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EQUIPMENT ENERGY EFFICIENCY

Compliance Newsletter

AIR CONDITIONERS EDITION July 2008

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Recent compliance tests on air conditioners

In the 2007-2008 Financial year a total of 8 air conditioners were tested for compliance. All units were tested at the NATA accredited laboratories of Mechlab at the University of NSW. The following four units all passed the compliance test.

Brand	Model
PANASONIC	CS-XE12EKE / CU-XE12EKE
FUJITSU	ASTB09LDC
KELVINATOR	KWH26CRA
TECO	LS1108V / LT1108V

The Fujitsu unit was tested as part of the verification process for the recent ARBS awards held in Docklands in Melbourne.

Of the remaining 4 units tested, three, have been confirmed as failures and test results for the fourth are still being considered. The three units to fail were:

CHUNLAN BRAND MODEL KFR-35GW/VJ

The Chunlan unit failure followed a similar failure of another Chunlan product sold under the brand name Optical (Model ACC-25V2) during the 2006-07 financial year. This particular unit failed to meet the verification standards for, cooling capacity, cooling power input, heating capacity, EER, COP. The unit also failed to meet MEPS. The Chunlan model KFR-35GW/VJ was de-registered by the Queensland regulator on 24 December 2007.

CRYSTAL BRAND MODELS VSD-12HD03 AND KFR 26

These two models were purchased in New Zealand by the New Zealand regulator EECA and shipped to Australia for testing. Neither unit was properly registered in either Australia or New Zealand at the time of purchase. These units failed to meet the verification standards for, cooling capacity, cooling power input, heating power input, EER, COP. Each unit also failed to meet MEPS.

The New Zealand government took the supplier to court and the Christchurch based company became the first business in New Zealand to be convicted for selling products that do not meet Minimum Energy Performance Standards (MEPS).

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New testing facility

E3 has recognised for some time that there is a shortfall in the capacity of NATA accredited air-conditioner testing facilities to meet the programs testing requirements. E3 continues to encourage new entrants into the testing market. To this end E3 through its consultants Energy Efficient Strategies is presently negotiating with a potential new service provider to the air-conditioner and commercial refrigeration testing market. Options for testing larger scale equipment such as chillers are also being examined.

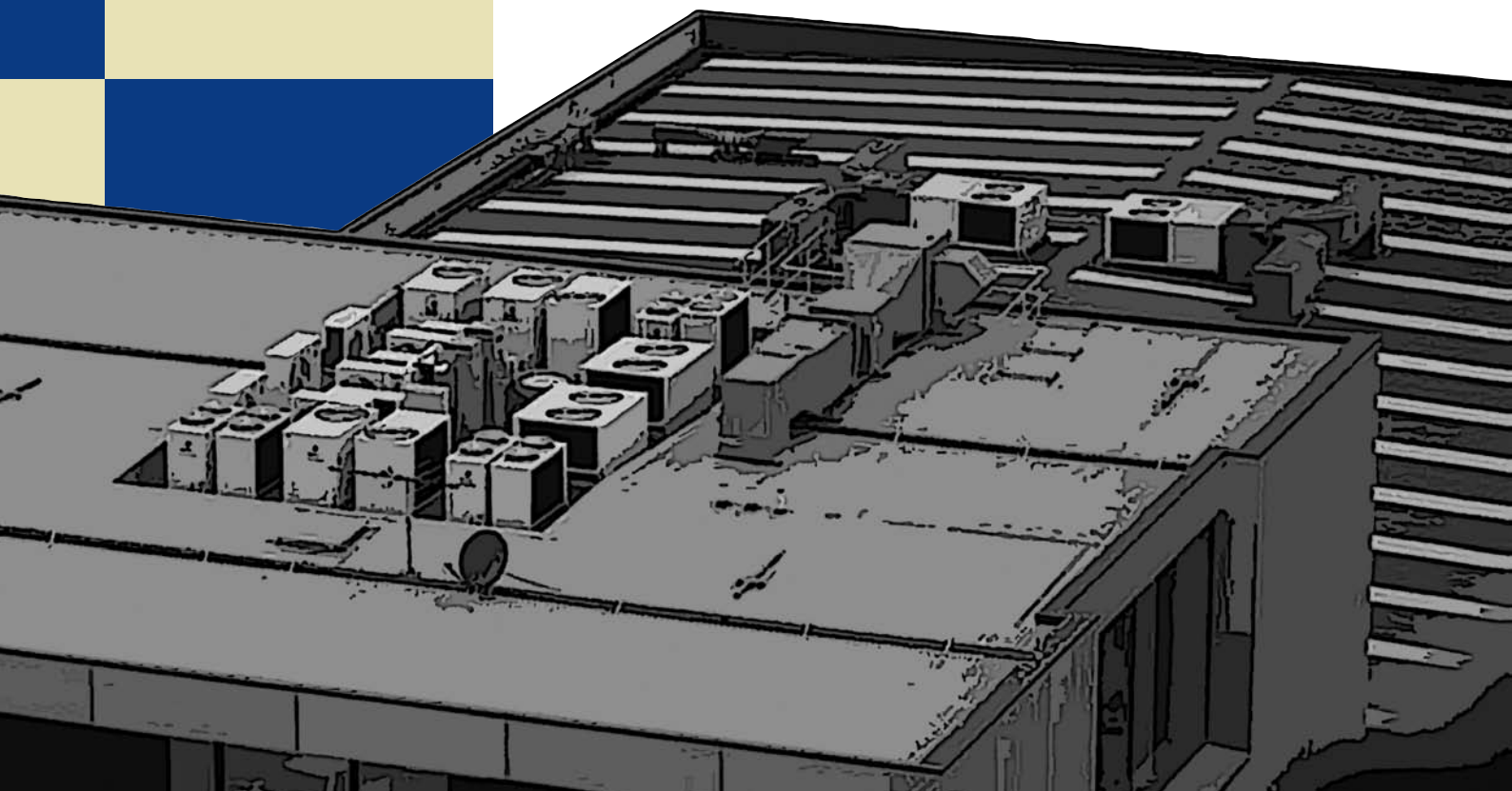
The Christchurch District court found that the Crystal branded heat pumps sold by the Matipo Trading Company Limited (trading as the Cargo Shed Christchurch), did not meet the standards and were not labelled with the mandatory energy performance labels. This was the first conviction under the Energy Efficiency (Energy Using Products) Regulations 2002. The Cargo Shed was convicted and fined $15,000 and costs.

