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Date: 10-Mar-23

Designated Company Representatives, Registered Air-Conditioner, Refrigerator and Clothes Dryer Suppliers under the Energy Conservation Act (ECA)

Dear Sir/Madam

**AMENDMENTS TO THE ENERGY CONSERVATION (REGULATED GOODS AND REGISTERED SUPPLIERS) REGULATIONS AND ENERGY CONSERVATION (PRESCRIBED REGULATED GOODS) ORDER UNDER THE ENERGY CONSERVATION ACT (ECA) ON THE FOLLOWING:**

- A. Extending the Minimum Energy Performance Standard (MEPS) and Mandatory Energy Labelling Scheme (MELS) to Portable Air-conditioners**
- B. Revised Tick-Rating System, Energy Labels and MEPS for Regulated Lamps and extending these requirements to more lamp types**
- C. Extending MEPS and new standby power requirements to Televisions**
- D. Revised MEPS for Split-type Air-conditioners**
- E. Revised MEPS for Refrigerators**
- F. Revised Applicable Test Standards**

1 This circular is to inform all relevant professional institutions, associations, statutory boards, government organisations, developers, suppliers, testing laboratories, etc. on the amendments that will be made to the relevant subsidiary legislations governing regulated goods under the ECA.

**A. Extending the Minimum Energy Performance Standard (MEPS) and Mandatory Energy Labelling Scheme (MELS) to Portable Air-conditioners**

2 With effect from **1 April 2024**, all portable air-conditioners (PAC) sold in Singapore shall comply with the following new requirements:

Type of portable air-conditioners covered	Single-phase portable air conditioners having a single exhaust duct of rated cooling capacity 12kW or lower
Requirements	Portable air-conditioners are rated based on: <ul style="list-style-type: none"> <li>i) Minimum Energy Performance Standards (MEPS) level at Coefficient of Performance(COP)<sub>100%</sub> <math>\geq 3.0</math></li> <li>ii) Mandatory Energy Labels Scheme (MELS) at               <ul style="list-style-type: none"> <li>- 1-tick (Low): <math>3.0 \leq \text{COP}_{100\%} &lt; 3.25</math></li> <li>- 2-tick (Fair): <math>\text{COP}_{100\%} \geq 3.25</math></li> </ul> </li> </ul>
Applicable test standard	ISO 18326:2018
Display of Energy Label	A registered supplier is required to display the following information. <ul style="list-style-type: none"> <li>a) Energy label to be displayed on the units.</li> <li>b) Energy label to be displayed in all locally circulated publicity materials (digital &amp; non-digital) such as local websites, newspapers advertisements and promotional flyers.</li> </ul>

- “COP” means Coefficient of Performance

## **B. Revised Tick-Rating, Energy Labels and MEPS for Regulated Lamps and extending these requirements to more lamps types**

3 With effect from **1 April 2024**, the energy efficiency requirements for regulated lamps will be revised as follows:

- i) MEPS and MELS requirement will be extended to all types of T8 and T5 tubes for general lighting (including linear LED tubes where installation to existing LFL luminaire requires rewiring or bypassing of the existing ballast).
- ii) The tick ratings for all regulated lamp types will be consolidated under a single rating as follows:


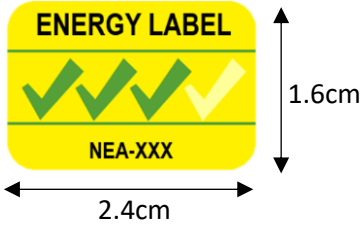
Tick Rating	Revised Tick-Rating System for all regulated lamp types <sup>1</sup>
	Rated Lamp Efficacy, $\eta$ (lm/W) = $\phi/P$
4-Tick	$\eta \geq 160$
3-Tick	$135 \leq \eta < 160$
2-Tick	$110 \leq \eta < 135$
1-Tick	$\eta < 110$

- where  $\eta = \phi/P$
- where P is the **rated** lamp power
- $\phi$  is the **rated** light output in lumen
- For covered CFLi,  $P = P_{\text{covered CFLi}} \times 0.95$

<sup>1</sup> Regulated lamps from 1 Apr 2024: Incandescent, CFLi, LEDi, CFLni, LEDni, T8/T5 LFL, T8/T5 LED (also apply to linear LED tubes where installation to existing LFL luminaire requires rewiring or bypassing of the existing ballast). Excluded lamps listed in [www.nea.gov.sg/els](http://www.nea.gov.sg/els) apply.

