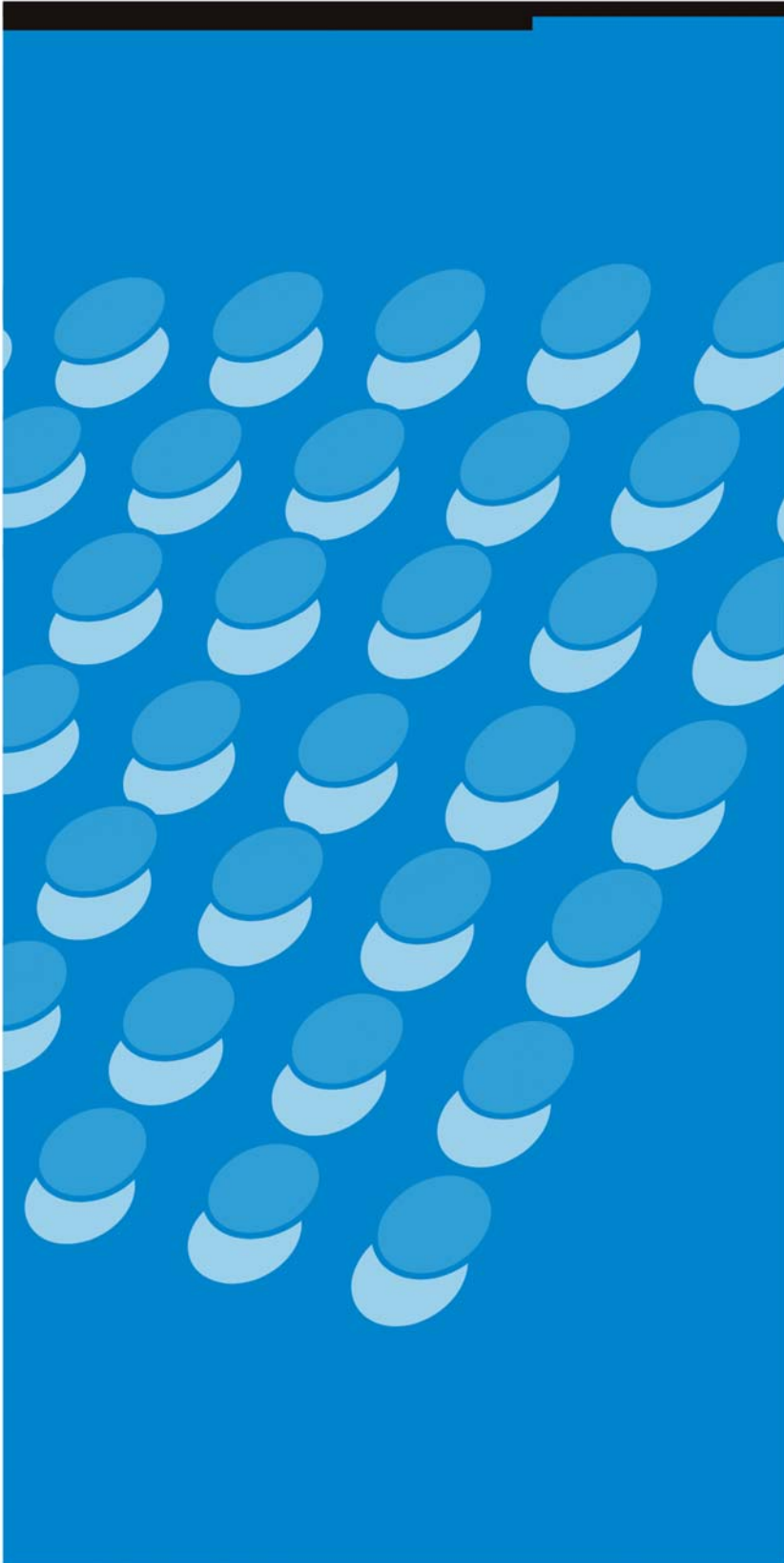


EnergyAustralia™

**Customer
Installation
Safety Plan**

September 2003



Warning

It is the responsibility of the user of this document to ensure that only the current version is being used.

EnergyAustralia may amend this document at any time.

Document and Amendment History

Issue No.	Date	Approved By	Summary of Changes
1	May 1998	M - NAP	This is the first edition.
2	August 1999	M - NAP	This is the second edition.
3	June 2001	M - NAP	References and reporting requirements updated. Requirement for large customers to prepare a safety management plan. Minor editorial changes.
4	September 2003	GM - Network	Updated to meet Electricity Supply (Safety and Network Management) Regulation 2002 and for Ministry requirements. Reformatted with internal actions issued as a separate document. Incorporates CIA 1177 (July 2001), CIA 1214 (November 2001) and CIA 1257 (August 2002).

