

# Safety of Electrical Appliances

How to obtain approval to sell  
electrical appliances  
in Western Australia



Department of Consumer  
and Employment Protection

**EnergySafety WA**

20 Southport Street  
West Leederville  
Western Australia 6007

Telephone: (08) 9422 5200  
Facsimile: (08) 9422 5244  
Website: [www.docep.wa.gov.au](http://www.docep.wa.gov.au)

# Contents

Preface	1
Electricity and Safety - The Act and Regulations	2
Safety of Electrical Appliances	3
Household Electrical Appliances	3
Industrial and Commercial Electrical Appliances	3
Why Do Electrical Appliances Require Approval?	4
What Types of Appliances Need to be Approved?	5
How to Get Electrical Appliances Approved	6
Certificates of Approval	7
Renewal of Certificates of Approval	9
Transfer of Certificates of Approval	9
What About Imported Electrical Appliances?	10
Second Hand Appliances	11
How are Appliances Identified as Being Approved?	12
What if an Appliance is Not Approved?	13
What Happens if an Approved Appliance is Modified?	14
Non-Prescribed Electrical Articles	15
Certificates of Suitability	16
Other Important Issues	17
How Much Does It Cost?	17
Energy Efficiency Labelling of Appliances	17
Minimum Energy Performance Standards	17
Future Developments in Appliance Approvals	17
List of Prescribed Electrical Appliances	18
More Information	21

# Preface

This information booklet has been prepared to assist manufacturers and sellers of electrical appliances to understand the purpose and processes of the appliance approval scheme.

The booklet is published under the authority of the Director of Energy Safety at EnergySafety WA.

The Director of Energy Safety heads EnergySafety WA. The primary function of EnergySafety is to oversee the safety needs of Western Australia in relation to electricity and gas. The safety of electrical appliances is one such area. The functions of the Director are defined mainly under the *Electricity Act 1945*, the *Gas Standards Act 1972* and the *Liquid Petroleum Gas Act 1957*.

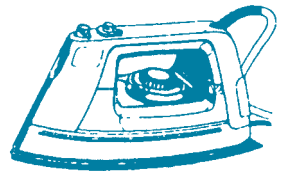
## **Electricity - the Modern Miracle**

Harnessing electrical energy has been one of the greatest triumphs of the human race. Electricity has enabled most of our modern industrial development to take place.

It is inconceivable to imagine the world without electricity. Without industrial, commercial and domestic electrical equipment, our world would be a radically different and primitive place.

## **Electricity - the Dangers**

We can not see or hear electricity, so it is often taken for granted. That can be dangerous. If electricity is misused, fires can result or even worse, electric shock or electrocution may occur.



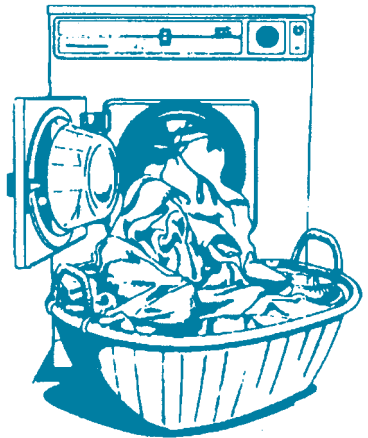
# Electricity and Safety - the Act and Regulations

In Western Australia, there are a number of laws designed to minimise the hazards of electricity and to reduce the risks of electric shock and fire. Many of the laws are embodied in the *Electricity Act 1945* and the *Electricity Regulations 1947* (Part X) that deal with the safety of electrical appliances. The Director of Energy Safety at EnergySafety WA is nominated as the person responsible for administering the Electricity Act and Regulations, including those relating to the safety of electrical appliances. EnergySafety, Western Australia's electrical regulatory authority, regulates technical and safety matters associated with electricity and gas.

A copy of the regulations can be obtained from:

State Law Publisher  
10 William St  
Perth WA 6000  
Telephone: (08) 9321 7688

The regulations can also be viewed at  
<http://www.slp.wa.gov.au>.



# Safety of Electrical Appliances

## **Household Electrical Appliances**

Exposure to the risks of electricity is greatest for most people at the point where it does its job - at electrical appliances. The cords that connect electrical appliances to the power supply are also high risk items.

For that reason, the *Electricity Act 1945* prohibits the sale of many household electrical appliances unless the approval of the Director of Energy Safety is first obtained.

