

FACT SHEET

December 2006

Australian and New Zealand Energy Performance Requirements for External Power Supplies

Minimum Energy Performance Standards (MEPS)

From 1st April 2009 most External Power Supplies with a nameplate DC output power rating up to 250 Watts or AC output rating up to 250VA, manufactured or imported for sale in Australia or New Zealand will be required to meet or exceed the average energy efficiency level in Table 1, AND meet or be less than the no-load requirements in Table 2.

Note – the requirement and ability for AC – AC external power supplies to meet both no load and efficiency criteria is currently being analysed.

Table 1: MEPS required minimum efficiency level

Nameplate Power Output (P_{no})	Average Efficiency
0 to 1 watt	$\geq 0.49 \times P_{no}$
>1 to 49 watts	$\geq 0.09\text{Ln}(P_{no})+0.49$
>49 to 250 watts	≥ 0.84

Where: P_{no} is the nameplate output power of the Unit Under Test.

“Ln” refers to the natural logarithm (base e). The algebraic order of operations requires that the natural logarithm calculation be performed first.

Table 2: MEPS required maximum no-load power

Nameplate Power Output (P_{no})	No Load Power
0 to <10 watts	≤ 0.5
10 to 250 watts	≤ 0.75

Any external power supplies imported into Australia and New Zealand prior to April 2009, and held in stock, may continue to be sold, however no new importation of non-compliant products is allowed.

The full details of these requirements and an explanation of products covered, are provided in AS/NZS 4665.2-2005; while the relevant test method is published as AS/NZS 4665.1-2005. Both of these are available from:

- Standards Australia - www.standards.com.au
- Standards New Zealand - www.standards.co.nz

International Harmonisation

These performance requirements for external power supplies are technically identical to the following program requirements for external power supplies:

- US Energy Star criteria (January 2005)
- China Certification Center for Energy Conservation Products certification levels (January 2005)
- MEPS levels in California (January 2007) at 115 Vac for some specific products.
- MEPS levels in California (July 2007) at 115 Vac for all other products. External power supplies sold in California need only comply at 115Vac 60Hz and shall be marked with the performance mark with 115 beside the mark if they comply only at 115Vac.

Scope

AS/NZS 4665 defines an external power supply as follows.

- a) has an input from mains supply (usually 115 V, 60 Hz; 230 V, 50 Hz; 240 V, 50 Hz or a range including some or all of these input conditions); and
- b) has one ELV output (either a.c. or d.c.) that is either at a fixed voltage or user selectable through a selector switch; and
- c) is sold with, or intended to be used with, a separate end-use product that constitutes the primary load; and
- d) is contained in a separate physical enclosure from the end-use product (i.e. the housings of the power supply and its associated product are different, not their retail packaging); and
- e) is connected to the end use product via a hard-wired or removable male/female electrical connection, cable, cord or other wiring; and
- f) does not have batteries or battery packs that physically attach directly to the power supply unit (including those that are removable e.g. a battery pack for a portable electric drill); and
- g) does not have a battery chemistry or type selector switch and an indicator light or state of charge meter.

Figure 4 provides a simple method to assist in determining which EPS must comply with MEPS. It also shows examples of power supplies that are not included in the scope of AS/NZS 4665

Exemptions

Replacement external power supplies

The Trade Practices Act 1974 requires a part to be “reasonably available” after the acquisition of the goods by a consumer. Therefore an external power supply that is made available by a manufacturer directly to a consumer or to a service or repair facility after and separate from the original sale of the product requiring the external power supply as a service part or spare part shall be exempt from meeting the above MEPS requirements for a period of 5 years from the date of introduction of MEPS.

Medical use EPS

Therapeutic devices in the Australian Register of Therapeutic Goods in accordance with the Therapeutic Goods Act 1989 as amended by the Therapeutic Goods Amendment (Medical Devices) Bill 2002, the Therapeutic Goods (Medical Devices) Regulations 2002 and any subsequent amendments are exempt from meeting the above MEPS requirements. For further information use the following link.

<http://www.tga.gov.au/devices/devices.htm#guidelines>

Registration and Fees

Registration details to be available late 2007.