CFLi : Compact Fluorescent Lamp (CFL) with integrated ballast  
 CFLni : CFL (non-integrated ballast)  
 LEDi : LED direct replacement bulb for CFLi  
 LEDni : LED direct replacement bulb for CFLni  
 LFL : Linear Fluorescent Lamp

iii) To reflect the revised tick rating, the Energy Labels for lamp will be revised as shown:

Current Label	Revised Label of similar size (Effective 1 Apr 2024)
	

iv) All regulated lamps sold in Singapore must meet the revised MEPS requirements as illustrated in the table below:

Type of Lamps	Revised MEPS (Effective 1 Apr 2024)
Incandescent, CFLi, LEDi	$\eta_{\min.} = 100 \text{ lm/W}$
CFLni, LEDni, T8/T5 LED (500-1500mm)	
T8/T5 LFL (500-1500mm)	$\eta_{\min.} = 75 \text{ lm/W}$

- where  $\eta = \phi/P$
- where P is the **rated** lamp power
- $\phi$  is the **rated** light output in lumen
- For covered CFLi,  $P = P_{\text{covered CFLi}} \times 0.95$

### C. Extending MEPS and new standby power requirements to Televisions

4 With effect from **1 April 2024**, all TV with resolution less than 33,177,600 pixels (i.e. non-8K TV) sold in Singapore must meet the new MEPS requirements as illustrated in the table below:

Type	New MEPS	New Standby Power requirements
TV with resolution less than 33,177,600 pixels [non-8K TV] (Effective 1 Apr 2024)	$P \leq 0.30 \times (20 + 4.3224 \times A)$	Passive standby power $\leq 0.50\text{W}$

- “A” refers to screen area as expressed in square decimeters

5 With effect from **1 April 2025**, all TV with resolution of 33,177,600 pixels (8K TV) sold in Singapore must meet the new MEPS requirements as illustrated in the table below:

Type	New MEPS	New Standby Power requirements
TV with resolution of 33,177,600 pixels [8K TV] (Effective 1 Apr 2025)	$P \leq 0.42 \times (20 + 4.3224 \times A)$	Passive standby power $\leq 0.50W$

#### D. Revised MEPS for Split-type Air-conditioners

6 With effect from **1 April 2025**, all single phased split-type air-conditioners sold in Singapore shall meet the revised MEPS requirements as illustrated in the table below:

Type	Cooling capacity	Revised MEPS	
Single-Split (inverter)	Up to 17.6kW	$COP_{weighted} \geq 4.86$	Standby power $\leq 18W$
Single-Split (non-inverter)		$COP_{100\%} \geq 4.86$	Standby power $\leq 18W$
Multi-Split (inverter)		$COP_{weighted} \geq 5.50$	Standby power $\leq (7 \times N) W$
Multi-Split (non-inverter)		$COP_{100\%} \geq 5.50$	Standby power $\leq (7 \times N) W$

- $COP_{weighted} = 0.4 \times COP_{100\%} + 0.6 \times COP_{50\%}$
- N is the number of indoor and outdoor units

#### E. Revised MEPS for Refrigerators

7 With effect from **1 April 2025**, all refrigerators sold in Singapore shall meet the revised MEPS requirements as illustrated in the table below:

Type of Refrigerators	Adjusted Volume (L)	Revised MEPS (Effective 1 Apr 2025)
Without freezer	Up to 900L	$AEC \leq [(368 + 0.892 \times V_{adj\ tot}) \times 0.332]$
With freezer		$AEC \leq [(465 + 1.378 \times V_{adj\ tot}) \times 0.312]$
With freezer and through-the-door ice dispenser		$AEC \leq [(585 + 1.378 \times V_{adj\ tot}) \times 0.298]$

- $V_{adj\ tot}$  is defined as the sum of the adjusted volumes of the refrigerator compartments.
- “Through-the-door ice dispenser” means an automatic ice maker coupled with a device that delivers ice on demand externally through a door.
- “AEC” means Annual Energy Consumption.

8 Regulated goods that are affected by the revisions stated in Para 2 to Para 7 **and** are supplied to the market before the respective effective dates (i.e. existing stocks) shall be exempted from the revised MELS and MEPS requirements for a period of 1 year (from the respective effective dates).

**F. Revised Applicable Test Standards**

9 With effect from **1 Jan 2024**, the following test standards shall supersede the current applicable standards as shown in the table below. For new and renewal registrations of affected regulated goods after the effective date, test shall be carried out in accordance with the revised test standards.

Regulated Goods	Revised Test Standards
Refrigerator	IEC 62552-3:2015+A1:2020
Television	IEC 62087-3:2015
LED lamps	IEC 62612:2013, 2018
CFLi	IEC 60969:2016

10 NEA will inform all relevant stakeholders of any other changes (such as registration fees for portable air-conditioners, changes in the templates of test reports, etc.) registration of suppliers and products) as a result of these amendments in subsequent communications.

11 NEA would also like to remind industry that any non-compliance to the supply of regulated goods in Singapore is an offence under Section 12 of the ECA. Companies that are found to be non-compliant shall be liable on conviction to a fine not exceeding \$10,000.

12 Please disseminate the information in this circular to your relevant distributors, stakeholders, retailers, manufacturers and other industry partners for their information and compliance. A copy of this circular is also downloadable from NEA's website at <https://www.nea.gov.sg/corporate-functions/resources/circulars/climate-change-energy-efficiency-circulars>. If you have any queries concerning this circular or need further clarification or assistance, please contact us at Tel: 6731-9952 or email: [nea\\_energylabel@nea.gov.sg](mailto:nea_energylabel@nea.gov.sg). Thank you.

Yours faithfully  
(Transmitted via email)



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