

IMPLEMENTING GUIDELINES OF THE PHILIPPINE ENERGY LABELING PROGRAM FOR ELECTRIC FANS

Pursuant to Sections 5 and 9 of Department Circular No. 2020-06-0015, as amended, entitled "Prescribing the Guidelines of the Philippine Energy Labeling Program (PELP) for Compliance of Importers, Manufacturers, Distributors and Dealers of Electrical Appliances and Other Energy-Consuming Products (ECP)," the Implementing Guidelines for Electric Fans, including the Particular Product Requirements (PPR) and Code of Practice (COPE) are hereby issued for the information and guidance of all those concerned and for compliance by all manufacturers, importers, distributors, dealers, retailers, and other key stakeholders.

1. Particular Product Requirement (PPR) for Electric Fans. The PPR for Electric Fans provides the requirements for Electric Fans and other relevant information:

1.1 Scope

1.1.1 This PPR provides the requirements for the mandatory energy labeling of electric fans without Minimum Energy Performance (MEP) and Energy Efficiency Performance Rating (EEPR) (i.e., star rating).

1.1.2 This PPR covers electric fans operating in Alternating Current (AC) sources and may perform additional functionalities (such as but not limited to lamps, radio, etc.) with a rated power input of less than 125 watts (W) and falls under the following fan types:

- 1.1.2.1 Pedestal or Stand Fan
- 1.1.2.2 Desk or Table Fan
- 1.1.2.3 Wall-mounted Fan
- 1.1.2.4 Floor, Ground or Box Fans
- 1.1.2.5 Orbit or Ceiling Bracket Fan
- 1.1.2.6 Ceiling Fan
- 1.1.2.7 Tower Fan
- 1.1.2.8 Bladeless Fan

Note:

- a. *Electric Fans operated by batteries are excluded.*
- b. *Exhaust Fans are excluded.*
- c. *Air Circulators and Air Coolers are covered, provided that their physical designs or shapes comply with the designs stated in 1.1.2.*
- d. *Electric Fans that can operate either in Alternating Current (AC) or Direct Current (DC) power supply are covered but will be tested only in AC.*
- e. *Electric Fans operating using a DC power supply only are not covered.*
- f. *All other functionalities will be turned off or disabled during testing.*

1.2 Definition of Terms

For this PPR, the following definitions shall apply:

Applicants – refers to manufacturers, importers, distributors, or dealers.

Generic Models – refer to a range of models similar to the base model where all have the same major physical characteristics, construction, system design, and other performance characteristics.

Electric Fans – refer to comfort fans primarily designed for creating air movement around or on the part of a human body for personal cooling comfort.

Energy Efficiency Factor (EEF) – refers to the service value, as defined in PNS IEC 60879, and is equivalent to the ratio of an electric fan's rated maximum fan flow rate in cubic meters per minute (m³/min) to the rated power input (W)*.

Note:

**Rated power input (W) refers to the power consumption of the electric fan only*

Energy Efficiency Performance Rating (EPR) – product's star rating, which is based on the ranges of EEF and is indicated on the energy label.

Energy Efficiency Rating – as indicated in the energy label, pertains to the rated Energy Efficiency Factor (EEF) of the electric fan.

1.3 Normative Reference/s

The electric fans covered under this PPR shall be tested, as applicable, according to, but not limited to, the indicated standard and its future amendment.

PNS IEC 60879:2020 (IEC published 2019) - Comfort fans and regulators for household and similar purposes – Methods for measuring performance

Considering the regular updating of standards, the latest edition of the PNS shall be used as a reference. It is understood that future amendments of the PNS indicated in this PPR shall be applied after its promulgation upon advisory from DOE.

1.4 Sampling Method for Verification Testing

A unit shall be randomly tagged from the sampling location.

1.5 Specific Guidelines for the Conduct of Verification Testing

1.5.1 Test methods to verify conformity to the claimed information in the label shall be as specified in Section 1.3.

1.5.2 Samples shall be tested at a standard test voltage of 230V~ ± 1%, 60Hz ±1%.

1.5.3 The ambient temperature in all tests shall be maintained at 23°C ± 2°C.

1.5.4 All necessary operational settings required for the proper conduct of the test shall be based on the standard unless provided by the Applicant.

1.5.5 All other functionalities will be turned off or disabled during testing.

1.5.6 The verification testing shall be conducted by the DOE – Lighting Appliance and Testing Laboratory (DOE – LATL) or a DOE-Recognized Testing Laboratory.

1.6 Inspection of Generic Models

1.6.1 A model will not be considered generic if there are significant differences in any of the components related to the performance of the electric fan (e.g. grille design or design/number of louvers, blade diameter, blade shape/type, number of fan blades, blade material, type of motor and fan motor rating, starter capacitor rating).