High Efficiency Products

To be eligible to be promoted as a 'high efficiency' product, external power supplies sold in Australia and New Zealand must meet the following criteria:

Table 3: Requirements for 'high efficiency' external power supplies

Nameplate Power Output (P _{no})	Average Efficiency
0 to 1 watt	$\geq 0.5 \times P_{no}$
>1 to 51 watts	$\geq 0.09\ln(P_{no})+0.5$
>51 to 250 watts	≥ 0.85
Nameplate Power Output (P _{no})	No Load Power
0 to 250 watts	≤ 0.5

High efficiency external power supplies will also be eligible for promotion through the national procurement website, Energy Allstars, viewable at www.energyallstars.gov.au

Energy Performance Mark

The energy performance mark is an international initiative to assist regulators monitor compliance with AS/NZS 4665-2005. Australian and NZ governments strongly encourage manufacturers and suppliers to mark products in accordance with Appendix A of AS/NZS 4665.1-2005, however this will not become mandatory until it is a requirement in another major economy and announced by Australian and NZ governments. Examples of the energy performance mark are shown below:

Figure 1: Example of Laser Printed Marking



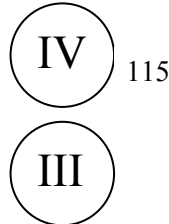
Figure 2: Example of Engraved Marking



Dual marking

If the external power supply has a different energy performance for different AC supply voltages, then the external power supply may voluntarily be marked with its performance mark qualified by voltage at which it applies, with the appropriate voltage marked immediately beside the mark. Figure 3 provides an example of dual marking, where the external power supply meets performance mark IV at 115 Vac and mark III at 230 Vac.

Figure 3: Example of Dual Marking



If only one mark is applied, then it shall be the lowest mark attained when tested at 115 Vac and 230 Vac.

Enforcement

Regular checks are conducted to ensure that all products offered for sale have a current registration with one of the State or NZ regulators. In addition, “checktests” by independent National Australian Test Authority accredited laboratories are conducted to see whether external power supplies perform in compliance with MEPS requirements or claims of high efficiency status.

The checktest process comprises an initial Screen Test, paid for by the Government. If the unit complies with MEPS no further action is taken. If the unit fails, the supplier has the option of:

- choosing to request cancellation of the registration, or
- testing up to three more randomly selected units at the supplier’s cost.

Full details of this process are contained in the Administrative Guidelines available from www.energyrating.gov.au/admin-guidelines.html

Regulatory Contacts

State and NZ contacts for Minimum Energy Performance Standards applications are:

NSW

Department of Energy, Utilities and Sustainability Level 18, 227 Elizabeth Street Sydney NSW 2000 (GPO Box 3889, Sydney NSW 2001) Tel 02 8281 7414 Fax 02 8281 7355

Email: energylabelling@deus.nsw.gov.au Website: www.deus.nsw.gov.au

Queensland

Electrical Safety Office Department of Industrial Relations LMB 2234 Brisbane QLD 4001 Tel +61 7 3237

0280 Fax +61 7 3406 3808 Email: equipmentsafety@dir.qld.gov.au Website: www.eso.qld.gov.au

South Australia

Energy Labelling Section Office of the Technical Regulator Level 19, 30 Wakefield Street Adelaide SA 5000

Tel 08 8226 5530 Fax 08 8226 5531 Email: king.brian@saugov.sa.gov.au Website:

www.energysafety.sa.gov.au

Victoria

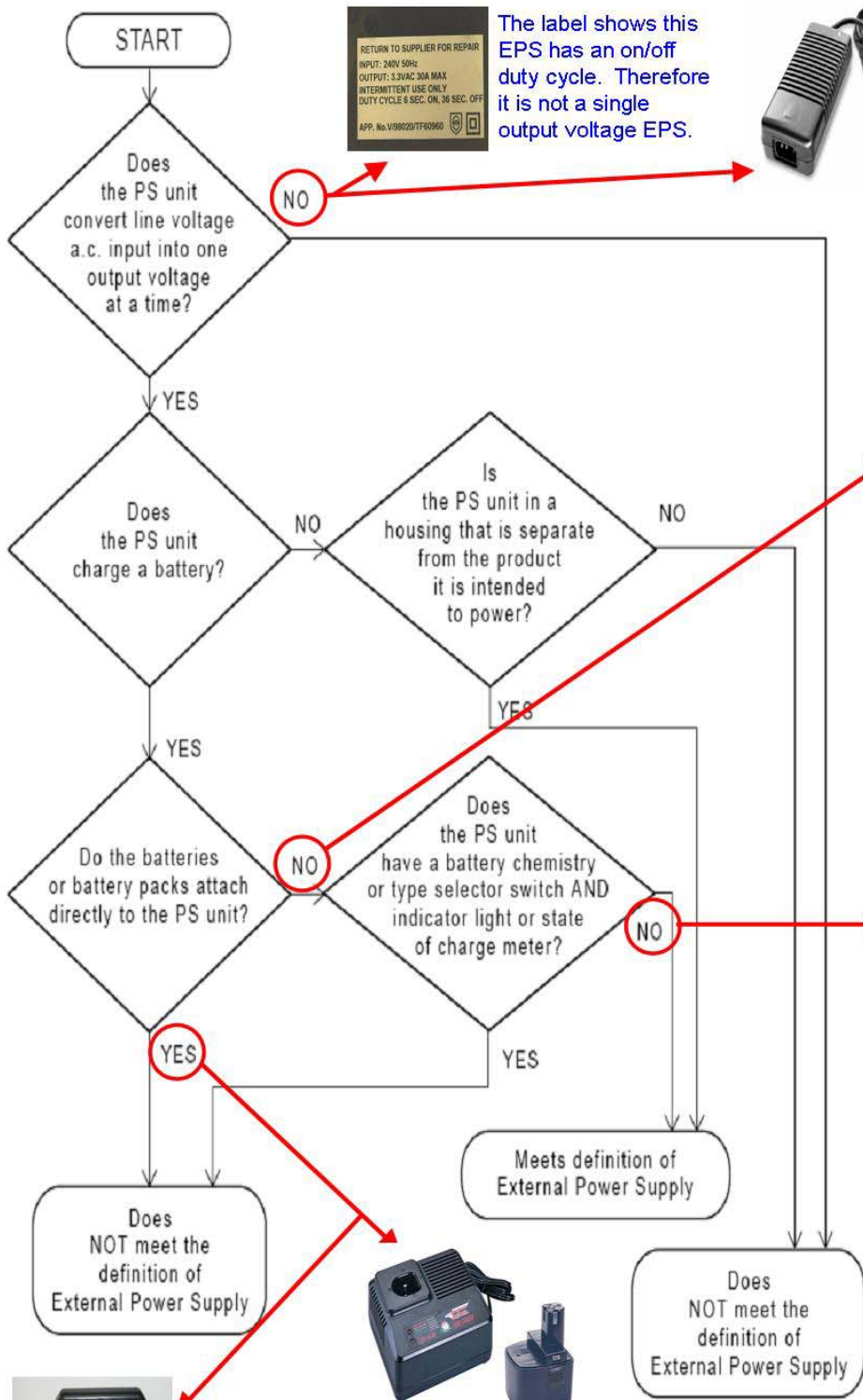
Equipment Efficiency Section Energy Safe Victoria PO Box 262 Collins Street West VIC 8007 Tel 03 9203

9700 Fax 03 9686 2197 Email: mgrubert@esv.vic.gov.au Website: www.esv.vic.gov.au

New Zealand

Products Programme Energy Efficiency and Conservation Authority PO Box 388 Wellington NEW ZEALAND

Tel +64 4 470 2222 Fax +64 4 499 5330 Email: terry.collins@eeca.govt.nz Website: www.eeca.govt.nz



The label shows this EPS has an on/off duty cycle. Therefore it is not a single output voltage EPS.



This is a switch mode power supply. The output plug shows multiple pins for simultaneous, multiple output voltages.



This EPS is connected to a battery charging head and the battery attaches to the charging head. The charging head is the appliance that is being powered by the EPS.



This EPS/charger has LEDs to show full or trickle charge, but does not have chemistry or type switch as well.



The battery connects directly to the power supply.



The battery plugs directly into the power supply.