10.04.2003

Review of Mutual Recognition
Productivity Commission
PO Box 80, Belconnen, ACT 2616
Ms.S. Box

Dear Sarah

Re: Review of Mutual Recognition Agreement

Please find attached a précis of the series of events and issues raised leading up to the introduction of MEPS for fluorescent lamp ballasts.
The MEPS levels were as a derivative of the Regulatory Impact Statement and Industry input.
From the very onset of the work carried out by the various bodies, it was a joint effort of both the Australian and New Zealand Governments being the Australian Greenhouse Office (AGO) and NZ, Energy Efficiency and Conservation Authority (EECA), and the Lighting Industry.

Not only did we achieve misalignment of the MEPS level we couldn't even get agreement with the scope of the MEPS as NZ have included ballasts used for operation the single ended compact fluorescent lamps which in the preparation of the MEPS standard were left out of the equation, based on the assumption that if these types of lamps are being used then already they are energy saving especially if used if in lieu of the incandescent lamps.

To introduce a MEPS level and the scope quite different to what was being jointly discussed by Australia and New Zealand is beyond our comprehension as this joint approach was to avoid yet another dispensation being applied in accordance with the TTMRA, quite the contrary giving rise to another dispensation to the TTMRA, therefore why have this agreement at all.

The resultant of this misalignment of the MEPS and the scope will see Manufacturing go off shore in the case of Tridonic.Atco as for the very reason as depicted in the summary attached. These issues have been completely snubbed

by the New Zealand Government and no consideration given to the future of the Manufacturing in the Lighting Industry and supporting Industries.

It is the intent of this submission that the Productivity Commission seriously look at this misalignment of MEPS not only in the Lighting Industry but other areas where different MEPS levels have been set between these two countries, where yet again another dispensation of the TTMRA may be implemented.

We believe that the TTMRA was first initiated to have free trade between the countries and it should be the goal of the Productivity Commission to ensure that it does in fact achieve this without dispensations being imposed.
Should any further discussions be required with reference to the above or the summary attached please do hesitate to contact the undersigned.

Yours faithfully,
ATCO CONTROLS PTY. LTD.

Barry J. Foreman,
Quality Assurance
Applications Manager.

**Re: SUBMISSION TO THE 2003 REVIEW OF THE TRANS TASMAN MUTUAL RECOGNITION ARRANGEMENT - THE EFFECTS OF DIFFERING MINIMUM ENERGY PERFORMANCE STANDARDS FOR FLUORESCENT LIGHTING BALLASTS IN NEW ZEALAND AND AUSTRALIA.**

Mandatory minimum energy standards (MEPS) for fluorescent lighting ballasts have been developed jointly by Australia and New Zealand over the period 1994 - 2003. The standards apply in Australia and New Zealand from March 1st 2003 and February 1st 2003 respectively, and are contained in the joint Australian/ New Zealand standard AS/NZS 4783.2:2002. In contrast to the specific intention of the Trans Tasman Mutual Recognition Agreement, MEPS with different levels and scope have been set in New Zealand and Australia, albeit within the same testing and labeling framework.

The different MEPS will have the effect of restricting trade between Australia and New Zealand, and are likely to lead to a substitution of ballasts from countries further a field in preference to Australian imports. Harmonization at the level set by New Zealand, which was the level originally considered by both parties, has the potential to significantly impact on Australia's competitiveness in international markets.

***MEPS Requirements and Scope***

The Australian and New Zealand Standard which establishes MEPS for fluorescent lighting ballasts establishes an Energy Efficiency Index (EEI) for ballasts, a testing and registration procedure, and sets the levels for MEPS. The Energy Efficiency Index (EEI) and test methodology is standard for both countries. The EEI is drawn from European (CENELEC) Standard 50294.

Following implementation of the standards, manufacturers and importers are required to register the EEI of ballasts. Procedures for registering the MEPS of particular ballasts have been developed jointly, and are contained within the standard.

The table below shows the EEI classifications used by both countries.