In a public statement regarding the conviction, the Chief Executive of EECA said "EECA is serious about keeping energy guzzling appliances out of New Zealand, and we are pleased that the court has taken the same view".

Recent compliance tests on refrigerated display cabinets

In 2008 as part of the National checktesting program a total of 4 refrigerated display cabinets were tested at the NATA accredited laboratories of SGS Australia. All 4 units as listed in the table below met the MEPS requirements.

Brand	Model
ICS PACIFIC	ICS PACIFIC ROMA VERTICAL 90
ICEBLUE	DFZ-1200
HUSKY	DS2(C2)
F.E.D.	LG-800



Air conditioner round robin with China

In order to strengthen testing ties between Australian and Chinese appliance test laboratories and to build cooperation and confidence between Chinese and Australian governments on appliance testing matters, an international round robin for 4 air conditioners (and 6 household refrigerators) has commenced. The round robin will provide an opportunity to assess inter-laboratory reproducibility of test procedures and to clarify any ambiguities in the major test methods used for regulatory purposes. Given the large flow of appliances from China to Australia, the initial emphasis will be an assessment against Australian requirements for selected major appliances.

The major elements of the round robin are:

- Selection of 4 single phase non-ducted air conditioners from selected suppliers in China.
- Testing of these air conditioners in the government test laboratory operated by the China Household Electric Appliance Research Institute (CHEARI) to AS/NZS3823.1.1 (equivalent to ISO5151), including the preparation of full test reports;
- Shipping the units to Australia to conduct comparative tests in accredited Australian laboratories;
- CHEARI will send laboratory experts to witness tests in Australia and to compare a report on issues regarding methods and interpretation of the standard;
- Preparation of a joint report which examines and compares the results between laboratories in Australia and China;
- We the results warrant additional work, repeat testing in Australia and/or China may be conducted on selected models.

The units to be tested are:

- Reverse cycle window wall;
- Small high efficiency reverse cycle split model;
- Larger reverse cycle split model;
- Larger cooling only split model.

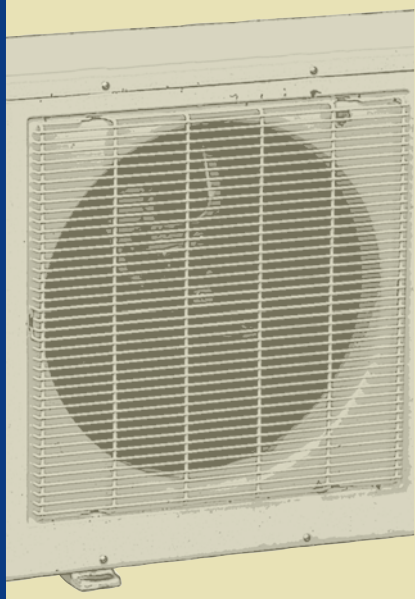
The contract arrangements between DEWHA and CHEARI have been finalised and models for testing are being selected. Testing in China should be undertaken in June and July 2008 with testing in Australia to be undertaken sometime after August 2008.