1.6.2 In case of doubt, DOE – EPRED shall require the inspected units to be subjected to performance testing.

1.7 Tolerances

The following tolerances shall apply:

1.7.1 The measured fan flow rate (m³/min) shall not be less than 90% of the rated fan flow rate of the test sample.

Note:

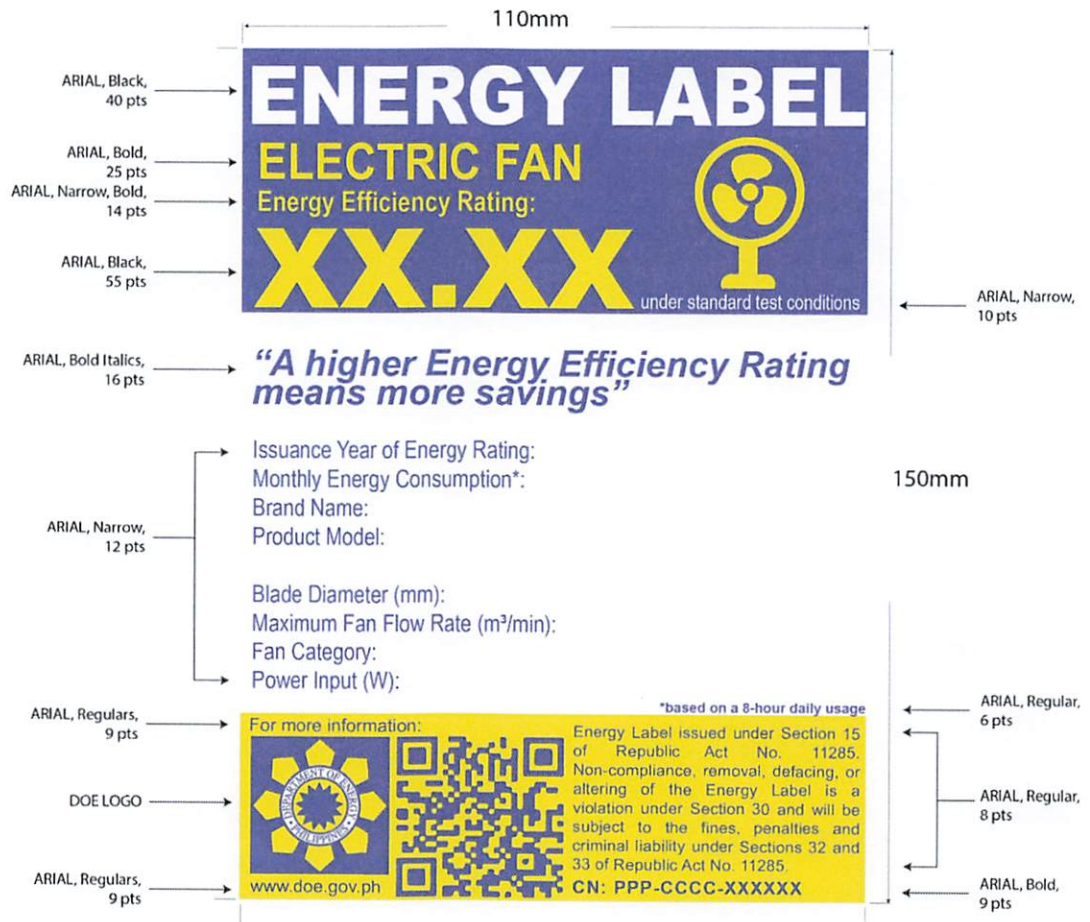
- a. The measured fan flow rate shall be rounded-off to the nearest whole number, m³/min. The rules of rounding off shall be followed.
- b. The measured fan flow rate shall be rounded-off first before determining the tolerance.
- c. The measured percentage shall be rounded-off to a whole number.
- d. The verdict shall be based on the rounded-off value.

1.7.2 The measured Energy Efficiency Factor (EEF) of the test sample shall not be less than 90% of the rated EEF.

Note:

- a. Measured EEF shall be rounded-off to the nearest 0.01 m³/min/watt. The rules of rounding off shall be followed.
- b. The measured EEF shall be rounded-off first before determining the tolerance.
- c. The measured percentage shall be rounded-off to a whole number.
- d. The verdict shall be based on the rounded-off value.

1.8 Specifications and Dimensions of the Energy Label



Swatches



1.8.1 Products on sale shall have the energy label affixed at the front of the units or, when applicable, at the visible side of the blade/impeller assembly.

1.9 Correction of Performance Ratings

1.9.1 The applicant has the option to downgrade the claimed ratings to comply with the requirements of the standard based on the result of the verification test.