***EEI Classifications and nominal ballast losses***

| EEI classification | Previous Australian classification | Type | Maximum Circuit Power | Nominal ballast loss |
|---|---|---|---|---|
| A1, A2, A3 | Electronic Ballast | Electronic ballast | <=38 | <=2 |
| B1 | Super low loss<br>Low loss | Ferro magnetic | <=41 | <= 4<br><= 5 |
| B2 | Semi low loss | Ferro magnetic | <=43.5 | <=7 |
| C | Code | Ferro magnetic | <=45 | <=9 |
| D | Below standard | Ferro magnetic | <=45 | <=9 |

*EEI classifications from AS/NZS 4783.2:2002, nominal ballast loss from GWA, 2001.*

Prior to the introduction of MEPS, more than 80% of ballasts sold in Australia were 'Code' ballasts, corresponding to the EEI category C.

From 2003, the scope and level of the Minimum Energy Performance Standards, and the labeling requirements, will differ in New Zealand and Australia, as discussed below.

### *Australia*

MEPS apply to ballasts for linear fluorescent lamps in the range 15 Watts - 70 Watts (known as Type T). From 1st March 2003 all such ballasts manufactured in, or imported into, Australia must have an EEI of B2 or above (this is the MEPS level).

All ballasts covered by the standard are also required to be marked with their EEI, have their Ballast Lumen Factor, or BLF declared (BLF is the relative output of a lighting circuit containing the ballast to a reference circuit), and meet specified performance standards which have been harmonized with European standards.

### *New Zealand*

MEPS apply to ballasts for linear fluorescent lamps in the range 15 Watts - 70 Watts (known as Type T), and to ballasts for 2 tube and flat 4 tube compact fluorescent lamps (Types TC-L and TC-F). From 1st February 2003 all such ballasts manufactured in, or imported into, New Zealand must have an EEI of B1 or above.

Labeling with the EEI is voluntary in New Zealand, but an alternative labeling scheme may not be used. All ballasts covered by MEPS or voluntarily labeled are

required to have their BLF declared, and meet the specified performance standards.

*The development of* ***MEPS In Australia and New Zealand***

The development process in Australia and New Zealand has been underway since 1994, when ballasts were identified as potentially suitable for MEPS and/ or labeling (Energetics and GWA, 1994). Development has entailed extensive co-operation between government and the Australian lighting industry, and both the lighting and manufacturing industries have made a considerable investment of time and effort into the process.

A draft Australian/ New Zealand standard was published in June 2000, which established the framework for the EEI index, and for a voluntary labeling scheme. MEPS levels were not proposed in this draft.

The Australian Government started formal consultation on their Draft Regulatory Impact Statement (RIS) in March 2001(GWA 2000), with the intention that this would be followed by a Final RIS after industry consultation, and publication of the Joint Australian / New Zealand standard in 2002. The Draft RIS recommended that mandatory MEPS should be set at B1.

However, after submissions from industry and considerable input from TridonicAtco (the sole manufacturer of ballasts in Australia or New Zealand), and BHP Billiton, the final RIS was published in August 2001 with revised recommendations for MEPS to be set at B2 (GWA 2001).

The process adopted by NAEEEC[1] for the setting new regulations explicitly recognises the potential impacts on local industry, and the need for adequate lead-in times for industry to adapt to future changes at minimum economic and social costs. As a result, the final Australian recommendations were primarily based on revised cost benefit calculations after further information about the real costs to industry, and on the wider implications of the different standards for local manufacturing. This is the standard adopted by Australia.

While New Zealand followed a parallel process of consultation, it is notable that the New Zealand Standards authority published a Handbook on MEPS in December 2001 (EECA 2001), which established the standards that would be adopted for New Zealand. This was described as based on the 'near final draft joint Australian/ New Zealand standard that was awaiting regulatory input from Australian Regulatory Authorities' (EECA 2001, p 4). It was known at that time

that the original draft recommendation had been revised in the Final RIS, so that the AGO publication was now recommending that MEPS be set at B2.

[1] National Appliance and Equipment Energy Efficiency Committee

### *The rest of the world*

The European Union, Brazil, Canada, Korea, Malaysia, the Philippines, Taipei, and the USA all have mandatory MEPS for lighting ballasts, and mandatory MEPS are under consideration in Thailand and Vietnam.

The Australian/ New Zealand standard is based on the EEI specified in the European Union standard, as is the test procedure and performance standards. The European Union has adopted B2 as the MEPS from 2005, and includes ballasts for all types of fluorescent lamps (European Union 2000).