The Director of Energy Safety will issue this approval if the person who intends to sell the appliance satisfactorily demonstrates that he or she has accepted the responsibility of ensuring that it is safe for use. The most common way of doing this is by the person proving that the appliance complies with standard tests for electrical safety.

This approval process is referred to as the Uniform Approvals Scheme and it is administered nationally by each State and Territory. Regulatory authority approval in any one State or Territory is recognised by all other States and Territories.

The Uniform Approvals Scheme applies to electrical safety only. It does not apply to the other characteristics of appliances which make them safe and fit for use - characteristics such as quality, durability, flammability, toxicity, electromagnetic radiation emission, efficiency and mechanical guarding.

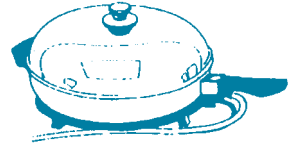
The “More Information” section at the end of this booklet gives advice on how to obtain information on these and other issues.

## **Industrial and Commercial Electrical Appliances**

The Uniform Approvals Scheme is intended primarily for household electrical appliances. Industrial and commercial electrical appliances, equipment and installations are covered by other workplace safety regulations and the *Electricity (Licensing) Regulations 1991*.

# Why Do Electrical Appliances Require Approval

Sellers or hirers are obliged to ensure that the electrical appliances they supply are safe. The purpose of the Uniform Approvals Scheme is to ensure that manufacturers, sellers or hirers of electrical appliances provide evidence to customers that their appliances are safe from the dangers of electric shock and fire.



The approval marking system, which is described later on in this booklet, provides the means by which a customer can be assured of the validity of a manufacturer's claim that a product has an adequate standard of electrical safety. By checking for an approval mark on an electrical appliance, a customer can readily confirm that the product has been tested to community accepted standards of electrical safety and that the process has been verified by an electrical regulatory authority.

Electrical regulatory authorities do not conduct the electrical testing of appliances or provide a guarantee that all appliances are safe. Their role is to enforce the laws that require sellers and hirers of electrical appliances to take the appropriate steps to ensure the electrical safety of their products.

# What Types of Appliances Need to be Approved?

The *Electricity Act* empowers the Director of Energy Safety to prescribe those classes and types of electrical appliances that can only be sold, hired or advertised, provided they are first approved by the Director.

The Director of Energy Safety declared by notice in the Western Australian Government Gazette of 16 October 1998 that the appliances which are to be “prescribed” are those listed in Appendix E4 of Australian/New Zealand Standard AS/NZS 4417.2:1996 *Marking of electrical products to indicate compliance with regulations, Part 2: Specific requirements for electrical safety regulatory applications*.

The notice also specified that in addition to those appliances listed in Appendix E4 of AS/NZS 4417.2:1996, television receivers are nominated as one of the “prescribed” appliances. A summary of the list is provided on pages 18 to 21.

The types of appliances which are included in the list are those which, due to their design, manufacture or end use, present, or are most likely to, an electrical safety risk to householders. Other articles which have previously caused electric shock or fire incidents are also included in the list, to compel manufacturers or importers to have their products designed and built to Australian safety standards.

The assessment of risk is provided by the Electrical Regulatory Authorities Council (ERAC). This organisation comprises representatives from Australian and New Zealand electrical regulatory authorities which are responsible for administering the legislation which sets out requirements for electrical safety in their respective jurisdictions.

# How to Get Electrical Appliances Approved

The *Electricity Regulations 1947* specify that, in order to obtain approval from the Director of Energy Safety to sell or hire prescribed appliances, evidence must be provided to show that the appliances are safe. This evidence is usually provided in the form of a test report from an independent approved testing laboratory which shows that the relevant appliance complies with the appropriate Australian electrical safety standard which is current at the time. The appliance must then be marked with the number shown on a Certificate of Approval which is subsequently issued by the Director of Energy Safety or other interstate electrical regulatory authority.

Alternatively, the Director of Energy Safety may approve the sale of a prescribed electrical appliance if it has been approved by another authorised agency and is marked accordingly. Appliances which have been tested and marked under the Standards Australia Electrical Safety Type Test Scheme and Electrical Safety Standards Mark Scheme are such examples.

To avoid the need for each person who sells or hires a particular type of electrical appliance to obtain an individual Certificate of Approval for the appliance, manufacturers will often obtain the necessary approval themselves. It is nevertheless the responsibility of the seller or hirer to ensure that the necessary approval has been obtained, as evidenced by the approval marking.

