

**5. We import a small volume of kiosk substations that include a distribution transformer for sale to OEMs and customers throughout Australia. Do they have to comply with MEPS requirements?**

Yes – if you import transformers into Australia or New Zealand that fall within the MEPS scope. Irrespective of quantity, you must ensure your product meets the standard AS/NZS 2374.1.2 - 2003. You must also register your transformers and your company using the Online Registration Database. Details on how to register products are available at [www.energyrating.gov.au/forms.html](http://www.energyrating.gov.au/forms.html)

**6. I already have local stock of transformers; can I still sell these or use them in local projects?**

Yes, PROVIDING that the transformers were imported prior to the implementation of the MEPS program that became effective in October 2004. You will need to have documentation to prove the import date.

Remember there are penalties - including product recall - that will apply for non-compliant product, so keep your records in good order.

The Australian Competition and Consumer Commission (ACCC) can also take separate action against infringing parties.

**7. What are the benefits of using a more efficient transformer?**

- lower operating costs
- reduced greenhouse gas emissions

**9. Will the energy efficiency decrease over the life of the transformer?**

No - The energy efficiency of a distribution transformer is determined primarily by the core and copper losses and these will not change over the life of the transformer if it is properly maintained.

**10. What else should be considered regarding transformer efficiency?**

- Transformers are most efficient between 40% and 80% of their rated load - size your transformer according to the demand power.
- Do not overload your transformer – the transformer efficiency decreases significantly if it is overloaded.
- Consider both the transformer and the overall system efficiency.
- Consider the load being supplied and how the efficiency of the load and the supply transformer might be improved (for example, by the use of power factor correction).

**11. Are any transformers exempt from the MEPS requirements?**

Yes, the following transformer types are exempt:

- transformers other than those on 11 or 22 kV networks;
- instrument transformers;
- auto transformers;
- traction transformers mounted on rolling stock;
- starting transformers;
- testing transformers;
- welding transformers;
- three phase transformers with three or more windings per phase;
- arc-furnace transformers;
- earthing transformers;
- rectifier or converter transformers;
- uninterruptible power supply (UPS) transformers;
- transformers with an impedance less than 3% or more than 8%;
- voltage regulating transformers;
- transformers designed for frequencies other than 50 Hertz;
- gas-filled dry-type transformers; and
- flameproof transformers.



# Transforming Transformers

Information for industry on mandatory efficiency requirements for distribution transformers



# TRANSFORMING TRANSFORMERS

## INFORMATION FOR INDUSTRY ON MANDATORY EFFICIENCY REQUIREMENTS FOR DISTRIBUTION TRANSFORMERS

Energy lost through appliances and equipment is a major source of greenhouse gas emissions in Australia. Consequently, improved energy efficiency of appliances and equipment is a key objective for Australian governments.

The **Equipment Energy Efficiency Program (E3)** is co-funded by the Australian Government, state and territory governments and the New Zealand Government. E3 is concerned with national appliance and equipment energy efficiency initiatives, in particular mandatory Minimum Energy Performance Standards (MEPS).

MEPS provides a cost-effective market intervention aimed at reducing energy demand from consumer appliances, commercial and industrial equipment and consequently, greenhouse gases.

From 1 October 2004, the energy efficiency levels of distribution transformers manufactured in or imported into Australia must meet the Australian Standard AS2374.1.2-2003 Power Transformers Part 1.2: Minimum energy performance standard.

The scope of transformer MEPS covers oil-immersed and dry-type distribution transformers with power ratings from 10 kVA to 2500 kVA intended to be used on 11 kV and 22 kV networks.

The aim is to eliminate low efficiency transformers from the market and encourage the use of high efficiency transformers.



- MEPS programs are made mandatory in Australia through state government legislation and regulations which give force to the relevant Australian standards. Regulations specify MEPS requirements, including offences and penalties. Strict penalties apply to manufacturers, importers and suppliers in Australia whose transformers do not conform to these efficiency standards.
- Distribution transformers that fall within the scope of the standard are considered 'proclaimed electrical equipment' under the Electrical Safety Acts of the various Australian states and territories and **must be registered to be offered for sale in Australia.**
- Australian transformer manufacturers and suppliers meet these commitments by offering for sale distribution transformers that conform to the new efficiency levels as required by the Standard AS2374.1.2-2003.
- As a partner in the E3 program, New Zealand requires transformers within the scope of the Standard to be listed with the Energy Efficiency and Conservation Authority (EECA) prior to sale. Models already registered in Australia do not need to be registered in New Zealand to be sold in that country.
- Transformers registered for sale in Australia and New Zealand can be found on the energy rating website at: [www.energyrating.gov.au/appsearch/distrans\\_srch.asp](http://www.energyrating.gov.au/appsearch/distrans_srch.asp)

The interactive product list on this website shows the suppliers and distribution transformers that comply with MEPS requirements.

For more information on the Distribution Transformer MEPS program, please visit the E3 website at [www.energyrating.gov.au/transformers2.html](http://www.energyrating.gov.au/transformers2.html).

A copy of the relevant standard can be purchased from Standards Australia at [www.standards.org.au](http://www.standards.org.au).

You should ask your transformer supplier whether they meet the requirements of the MEPS program for distribution transformers.

**Note:** MEPS levels are subject to revision from time to time. Negotiations are underway on a proposal to increase the stringency of mandatory MEPS for transformers (together with an expansion of the coverage of MEPS), for implementation no earlier than October 2010.

## Frequently Asked Questions

### CONCERNING MEPS FOR DISTRIBUTION TRANSFORMERS

#### 1. *How do I know that the transformers I want to purchase are MEPS compliant?*

The program is mandatory for Australian and New Zealand transformer suppliers and importers. Responsible companies will ensure distribution transformers sold in either country comply with the efficiency requirements of the standard. You should ask your transformer supplier whether they conform to the requirements of the MEPS program. You can also check the interactive product list at [www.energyrating.gov.au](http://www.energyrating.gov.au).

#### 2. *What types of transformers are required to comply with MEPS?*

The scope of transformer MEPS covers oil-immersed and dry-type distribution transformers with power ratings from 10 kVA to 2500 kVA intended to be used on 11 kV and 22 kV networks.

#### 3. *We import a small volume of distribution transformers for use in mines, on mining skids, in substations, etc. Do the transformers have to comply with MEPS requirements?*

Yes – if you import transformers into Australia or New Zealand that fall within the MEPS scope. Irrespective of quantity, you must ensure your product meets the MEPS standard AS/NZS 2374.1.2 - 2003. You must also register your transformers and your company using the Online Registration Database. Details on how to register products are available at [www.energyrating.gov.au/forms.html](http://www.energyrating.gov.au/forms.html).

#### 4. *We import a small volume of transformers for sale to OEMs and customers throughout the country. Do the transformers have to comply with MEPS requirements?*

Yes – if you import transformers into Australia or New Zealand that fall within the MEPS scope, irrespective of quantity, you must ensure your product meets the standard AS/NZS 2374.1.2 - 2003. You must also register your transformers and your company using the Online Registration Database. Details on how to register products are available at [www.energyrating.gov.au/forms.html](http://www.energyrating.gov.au/forms.html).