It is difficult to compare other countries mandatory MEPS levels as classification systems vary. However, it is likely that other countries within APEC (Asia-Pacific Economic Cooperation) may change their standards to align to the EEI (GWA 2001).

## ENERGY AND GREENHOUSE GAS SAVINGS

Australia is committed to greenhouse gas reduction to reduce the threat of climate change, through activities identified in the National Greenhouse Strategy. These include the implementation of measures to increase the efficiency of electrical equipment:

> "Improvements in the energy efficiency of domestic appliances and commercial and industrial equipment will be promoted by extending and enhancing the effectiveness of existing energy labeling and minimum energy performance standards." (NRS 1998)

In 1999 ANZMEC agreed that Australia would match the best MEPS level of our trading partners after taking account of test method differences and other differences (e.g. climate, marketing and consumer preference variations). (NAEEEC 2001)

Australia's greenhouse gas emissions in 1999 were equal to 458 Mt $CO_{2\text{-}e}$. Electricity generation accounted for 37% of that, and for much of the 17% increase in emissions in the ten previous years (AGO 2001). Emissions from electricity are projected to increase a further 21% by 2010, and reducing this growth is a high priority in Australia's greenhouse strategy.

Total electricity use from linear fluorescent lights is about 12,200 GWh per year, or 6.9% of annual electricity use; this includes both direct electricity consumption and added consumption by cooling plant to remove the heat generated by fluorescent lighting. Ballasts account for approximately 20% of the energy used in linear fluorescent lights, or 2.78 Mt $CO_2$-e greenhouse emissions. This is equivalent to 1.4% of national electricity use. This allows both for direct energy used in the ballast, and the added heating load on air conditioning plant. This is equivalent to just under 3% of national greenhouse emissions, and represents

unnecessary costs to industry and consumers of approximately $341 million annually. (GWA, 2001)

Ballasts are required for fluorescent lamps, providing for correct start up and subsequently limiting the current. However, efficiencies vary widely, with energy consumption anywhere between nearly zero for some electronic ballasts, to nominal losses greater than 9 W.

The impact of implementing different MEPS was modeled in the RIS for the years from 2001 to 2015. The savings from mandating B1 in 2003 are predicted as 0.53Mt $CO_2$-e, while savings from mandating B2 are 0.35 $MTCO_2$-e. (GWA, 2001)

**COST AND BENEFITS OF DIFFERENT MEPS LEVELS**

The financial costs and benefits from MEPS at different levels are shown in the table below, with the costs of implementation set against the savings in energy use. The ratio of costs to benefits for the B2 option is the most favorable, with benefits nearly 15 times greater than costs. It should be noted that this is overall benefit / cost ratios; commercial end users have more favorable benefit /cost ratios than residential users, as lighting tends to be for much longer periods so savings accrue much quicker. For residential end users, only the MEPS set at B2 are cost effective at today's energy prices.

***Financial costs and benefits of different MEPS levels***

| **MEPS level** | **NPV of costs** $ Million | **NPV of benefits** $ Million | **Net benefits** $ Million | **Benefits / costs** | **$CO_2$-e saving Mt** |
|---|---|---|---|---|---|
| **B2** (Note 1) | 17 | 248 | 231 | 14.8 | 0.25 |
| **B1** (Note 1) | 125 | 524 | 399 | 4.2 | 0.53 |
| **Electronic ballast** (Note 2) | 278 | 757 | 479 | 2.7 | 0.67 |

Table from GWA, 2001, p 54 (NPV set at 10% discount rate).
Note 1: B1 or B2 are mandated 2003. Note 2: in the electronic ballast option, B2 is mandated in 2003, followed by B1 in 2005, and A3 in 2007.

**The Market for Lighting Ballasts**

The market for lighting ballasts in 2002 had a nett value of approximately $24 million dollars in Australia[2], and approximately $6.7 million (AUD) in New Zealand[3], excluding the additional value of the trade in complete light fittings. Australian production results in significant export earnings, with a nett value of $17.9 million.

[2] Market size taken as (exports + internal sales) – imports; import/ export data from Australian Bureau of Statistics; internal sales assumed to be 20% of export (from GWA 2001).
[3] The market size for New Zealand has been taken as (imports – exports), data from Statistics New Zealand; exchange rate taken as $1NZ = $0.88045 AU (from 8/10/02).