New Rules for Part Load Testing of Air-conditioners

Since 2001 applicants for the registration of air-conditioners with variable speed output compressors that did not meet MEPS at rated output have been able to claim compliance with MEPS based upon testing at part load (down to 50% of rated capacity). Part load compliance options were made available for air-conditioners with variable speed output compressors on the basis that while these products provided lower performance at full output they generally offered users superior performance at a range of part load conditions which is likely to make up a substantial proportion of their normal operation.

Recently, industry concerns have been raised about this arrangement. Theoretically, an inverter product could have a very low efficiency and may in fact be below the specified MEPS level for most of its operating range and only meet the MEPS level at say 50% output. This was considered to be contrary to the spirit of the allowance for variable output models – the underlying assumption in the development of the part load compliance rule was that the model may just fail MEPS at rated output but would be above MEPS for most of its operating range.

In 2007 there were calls from industry, supported by government, to review the arrangements for variable output products and, if necessary, revise this rule to make sure these units exceed MEPS over most of their operating range. A range of options was canvassed with industry and through standards committee EL15/16.



To this end, Amendment No. 3 to AS/NZS 3823.2:2005 was published at the end of February 2008 and came into force on publication. This amendment introduced more stringent requirements for variable output air-conditioners where these products did not meet MEPS at rated output. There were also additional reporting requirements for variable output products.

The new rules now require that both of the following conditions are met:

(a) The tested EER at rated capacity is not less than 95% of specified MEPS level.

(b) Where the product does not meet MEPS at rated capacity, the tested EER of a part load point selected by the supplier and documented with a test report supplied with the registration demonstrates that the model meets or exceeds either one of the following two requirements:

  (i) For an output in the range 83.3% to 100% of rated capacity, the tested EER meets or exceeds the MEPS level.

  (ii) For an output in the range 50% to 83.3% of rated capacity, the tested EER meets or exceeds the following equation:

$$EER_{tested} \geq [1.25 - Output_{part\ load} / Output_{rated\ capacity} \times 0.3] \times MEPS$$

It is important to note that in mid 2007 only 600 of the 2500 air conditioner were capable of variable output and that of these 600 only 18 used the part load allowance to meet the MEPS requirement. Of these 18 units, 12 would not have passed the new requirements in Amendment 3. Existing registrations will remain valid until at least October 2009.

New rules for commercial only air conditioners

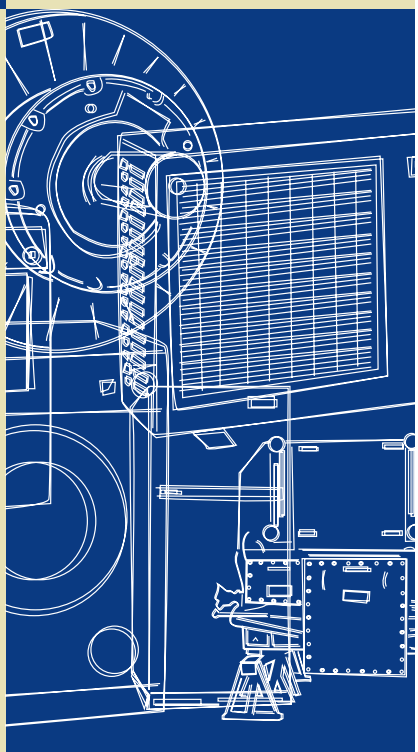
As part of Amendment No. 3 to AS/NZS 3823.2:2005 which was published at the end of February 2008, new rules now apply to suppliers who wish to rely on an exemption from the requirement to carry an energy label by the relevant Australian/ New Zealand regulatory authority due to their specific design for commercial applications.

In these cases, the supplier is now required to make an application for each model where an exemption is sought and provide documentation to satisfy regulators that an exemption from mandatory energy labelling is warranted because the product is—

(i) designed for and used only in non-residential applications; and/or

(ii) will not be on display for sale through retail outlets; and/or

(iii) not promoted in any catalogue or advertising material that could be interpreted as suitable for some residential applications.



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