September 2003

SCOPE

This publication is EnergyAustralia's Customer Installation Safety Plan, required by Electricity Supply (Safety and Network Management) Regulation 2002.

ISSUE

This is the fourth edition of this publication.

WARNING

It is illegal for persons other than licensed electricians, or persons authorised by legislation, to work on the fixed wiring of any electrical installation.

Penalties for conviction are severe.

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The current Customer Installation Safety Plan is available on EnergyAustralia's website at www.energy.com.au.

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Each year work is undertaken on electrical installations at thousands of customer properties throughout the EnergyAustralia distribution area.



While it is our responsibility to maintain the electricity distribution network, including the poles and wires leading up to customer installations, all new and existing electrical work within these installations remains the responsibility of the customer and their electrical *Contractor*.

We aim to protect people in customers' premises by:

- ◆ supporting the scheme of licensing electrical contractors; and
- ◆ enforcement of compliance with relevant codes and regulations.

Customers are responsible for the maintenance of their installation including all poles and wires, to ensure the safety of persons and property and the prevention of bushfires. Customers are also responsible for ensuring that any contractor or trades person they engage are licensed.

Our *Customer Installation Safety Plan* (the 'Plan') addresses the management of safety from within a customer's premises to the Consumer's Terminal (the point of connection between the customer's installation and the EnergyAustralia network).

This Plan only applies to installations operating below 132kV (including customer owned and operated installations, such as high voltage installations).

It complies with the *Electricity Supply (Safety and Network Management) Regulation 2002*, which requires us to develop, publish, implement and report against such a Plan.

The Plan draws on the vast experience of EnergyAustralia and the industry in managing the quality and safety of our customer installations.

In preparing the Plan we have taken into account the following NSW *Codes of Practice*:

(a) Electricity Association of NSW Code of Practice – Service and Installation Rules (December 1997)

Outlines the technical requirements for consumer installations to be safely, reliably and efficiently connected to electricity distribution systems and the associated obligations and procedures of customers and distributors.

(b) Electricity Association of NSW Code of Practice – Installation Safety Management (December 1997)

Outlines the minimum practices required by electricity distributors in managing the safety of customers' electrical installations. The intent of the Code is that safety standards will either remain at the present level or improve.

There are no departures from these Codes unless to adopt a higher safety standard. As required by the Code, we also advise that:

- Customers operating electrical installations above 11kV are also subject to the requirements of the NSW Service and Installation Rules and EnergyAustralia's Local Service and Installation Rules
- EnergyAustralia does not seek to ensure that all work is independently inspected. Instead we conduct a documented risk based inspection program based on selecting a sample of notified works once a suitable standard is achieved that aims to maintain or improve safety outcomes in line with industry practice.

This Plan complements the other three plans required by the Ministry of Energy and Utilities:

- **Public Electrical Safety Awareness Plan** (outlining how we communicate general safety regarding electricity and EnergyAustralia's electrical assets)
- **Network Management Plan** (outlining how we operate our network and keep our assets safe)
- **Bush Fire Risk Management Plan** (outlining the measures in place to identify and manage risk in bush fire prone areas)

The Customer Installation Safety Plan aims to ensure customers and *Contractors* are aware of their rights and responsibilities. It is up to customers and their electrical or installing *Contractors* to ensure that all work is performed safely and meets industry Rules and Standards on installation and on a continuing basis.

A typical customer needs to employ a licensed *Contractor* for any new or modified electrical work. *Contractors* are required to meet industry *Rules and Standards*. *Accredited Service Providers (ASP)* connecting customer installations to our electricity distribution network need to be authorised by us.

EnergyAustralia undertakes to monitor and audit contractor and ASP performance (using a qualified inspection team). If we identify any existing work as hazardous or unsafe we ensure that the problem is rectified and/or take appropriate action such as disconnection and/or disciplinary measures.

And, because we contribute to the development and maintenance of the various rules, codes and standards, we are able to promote safety as a priority.

The safety and well being of our staff, contractors and the community be promoted by having the appropriate procedures in place and by effectively communicating the important role safety plays in running our network.

While the potential hazards associated with electricity are widely known, we can never assume that everyone is aware of all the dangers.

Our safety message is targeted and ongoing, and supported by our staff, *Contractors* and industry colleagues.

It is part of our commitment to provide a safe and reliable electricity supply to all of our customers.



An Installation Inspector tests a distribution sub board. Just part of our commitment to ensure our customer's home and businesses are wired safely.