### *Production in Australia*

Approximately 20 million ballasts[4] are manufactured annually in Australia by just one manufacturer, TridonicAtco. About 80% of production is exported (GWA 2001). Prior to the introduction of MEPS, Code ballasts (equivalent to EEI class C) comprised the vast majority of manufacture in Australia, for both local and export markets. B2 were not manufactured, and only a small number of B1 or electronic ballasts were produced. As a result, the level of MEPS chosen has the potential for significant impact on manufacturing in Australia.

The Draft RIS produced in 2000 made the assumption that there could be a smooth transition to production of B1 ballasts in Australia, and that this could be achieved without significantly disadvantaging local producers. However, during the subsequent consultation both the lighting and manufacturing industries raised considerable concerns, summarised as follows:

- Code ballast production could easily be converted to B2 ballast production, as dimensions were compatible;
- Code ballast production could not be easily converted for B1 production, and large scale production of B1 ballasts would require significant new production facilities;
- A wholesale switch to production of B1 rather than Code or B2 ballasts would necessitate importing high silicon electrical steel, and would probably precipitate the closure of electrical steel production in Australia (see below).

Perhaps most significantly, setting MEPS at B1 would mean that Australia and New Zealand were out of step with major trading partners, notably the European Union. Had MEPS been set at B1, Australia would no longer be able to manufacture ballasts to supply this market; with the likely effect that production would move offshore.

### *Steel production in Australia*

There are two main types of electrical steel used in Australia, low silicon and high silicon. B1 ballasts require high silicon steel, which ceased production in Australia in 1992. Code ballasts are manufactured from low silicon steel.

Following discussions on various proposed MEPS, TridonicAtco and BHP Billiton undertook tests to determine whether B2 ballasts could be manufactured from an intermediate grade of electrical steel, and whether the steel could be locally produced to consistent quality standards. These were successful, establishing that B2 ballasts could utilise locally produced steel, and that manufacture would have effect of increasing production at BHP Billiton.

[4] Taken as export quantity (from ABS) + 20% for internal use.

### *Import and export market*

The export market for ballasts alone was valued at $32.2 million in 2002. Exchanges with major trading partners are shown below. The greatest volume of trade is with the European Union; it is very desirable therefore, that Australia and the European Union have harmonised MEPS levels, which will be the case with adoption of B2 as the standard in both countries.

### *Import / Export values for Ballasts, 2002*

| | Exports by value | | Imports by value | |
|---|---|---|---|---|
| | $000 | % | $000 | % |
| EUROPEAN UNION | $5,050 | 16% | $8,593 | 59% |
| New Zealand | $4,885 | 15% | $53 | 0% |
| Singapore | $4,102 | 13% | $830 | 6% |
| United Arab Emirates | $3,856 | 12% | $0 | |
| Switzerland | $2,914 | 9% | $250 | 2% |
| Taiwan | $1,976 | 6% | $940 | 6% |
| Hong Kong | $1,854 | 6% | $2 | 0% |
| China | $1,745 | 5% | $1,157 | 8% |
| India | $1,177 | 4% | $0 | |
| Israel | $0 | | $1,270 | 9% |
| Other | $4,875 | 15% | $1,391 | 10% |
| | $32,435 | | $14,487 | |

Note: data from ABS, 2003. Export data estimated from total year export value apportioned according to part year country percentages.

### *The Impact of different MEPS levels on the Australian / New Zealand markets*

New Zealand is a significant importer from Australia, accounting for 15% of Australian ballast exports. Australia supplied the bulk of the New Zealand market, although this has declined somewhat in the last two years; Australia supplied 62% of New Zealand ballasts in 2000, and 48% in 2002.

The adoption of different MEPS standards in New Zealand could have a significant impact on trade between the two countries, and on the ability of Australia to maintain the supply of ballasts to New Zealand. Continued supply would require Australian production to undergo partial reconfiguration, and increased imports of high silicon steel. As this is out of step with ballast requirements in the rest of the world, it is unlikely that current trading levels can be maintained.

The loss of a significant local market (15% of total exports) could potentially give impetus to TridonicAtco to relocate production closer to the major European

markets. While this would not affect energy performance as such, it would have a major impact on Australian manufacturing and steel production.

