standardisation bodies, as listed in Annex I to Regulation (EU) No 1025/2012[8].

(25) In accordance with Article 8 of Directive 2009/125/EC, this Regulation should specify the applicable conformity assessment procedures.

(26) To facilitate compliance checks, manufacturers should provide information in the technical documentation referred to in Annexes IV and V to Directive 2009/125/EC in so far as that information relates to the requirements laid down in this Regulation. The parameters of the technical documentation in accordance with this Regulation, which are identical to the parameters of the product information sheet in accordance with [*Numbering of Labelling Regulation to be added before publication in the OJ*] and which have been entered in the product database, should no longer be included in the technical documentation of this Regulation.

(27) To improve the effectiveness and credibility of the Regulation, products that automatically alter their performance in test conditions to improve the declared parameters should be prohibited.

(28) In addition to the legally binding requirements laid down in this Regulation, indicative benchmarks for best available technologies should be identified to make information on the life-cycle environmental performance of products subject to this Regulation widely available and easily accessible, in accordance with Directive 2009/125/EC, Annex 1, part 3(2).

(29) A review of this Regulation should assess the appropriateness and effectiveness of its provisions in achieving its goals. The timing of the review should be sufficient for all provisions to be implemented and show an effect on the market.

(30) Commission Regulation (EC) No 642/2009 should be repealed and new provisions should be laid down by this Regulation to ensure that the ecodesign requirements for electronic displays continue to accelerate the market transformation towards energy-efficient technologies.

[8] OJ L 316, 14.11.2012, p. 12

(31) 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.

HAS ADOPTED THIS REGULATION:

Article 1

Subject matter and scope

1. This Regulation establishes ecodesign requirements for placing on the market and putting into service of electronic displays.

2. This Regulation shall not apply to:

   (a) Any electronic display with a surface area smaller than or equal to that indicated in Article 8(2) and Annex VII of Directive 2012/19/EU;

   (b) Digital photo frames;

   (c) Projectors;

   (d) Electronic displays where the main function of the display is status display or control or function activation;

   (e) Electronic displays integrated or to be integrated exclusively into other products.

3. The requirements in points A and B of Annex II shall not apply to the following displays:

   (a) Broadcast displays;

   (a) Digital interactive whiteboards;

   (b) Professional displays;

   (c) Security displays;

   (d) Digital signage displays.

Article 2

Definitions

For the purpose of this Regulation the definitions in Article 2 of Directive 2009/125/EC shall apply. In addition, the definitions in Annex I of this Regulation and the following definitions shall apply:

1. '*Electronic display*' means a display screen and associated electronics that as its primary function displays visual information from wired or wireless sources and is primarily intended for use in a household or in an office and that is, as delivered to the user, to be connected to an AC mains power source or a standardised DC power source (e.g. USB) for its intended use, either directly or via an external power supply. The term *'monitor'*, sometimes used for products on the market, is considered as equivalent to *'display'* within the context of this Regulation;

2. '*Digital photo frame*' means an electronic display that displays exclusively still visual information;

3. '*Projector'* means an optical device for processing analogue or digital video image information, in any format, to modulate a light source and project the resulting image onto an external surface;

4. '*Status display'* means a display used to show simple but changing information such as selected channel, time or power consumption. A simple light indicator is not considered a status display;

5. *'All-in-one video conference system'* means a dedicated system designed for video conferencing and collaboration, integrated within a single enclosure, whose specification shall include all of the following functions and features:

   (a) support for specific videoconference protocol ITU-T H.323 or IETF SIP as delivered by the manufacturer;

   (b) camera(s), display and processing capabilities for two-way real-time video including packet loss resilience;

   (c) loudspeaker and audio processing capabilities for two-way real-time hands-free audio including echo cancellation;

   (d) an encryption function; and

   (e) High Network Availability (HiNA);

6. '*HiNA'* means High Network Availability as defined in Article 1 of Commission Regulation (EC) No 1275/2008;

7. '*Broadcast display'* means an electronic display designed and marketed for professional use by broadcasters and video production houses for video content creation. Its specifications shall include all of the following features:

   (a) colour calibration function;

   (b) input signal analysis function for input signal monitoring and error detection, such as wave-form monitor/vector scope, RGB cut off, facility to check the video signal status at actual pixel resolution, interlace mode or screen marker;

   (c) Serial Digital Interface (SDI) or Video over Internet Protocol (VoIP) integrated with the product; and

   (d) not intended for use in public areas.

8. *'Digital interactive whiteboard'* means an electronic display which allows direct viewer interaction with the displayed image by touch. In addition, interaction by hand, arm gesture or voice may be available. The display is designed primarily to provide presentations, lessons or remote collaboration, including the transmission of audio and video signals. A digital interactive whiteboard shall include all of the following features:

   (a) primarily designed to be installed hanging, mounted on a ground stand or fixed to a physical structure for viewing by multiple people;

   (b) integrated or dedicated computer and computer software with specific functionalities to manage content and interaction; and

   (c) a display surface greater than 40 dm^2.