Once the original appliance is approved, the approval holder must ensure that all the conditions of approval continue to be complied with in all appliances which are subsequently sold. All such appliances must be marked with the approval number and be identical to the approved type tested prototype. Ongoing compliance with the appropriate Australian electrical safety standard can then be assured.

# Certificates of Approval

To obtain a Certificate of Approval from the Director of Energy Safety, an application should be submitted on the appropriate form. It must be accompanied by an application fee and a test report from an approved independent testing laboratory engaged by the applicant to verify that the appliance has been tested in accordance with the relevant Australian electrical safety standard and complies with all requirements. A sample of the appliance is also required for verification. Test reports issued by testing laboratories which are recognised by the National Association of Testing Authorities (NATA) (Australia) or the International Accreditation New Zealand (IANZ) and test reports with certificates issued under the International Electrotechnical Commission Electrical Equipment Certification Body (IECEE CB) scheme are accepted by the Director of Energy Safety.

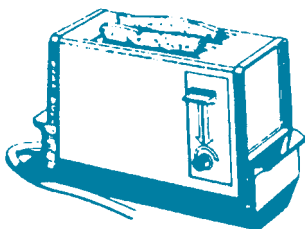
Australian electrical safety standards are documents which specify the agreed electrical safety requirements of Australian and New Zealand consumer groups, industry, government regulators and overseas standards. They are published by Standards Australia International which is an independent, not-for-profit organisation. The particular Australian electrical safety standard which is relevant to a specific appliance is nominated in Appendix D of *AS/NZS 4417.2:1996 Marking of electrical products to indicate compliance with regulations, Part 2: Specific requirements for electrical safety regulatory applications*.

In some cases, various sections of the nominated Australian electrical safety standard may not be applicable due to the design of a particular appliance of a prescribed type. In these situations, the applicant may submit a proposal which can demonstrate that the appliance should be tested to sections of an alternative Standard which is more applicable for the particular appliance.

## Certificates of Approval (continued)

The test report which is issued by the testing laboratory should show the results of the tests which were conducted in accordance with the relevant Australian electrical safety standard. These results should be shown on a clause-by-clause basis and must indicate whether the appliance did or did not comply with each clause. If the appliance failed to comply with a particular clause, the manufacturer may have the appliance modified and re-tested. Alternatively, if the non compliance does not effect the safety of that particular design of appliance, then the manufacturer (or the manufacturer's agent) may submit a case for dispensation from the clause to the Director of Energy Safety which supports the claim with a rational argument. If a particular clause is not appropriate for a particular design of appliance, then it must be identified as being not applicable and a brief explanation provided.

Prototypes or samples which have been tested by testing laboratories should be appropriately identified and stored by the Certificate holder in a secure location, together with any Certificates of Approval which are issued for them. They can then be produced if a comparison with safety standards is required or a modification or renewal of the approval is required in the future. Certificate holders must advise EnergySafety of any change of address. Once an appliance is approved, Certificate holders have a responsibility to ensure that all appliances which are sold continue to comply with the Standards to which the prototype was originally tested.



# Certificates of Approval (continued)

## **Renewal of Certificates of Approval**

Once issued, Certificates of Approval remain the property of the Director of Energy Safety and are held by the approval holder. They have effect for 5 years from the date of issue. A Certificate of Approval may be renewed at any time within that period if the approval holder submits an application for renewal. The application should be on the appropriate form and be accompanied by the renewal fee. The application should also be accompanied by a sample of the appliance and a test report from an approved independent testing laboratory which shows the results of testing the appliance to the appropriate Australian electrical safety standards which are current at the time of renewal.

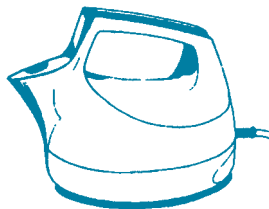


## **Transfer of Certificates of Approval**

Certificates of Approval can be transferred from an existing approval holder to a new holder, if the new holder provides written consent from the existing holder for the transfer to take place.

# What About Imported Electrical Appliances

Prescribed appliances which are imported into Western Australia for sale must also be approved and comply with Australian/New Zealand electrical safety standards. As with locally manufactured appliances, it is the seller or hirer who must ensure that appliances are approved for sale. Many imported appliances are tested by testing laboratories to the Standards which exist in the country of manufacture. Often these Standards are similar to the Australian Standards which are being progressively aligned with international (eg. International Electrotechnical Commission (IEC)) Standards.