1.9.2 New claims shall conform to the tolerances specified in Section 1.7.

2. Code of Practice on Energy Labeling of Products. Pursuant to Section 15 of the Energy Efficiency and Conservation (EEC) Act, the Code of Practice on Energy Labeling of Products (COPE) provides for the calculation methods of the following:

2.1 The Electric Fan **Energy Efficiency Rating** in the DOE Energy Label is based on the Energy Efficiency Factor (EEF), which is calculated as follows:

$$\text{Energy Efficiency Factor (EEF)} = \frac{\text{Fan flow rate (m}^3\text{/min)}}{\text{Power input (W)}}$$

Where:

Fan flow rate is the maximum air delivery rate and is expressed in cubic meters per minute (m³/min).

Power input is the electrical power required by the equipment to operate at its maximum flow rate with the oscillation mechanism and the moving louver, if any, turned off and is expressed in watts (W).

The Energy Efficiency Rating reflected on the DOE Energy Label shall correspond to the claimed Energy Efficiency Factor value shown in the product test report during product registration.

2.2 For the estimation of **monthly energy kilowatt-hour (kWh) consumption** (based on a specified hour of daily usage), as shown in the DOE Energy Label, the calculation is as follows:

$$\text{Monthly kWh Consumption} = \text{Power Input} \times \text{Daily Operating Hours} \times 30 \text{ days}$$

Where:

Daily Operating Hours is the assumed length of time that the equipment is operated in a day and is expressed in hours. With regards to the DOE Energy Label, this parameter is assumed to be eight (8) hours.

2.3 For the estimation of **monthly electricity cost**, the calculation is as follows:

$$\text{Monthly Electricity Cost} = \text{Monthly kWh Consumption} \times \text{Electricity Price}$$

Where:

Electricity Price is the prevailing peso per kWh, as indicated in the electricity bill issued by an electric power distribution company.

2.4 For the estimation of **Monthly Greenhouse Gas (GHG) emissions** due to monthly electricity consumption, the calculation is as follows:

$$\text{Monthly GHG emission} = \text{Monthly kWh Consumption} \times \text{Emission Factor}$$

Where:

The **Emission Factor** is the Simple Operating Margin (OM) Emission Factor derived using the power grid statistics and is available on the DOE Website.

Note: The unit of the calculated GHG emission shall be in kg CO₂ per kWh

3. **Electric Fan Product Registration.** Only registered companies can proceed to the per model PELP Online Product Registration, applicable to both manufactured and imported institutional products, using the Product Registration Form – Electric Fans as shown below and is available online.

3.1 **Product Registration Form – Electric Fan**

The Product Registration Form (as shown below) shall be the basis of the online product registration form and should serve as a reference for applicants in determining the parameters required by DOE during product registration. Furthermore, the test report must, at least, contain the performance parameters required within the said form and should be based on the normative references stated in section 1.3.

Product Test Report Details		
Name of Testing Laboratory		
Country of Testing Laboratory		
ISO 17025 Accreditation Body		
Accreditation Membership/Affiliation		
Laboratory Report Issuance Date		
Accreditation Certificate Expiration Date		
Product Details		
Product Category	Cooling Heating and Ventilating Appliances	
Product	Electric Fans	
Particular Product	<input type="checkbox"/> Pedestal or Stand Fan <input type="checkbox"/> Desk or Table Fan <input type="checkbox"/> Wall-mounted Fan <input type="checkbox"/> Floor, Ground, or Box Fan <input type="checkbox"/> Orbit or Ceiling Bracket Fan <input type="checkbox"/> Ceiling Fan <input type="checkbox"/> Tower Fan <input type="checkbox"/> Bladeless Fan	
Type	Type of Electric Motor	<input type="checkbox"/> Alternating Current <input type="checkbox"/> Direct Current
	Motor Type	<input type="checkbox"/> Fixed <input type="checkbox"/> Variable (Inverter)
	Model Type	<input type="checkbox"/> Base <input type="checkbox"/> Generic
Brand Name		
Model Number/Code		
Product Name		
Year Model		



Country of Origin	
Original Equipment Manufacturer (OEM)	
Product Performance Specification	
Blade Diameter (mm)	
Maximum Fan Flow Rate (m ³ /min)	
Energy Efficiency Factor (EEF)	
Number of Speed Control/Settings	
Blade Shape (please identify)	
Blade Material (please identify)	
Number of Blades (if applicable)	
Power Input (W)	
Voltage (V)	
Frequency (Hz)	
Other Parameters	

Note:

- a. The number of samples tested for the purpose of product registration purposes will be up to the Applicant.
- b. The validity of the test report shall be one (1) year from the date of issuance.

4. **Effectivity.** This IG shall take effect fifteen (15) days following its publication in at least two (2) newspapers of general circulation or the Official Gazette. Copies of this IG shall be filed with the University of the Philippines Law Center – Office of the National Administrative Register.

Issued at Energy Center, Bonifacio Global City, Taguig City.


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