9. '*Professional display*' means an electronic display designed and marketed for professional use for editing video and graphic images. Its specification shall include all of the following features:

   (a) a contrast ratio of at least 1000:1 measured at a perpendicular to the vertical plane of the screen and at least 60:1 measured at a horizontal viewing angle of

at least 85° relative to that perpendicular and at least 83° from the perpendicular on a curved screen, with or without a screen cover glass;

(b) a native resolution of at least 2.3 mega pixels;

(c) colour Gamut support is 38.4% of CIE LUV or greater (equivalent to greater than 99% of Adobe RGB and over 100% of sRGB colour space). Shifts in colour space are allowable as long as the resultant colour space is at least 38.4% of CIE LUV. Colour and luminance uniformity shall be as required for Grade 1 monitors;

10. '*Security display*' means an electronic display which includes all of the following features:

(a) self-monitoring function capable of communicating some or all of the following information to a remote server:

– power status;

– internal temperature from anti-overload thermal sensing;

– video source;

– audio source and audio status (volume/mute);

– model and firmware version;

(b) user-specified specialist form factor facilitating the installation of the display into professional housings or consoles;

11. *'Digital signage display'* means an electronic display that is designed primarily to be viewed by multiple people in non-desktop based environments. Its specifications shall include all of the following features:

(a) Unique identifier to enable addressing a specific display screen;

(b) A function disabling unauthorised access to the display settings and displayed image;

(c) Network connection (encompassing a hard-wired or wireless interface) for controlling, monitoring or receiving the information to display from remote unicast or multicast but not broadcast sources;

(d) Designed to be installed hanging, mounted or fixed to a physical structure for viewing by multiple people; and

(e) Does not integrate a tuner to display broadcast signals.

Article 3

Ecodesign requirements

Electronic displays shall comply with the all the ecodesign requirements set out in Annex II from the dates indicated therein.

Article 4

Conformity assessment

1. The conformity assessment procedure referred to in Article 8 of Directive 2009/125/EC shall be the internal design control system set out in Annex IV to that Directive or the management system set out in Annex V to that Directive.

2. Where the information included in the technical documentation for a particular model has been obtained by calculation on the basis of design, or extrapolation from another model, or both, the documentation shall include details of such calculations or extrapolations, or both, and of tests undertaken by manufacturers to verify the accuracy of the calculations undertaken.

Article 5

Verification procedure for market surveillance purposes

Member States shall apply the verification procedure described in Annex IV to this Regulation when performing the market surveillance checks referred to in Article 3(2) of Directive 2009/125/EC.

Article 6

Circumvention

The manufacturer or importer shall not place on the market products that have been designed so that a model's performance is automatically altered in test conditions with the objective of reaching a more favourable level for any of the parameters declared by the manufacturer in the technical documentation or included in any of the documentation provided with the product.

The power consumption of the product shall not increase after a software or firmware update when measured with the same test standard originally used for the declaration of conformity, except with explicit consent of the end-user.

Article 7

Indicative benchmarks

The indicative benchmarks for the best-performing products and technologies available on the market at the time of adopting this Regulation are set out in Annex V.

Article 8

Amendment to Regulation (EC) No 1275/2008

In Annex I to Regulation (EC) No 1275/2008, point 2 and the final paragraph of point 3 are replaced by the text set out in Annex VI to this Regulation.

Article 9

Evaluation

The Commission shall assess this Regulation and shall present the results of this assessment, including, if appropriate, a draft revision proposal, to the Ecodesign Consultation Forum no later than three years after its entry into force.

This assessment shall address in particular:

1. the need to update the definitions or the scope of the Regulation;
2. the need to adapt regulatory requirements as result of new technologies available, such as HDR, 3D mode, high frame rate, and resolution levels above UHD-8K or new standards;
3. the appropriateness of setting specific on-mode energy efficiency requirements for signage displays or other displays not covered in this respect;
4. different or additional requirements to enhance durability and to facilitate repair and reuse;

5. different or additional requirements to improve dismantling at end of life and recyclability;
6. resource efficiency requirements for displays integrated into products covered by other Ecodesign regulations implementing Directive 2009/125/EC and in any other product in the scope of Directive 2012/19/EU.

Article 10
Repeal

Commission Regulation (EC) No 643/2009 shall be repealed as from [*date of application*].

Article 11
Entry into force and application

1. This Regulation shall enter into force on the twentieth day following that of its publication in the Official Journal of the European Union.
2. This Regulation shall apply from *[date of application + 1]*.

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

Done at Brussels,

For the Commission
Jean-Claude JUNCKER
The President