In these cases, the importer (or a consultant engaged by him/her) may identify the differences between the Australian and the international Standard and test only the areas of difference. The testing can be conducted either by an Australian testing laboratory or an overseas testing laboratory recognised by NATA or IANZ or recognised by the IECEE CB scheme. We suggest you contact *EnergySafety* before engaging an overseas laboratory for appliance testing to ensure that it is acceptable.

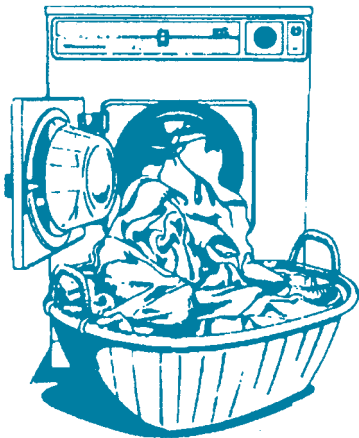
Applicants for Certificates of Approval must provide an Australian or New Zealand address to which enquiries and notices can be directed.

## Second Hand Appliances

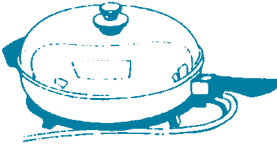
The *Electricity Act 1945* empowers the Director of Energy Safety to prohibit the sale, hire or use of unsafe electrical appliances. The Act does not draw any distinction between new or used electrical appliances.

If an appliance is of the “prescribed” type, then it must be approved before it can be sold - whether it is new or second hand. Although the approval number marking is proof that it was satisfactorily type tested when new, a second hand prescribed appliance should be inspected and tested for electrical safety by a competent person if the history or origin of the appliance is not known to the seller.

“Non-prescribed” appliances should also be tested if their history or origin is unknown to the seller or if there is any sign of damage to the appliances (or their plugs and cords) or any parts are missing.



# How are Appliances Identified as Being Approved?



As stated earlier, when an appliance is approved for sale by an Australian electrical regulatory authority, each such appliance must be marked with the approval number indicated on the Certificate of Approval issued for the appliance. The approval number usually comprises an alpha prefix and a numeric suffix.

The prefix indicates the State where the approval was issued and the suffix indicates the Certificate number. A typical number for an appliance approved in Western Australia could be W1234, and in NSW, N56789. These markings provide a convenient means by which a customer or regulatory authority can identify the appliance and check that it has been tested and approved for sale.

If you intend to sell or hire a prescribed appliance, make sure that it carries the approval mark and obtain a copy of the Certificate of Approval for the appliance.

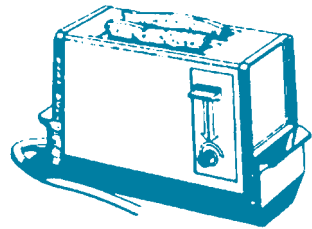


# What if an Appliance is Not Approved?

The *Electricity Act 1945* only requires that appliances must be approved before they are to be sold, hired or advertised. In other words, if you build an appliance or import it from another country for your own use and NOT for sale, then it doesn't need to be approved. However, if it is to be connected to the electricity supply, it must naturally be safe in the interests of both you or anyone else who may use it.

The *Electricity Regulations 1947* state that by selling, hiring or advertising a prescribed electrical appliance without first obtaining the approval of the Director of Energy Safety, then a person is liable to a penalty. The penalty is \$5,000 for an individual and \$20,000 for a body corporate.

For your safety, it is worth looking for the approval number on an appliance before you buy it. If you can't see it, ask your retailer to give you some other evidence that the appliance has been approved and complies with safety requirements.



# What Happens if an Approved Appliance is Modified

To improve performance and respond to market requirements, the design and manufacture of many appliances is often modified after the original prototype has been approved. As the changes may affect the electrical safety of an appliance, the modification also needs to be approved by the Director of Energy Safety.

To approve the modifications to a previously approved appliance, the Director of Energy Safety requires the approval holder to produce a test report or a statement from an approved independent testing laboratory. The statement needs to verify that the modification would not affect the outcome of the tests which were previously conducted and for which a test report was issued. If the modification is of a minor nature, the Director of Energy Safety may accept a statement from the approval holder in lieu of a report from a testing laboratory.

An application for the approval of modifications to an approved appliance must be made on the appropriate form and be accompanied by the appropriate fee. Evidence of continued compliance as stated previously must also be submitted. The original Certificate of Approval and a sample of the original and the modified appliance should also be presented for inspection.