## THE TRANS TASMAN MUTUAL RECOGNITION AGREEMENT

The Trans Tasman Mutual Recognition Agreement (TTMRA) came into force in 1997, with the objective of removing regulatory barriers between Australia and New Zealand, and enhancing both countries international competitiveness. This is clearly set out in the objectives section of the agreement:

*"The objective of the Arrangement is to remove regulatory barriers to the movement of Goods and service providers between Australia and New Zealand, and to thereby facilitate trade between the two countries. This is intended to enhance the international competitiveness of Australian and New Zealand enterprises." (TTMRA, p 2.)*

The New Zealand Energy Efficiency and Conservation Authority and the New Zealand Ministry for the Environment has recognised that the TTMRA is relevant to the development of energy standards, and indeed specifically acknowledged this in their consultation document on the implementation of MEPS:

*'It is in any case generally desirable under the Trans-Tasman Mutual Recognition Arrangement (TTMRA) for New Zealand and Australian regulations affecting trade to be in broad alignment." EECA (2001b), p7.*

*"New Zealand's decisions to apply MEPS and energy labeling regimes along similar lines to those in Australia are expected to facilitate trade. It is hoped that this will prevent the implementation of permanent exemptions to TTMRA. …The MEPS and energy labeling implementation regime proposed in this document is consistent with the Government's direction to align our regime with that of Australia." EECA (2001b), p10.*

The subsequent adoption of differing levels of MEPS seems to be in contradiction to the spirit of the TTMRA.

## CONCLUSION

New Zealand's decision to apply for exemption from the TTMRA for MEPS levels for ballasts is unfortunate. To keep within the intention of the agreement there should be harmonised standards between Australia and New Zealand, and wherever possible, the rest of the world.

MEPS for ballasts had the potential to be an excellent example of joint standards development. There was significant investment of time into developing standards that protect Australia and New Zealand's international competitiveness while accomplishing energy conservation objectives.

The decision by New Zealand to set different performance standards appears contrary to the objectives of the TTMRA, and may also be contrary to stated objectives of the New Zealand government for MEPS development. Joint adoption of the standard selected by New Zealand would have significantly disadvantaged Australian enterprises, as it would leave Australia unable to supply major trading partners.

MEPS standards should be set at the same levels for both countries, and these should be in line with standards adopted by major trading partners such as the European Union. Where there is a case for more stringent MEPS levels, these should be jointly agreed on the basis international harmonisation of standards is maintained or enhanced, and adequate warning provided to industry to ensure that negative impacts are minimised.

References

AGO (2001) National Greenhouse Gas Inventory: Analysis of Trends and Greenhouse Indicators 1990 to 1999 Australian Greenhouse Office, Canberra.

EECA (2001a) Performance of electrical lighting equipment. Ballasts for fluorescent lamps Part 2: Energy labeling and minimum energy performance standards requirements. NZHB 4783.2:2001, Standards New Zealand.

EECA (2001b) Proposed Implementation of Mandatory Energy Performance Standards and Labeling Discussion document for consultation under the Energy Efficiency and Conservation Act 2000. Prepared by the Energy Efficiency and Conservation Authority and the Ministry for the Environment April 2001.

Energetics and GWA (1994) Energy Performance Standards and Energy Labeling for Industrial and Commercial Equipment. Energetics Pty Ltd and George Wilkenfeld and Associates, for Department of Primary Industries and Energy, April 1994.

European Union (2000) Directive 2000/55/EC of the European Parliament and of the Council of 18 September 2000 on energy efficiency requirements for ballasts for fluorescent lighting. EN Official Journal of the European Communities 1.11.2000 L 279/33

GWA (2000) Draft Discussion Paper: Regulatory Impact Statement: Minimum Energy Performance Standards and alternative strategies for fluorescent lamp ballasts George Wilkenfeld and Associates for Australian Greenhouse Office, April 2000.

GWA (2001) Final Discussion Paper: Regulatory Impact Statement: Minimum Energy Performance Standards and alternative strategies for fluorescent lamp ballasts George Wilkenfeld and Associates for Australian Greenhouse Office, August 2001.

NAEEEC (2001) Future Directions for the National Appliance and Equipment Energy Efficiency Program 2002 to 2004, NAEEEC, March 2001.

NRS (1998) National Greenhouse Strategy, Commonwealth of Australia, Canberra.