





## **Components of a Product Registration System for Energy Efficient Lighting**

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### Where is information from the PRS database utilised for EE activities



### Lighting product information requirements

Must be able to uniquely identify the product based on the information entered into the PRS







### **Review of Standards & Regulations**

#### MEPS Review: assessment of technology improvements

Example assessment of CFL lamps in Australia (Product performance reviewed over 5 years)



Source: lamps tested by the Australian Government 2008 and 2010





### **Review of Policies and Programs**

Review Greenhouse gas abatement by assessing efficiency gains and installed volumes

Example assessment in Australia

#### Chart 2 GEMS Year On Year Emissions Abatement



 Source: Independent Review of the Greenhouse and Energy Minimum Standards (GEMS) Act 2012, Final Report, June 2019





Import Notification Form



# MVE activities - Border control (Customs)

Product is checked for existence on the PRS (and thereby conforming with MEPS) before allowing entry to the country





Administrative

Import Notification Form



# MVE activities – Market Surveillance (Label and packaging)

Checking product is registered and that it has an Energy label & required information on package













Quantity Energy Label Luminous Flux Power CCT Claimed equivalence



# MVE activities – Market Surveillance (Testing)

Testing product to check that it continues to comply with MEPS and packaging claims.





Model number
Barcode/SKU number
Brand
Quantity
Efficacy
Lifetime
Energy Label rating
Luminous Flux
Voltage
Power
CRI
ССТ
Colour consistency
Beam Angle
Claimed equivalence

### Supporting programs – Higher Efficiency programs (HEPS)

Qualification for HEPS programs (endorsement and finance subsidy) can be determined by the program administrator from the PRS information on a product







Identification
Brand
Model number
Quantity
Energy Label

rating

Efficacy

Lifetime

 $\Rightarrow$  HEPS

(other qualities)

**Administrative** 

endorsement

# Supporting programs – Public searchable database (Consumer choice)

Consumers able to identify product based on their purchase preferences (e.g., energy performance, lumens, lifetime)

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Identification

Model number

**Energy Label** 

**Brand** 

Quantity

rating

**I** ifetime

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### Summary of PRS Components for Lighting Products

Identification		12.1			
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Model number

Barcode/SKU number

Brand

**Product class** 

(Family name)

Photo

Administrative	
Import Notification Form	
HEPS endorsement	
40	

Quantity	(additional)
Voltage	Dimmable
Luminous Flux	Blue Light Hazard (Risk Group)
Power	UV Hazard (Risk Group)
Efficacy	Lab test reports
Lifetime	
Energy Label rating	
CRI	
ССТ	
Colour consistency	
Beam Angle	
Claimed equivalence	
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### Families

For products from the same manufacturer that are inherently the same, the burden of registration can be minimised by the creation of a <u>family</u> within the PRS.

The most obvious of family members is where only the cap changes thereby not affecting the performance of the product.





## Families

A further expansion of a family is where other physical changes may slightly affect the luminous flux output for the same power consumption.



Clear bulb – Frosted bulb



Fancy round bulb – Candle bulb



## Families

And even further expansion of a family definition is where other material changes (e.g., phosphors, and, for directional lamps, the lens) may affect either the:

- luminous flux (for same power)
- power consumption (for same luminous flux output)







Narrow beam – Wide beam



Warm white - Cool white

### Families - Variations that could be allowed within a family



Power/luminous flux (for same equivalent incandescent??)
 Cap

 e.g., BC/ES and size E27/E14/B22/B15

 Frosted/Clear Bulb
 Size or Shape

 e.g., A40/A60

 Correlated Colour Temperature (CCT)

 e.g., 3000/4000/5000/6500K or warm white/cool white



## Families - illustrated example of family tree (Non-directional lamp)





### Families – PRS registration process

Registering a family requires:

- > A unique Family name (for the registrant)
- Identification details of all family members



Identification	
Family name	
Product class	
All model numbers	
All barcodes/SKU numbers	
All brands	
Declared lowest performing model	
ies) for the	

Quantity
Voltage
Luminous Flux
Power
Efficacy
Lifetime
Energy Label rating
CRI
ССТ
Colour consistency
Beam Angle
Claimed equivalence

# Families – the risk to registrant (bigger is not always better!)

If any one family member is determined to fail compliance (and is directed to be removed from the market) ALL members of the family suffer the same penalty.



So careful consideration is required when choosing family members!



### Conclusion

For lighting products

- The PRS requires all necessary information to uniquely identify each product /model registered
- > The only performance information required in the PRS is that which is required for:
  - Determination of compliance (at registration)
  - Verification of test conditions (for check testing)
  - Declaration of claims (lifetime, equivalence)
  - > Qualification for supporting programs (endorsement labels, subsidies)
  - Public information (product comparison)

> The benefits of a family should be carefully considered before being constructed







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