# Non-Prescribed Electrical Articles

Many electrical articles and items of installed electrical equipment are of the type which are not defined in the list of prescribed appliances.

Persons who sell or hire these types of articles are nevertheless responsible to ensure that they are safe to be connected to the electricity supply. Again, the responsibility for safety rests with the seller or hirer rather than the manufacturer or importer. However, it is not necessary to obtain the approval of the Director of Energy Safety before selling or hiring these articles.

To verify the electrical safety of a non-prescribed article, the seller should obtain a copy of any test reports which show the results of testing to appropriate safety standards. This report can then be produced on request from an Inspecting Authority or a prospective buyer. Alternatively, a person may request an Australian electrical regulatory authority to issue a Certificate of Suitability for the article by following the procedure outlined below.

Regardless of whether an appliance is prescribed or not, the electric cord and plug on all electrical appliances must be approved and identified as such.

# Certificates of Suitability

The process for issuing a Certificate of Suitability is the same as for the issue of a Certificate of Approval but it is a voluntary, not a compulsory, process. Applications for a Certificate of Suitability must be submitted on the appropriate form and be accompanied by the appropriate fee. A test report which demonstrates compliance with an appropriate Australian Standard Approval and Test Specification must also be submitted together with a sample for verification.

When a Certificate of Suitability is issued for an article, all such articles may be marked with the Certificate number. The marking should comprise a CS prefix, followed by the Certificate number and an alpha suffix to indicate the State in which the Certificate was issued. A typical number for an appliance issued with a Certificate of Suitability in NSW would be CS56789N.



# Other Important Issues

## **How Much Does It Cost?**

A fee is charged for the issue, modification, renewal or transfer of Certificates of Approval. A schedule which shows the fees that apply to specific categories of appliances is available from EnergySafety.

## **Energy Efficiency Labelling of Appliances**

In addition to providing regulations for electrical safety, the *Electricity Act 1945* also enables regulations for energy efficiency labelling to be made. The *Electricity Regulations 1947* Part II make it compulsory for energy efficiency labels to be displayed on new refrigerators, freezers, washing machines, clothes dryers, dishwashers and refrigerative air conditioners which are primarily intended for domestic use. This “star rating” labelling is compulsory in other Australian states and aligns with international trends.

## **Minimum Energy Performance Standards**

The *Electricity Regulations 1947* Part III and associated notices which are proclaimed require that compliance with minimum energy performance standards is mandatory for domestic refrigerators, electric storage water heaters, packaged air conditioners and three-phase electric motors.

## **Future Developments in Appliance Approvals**

The electrical appliance approval scheme will be modified in the future to accommodate international compatibility. This will enable participation in Mutual Recognition Agreements with other countries which will reduce barriers to trade.

It is also probable that other registered organisations will be nominated to approve electrical appliances and that approval of appliances will be substantiated by the use of a registered mark which verifies compliance with regulatory requirements.

Legislation which specifies the minimum safety requirements for all electrical equipment is also likely to be introduced.

# List of Prescribed Electrical Appliances

This list of prescribed electrical appliances is set out alphabetically. Appliances are described using commonly recognised names, not necessarily the name specified in Appendix E4 of Australian/New Zealand Standard *AS/NZS 4417.2:1996 Marking of electrical products to indicate compliance with regulations, Part 2: Specific requirements for electrical safety regulatory applications.*

- Appliance Plugs
- Battery Chargers
  - o savers, for rechargeable cells
  - o automotive
- Bed Warmers, Flexible
- Bed Warmers, Non-flexible
- Blankets
- Circuit Breakers, Miniature Over-Current
- Clothes Dryers
- Cord Extension Sockets
- Cords (Supply Flexible Cords)
- Decorative Lighting Outfits
- Dishwashing Machines
- Drills - Portable
- Electric Fence Controllers
- Fans
- Fluorescent Lamp Ballasts
- Fluorescent Lamp Starters
- Food Preparation Machines, including:
  - o Blenders
  - o Juice Separators
  - o Can Openers
  - o Knives
  - o Cheese Graters
  - o Liquidisers
  - o Coffee Grinders
  - o Mincers
  - o Coffee Makers
  - o Mixers
  - o Food Processors
  - o Pasta Machines
  - o Fruit Presses
  - o Shredders
  - o Ice Shavers
  - o Slicers
  - o Juice Extractors
  - o Yoghurt Makers

# List of Prescribed Electrical Appliances

- Grillers
- Hair Care Appliances, including:
  - o Brushes
  - o Combs
  - o Curling Irons
  - o Curling Wands
  - o Dryers
  - o Rollers
- Hair Clippers
- Handlamps
- Hand Held Portable Tools, including:
  - o Cutters
  - o Polishers/Scrubbers
  - o Drills
  - o Routers
  - o Grinders
  - o Sanders
  - o Hedge Cutters
  - o Saws
  - o Planers
  - o Trimmers
  - o Polishers
- Heating Pads - Flexible
- Immersion Heaters (including Aquarium Immersion Heaters)
- Insect Electrocutors
- Irons
- Jugs
- Kettles (see Saucepans)
- Lampholders (Normal Bayonet type)
- Lampholders (Edison Screw)
- Lampholder Adaptors (BC)
- Lamps (Portable Lamp Standards and Brackets)
- Lawn Mowers
- Massagers - Portable
- Microwave Ovens
- Outlet Devices - Portable
- Plugs and Plug Sockets
- Plug Socket Adaptors
- Polishers - Floor
- Projectors - including:
  - o Movie Projectors
  - o Viewer
  - o Slide Projectors
  - o Editors
- Range Hoods

# List of Prescribed Electrical Appliances

- Ranges - Fixed, including:
  - o Cooking Hobs
  - o Ovens
- Ranges - Portable
- Residual Current Devices (Safety Switches)
- Refrigerators and Freezers
- Room Heaters
- Liquid Heating Appliances, including:
  - o Bottle Warmers
  - o Kettles
  - o Deep Fryers
  - o Shaving Mugs
  - o Frypans
  - o Vaporisers
  - o Glue Pots
  - o Woks
- Sewing Machines
- Shavers (Electric Razors)
- Soldering Irons
- Switches - Wall
- Switches - Cordline
- Switching, Control and Conditioning Devices - Portable
- Swimming Pool and Spa Pumps and Equipment
- Television Receivers
- Therapeutic Lamps
- Toasters
- Transformers, Extra-Low Voltage, including:
  - o Battery Chargers
  - o Battery Savers and Power Supply Units
- Vacuum Cleaners
- Washing Machines
- Water Heaters (Unvented Storage Type)
- Welders (Arc Welding Machines)

A definition of the above appliances is published in Appendix E4 of Australian/New Zealand Standard *AS/NZS 4417.2:1996 Marking of electrical products to indicate compliance with regulations, Part 2: Specific requirements for electrical safety regulatory applications.*

## More Information

This booklet gives only a brief summary of the electrical appliance approval scheme. Specific requirements are set out in the legislation and from time to time in the *Government Gazette*. Whilst the contents of the booklet are accurate at the time of publication, the scheme may be changed without notice. If you would like more detailed information or to obtain application forms, please contact:

Principal Engineer Electrical Installations and Appliances  
Energy Safety WA  
20 Southport Street, West Leederville WA 6007  
Telephone: (08) 9422 5200  
Facsimile: (08) 9422 5244  
Website: [www.docep.wa.gov.au](http://www.docep.wa.gov.au)

If you need information on other appliance safety and quality issues, the Department of Consumer and Employment Protection may be able to help you. The Department of Consumer and Employment Protection provides consumer protection and advice services, and promotes fair trading by administering the *Fair Trading Act*. This Act prohibits misleading and deceptive conduct and contains provisions for implied or written warranties. For more details contact:

Department of Consumer and Employment Protection  
219 St Georges Terrace, Perth WA 6000  
Telephone: 1300 304 054  
Facsimile: (08) 9282 0850

If you need information about electromagnetic interference (radio interference emissions) from appliances, the Australian Communications Authority (ACA) may give you the advice you need:

Australian Communications Authority  
12th Floor, Septimus Roe Square  
256 Adelaide Terrace, Perth WA 6000  
Telephone: (08) 9461 2111  
Facsimile: (08) 9461 2100



Department of Consumer  
and Employment Protection

## EnergySafety WA

20 Southport Street  
West Leederville WA 6007  
Telephone: (08) 9422 5200  
Facsimile: (08) 9422 5244  
Email: [energysafety@docep.wa.gov.au](mailto:energysafety@docep.wa.gov.au)  
Website: [www.docep.wa.gov.au](http://www.docep.wa.gov.au)

ESWA TO13 0402