This Plan addresses safe wiring installation and its safe connection to our electrical distribution system. Our approach to safety in new connections for new installations and electrical work includes:

- Design, Construction and Maintenance Standards (required of customers and *Contractors*)
- Testing, Connection and Notification Criteria (required of *Contractors*)
- Inspection Regime and Procedures (to identify faulty work)
- Corrective Action Procedures (to remedy faulty work and apply penalties or disciplinary action as appropriate)
- Management and Reporting (to manage and report Plan outcomes)

For existing installations, EnergyAustralia encourages customers to arrange regular safety checks of their electrical installation. Of particular concern is old wiring that has deteriorated and become unsafe. We also recommend that customers purchasing new or existing premises request an electrical safety check to ensure that there is no faulty wiring due to deterioration or defective workmanship. Our Electricity Supply Document ES 1 - Customer Supply Information and Local Service and Installation Rules provides further information.

EnergyAustralia also designs and operates our electricity distribution system to include a number of electrical protection systems to protect our customers, the community, their installations and our network assets to minimise and localise the impact of any unsafe or hazardous event.

3. Design, Construction and Maintenance Standards

Under the NSW *Codes of Practice*, EnergyAustralia is required to ensure that installation work complies with the appropriate *Rules and Standards*.

This provides guidance, and establishes minimum requirements for the provision of customer connection services. The *Codes* and *Rules and Standards* also help enforce the Electricity Supply Act 1995 and associated regulations.

EnergyAustralia requires all electrical and installing *Contractors* in our distribution area to meet the *Rules and Standards*. Exceptions are considered, but only if the agreed alternative achieves an outcome which matches or exceeds the minimum standard.

The Electricity Safety Act requires customers to maintain their electrical installation ensuring that it is free from any defect that is likely to cause fire or otherwise make the installation unsafe.

Where work is required, it must only be undertaken by a licensed electrical *Contractor*. Our customers should ensure that we are advised of all new work (including work which results in an increased electrical rating) by seeking their copy of the notification form from their *Contractor*. This covers the work performed, a test report, and certification that the work has been performed correctly (see Section 4).

3.1 What we aim to achieve

That customers, electrical and installing contractors understand their rights and responsibilities in the provision of safe electrical customer installations (new and existing) for connection to EnergyAustralia's transmission and/or distribution system.

3.2 How we plan to achieve it

- promoting the need to use appropriately licensed *Contractors* (due to the potential dangers of electrical installations)
- informing customers who may have special requirements (ie high voltage, large load, hazardous location, etc)
- maintaining systems to keep *Contractors* up to date with industry developments (to ensure their methods are current and effective)
- providing customers and *Contractors* with reasonable access to our policies, rules, standards and procedures. This includes notification via Customer Installation Advices to registered *Contractors*. The Electricity Supply (ES) series of policy documents assists customers and *Contractors* with this
- ensuring our inspection staff are promptly briefed on any changes to the standards and other documentation applicable

- promoting (wherever possible) uniform documentation across the industry
- playing a role in updating and/or developing appropriate *Rules and Standards* through representation on committees and working groups associated with the Ministry of Energy and Utilities, Standards Australia, the Office of Fair Trading and the National Electrical and Communications Association (NECA)
- analysing electricity shock reports collected to identify problems with assets, equipment, locations, installation work etc, and action as appropriate.

3.3 How we will communicate it

- providing customers, *Contractors* and other key stakeholders with general information to assist them in recognising, understanding and fulfilling their responsibilities, as well as outlining the penalties for non-compliance
- highlighting the necessity to employ only licensed electrical *Contractors* - to minimise the dangers inherent in electrical installations and the threat to life and property in unsafe situations (see our *Public Electrical Safety Awareness Plan*)
- informing high voltage customers of the requirement to prepare an integrated Installation Safety Management Plan and lodge this with EnergyAustralia for acknowledgement. The Plan should be based on appropriate risk analysis techniques (and include non compliant equipment, upgrade and refurbishment programs, site hazards, etc)
- encouraging large non-domestic customers (ie. with loads in excess of 1 MVA or with installations in hazardous locations) to produce and implement an integrated Installation Safety Management Plan (similar to that required by high voltage customers)
- alerting customers who live in bush fire prone areas of the need to minimise bush fire risks as part of their condition of supply (see our *Bush Fire Risk Management Plan*).

3.4 How we will measure it

Effectiveness will be assessed by:

- Shock rates and fatalities (shocks per thousand customers)
- Categories of shocks analysed.

4. Testing, Connection and Notification Criteria

Under the *Rules and Standards*, installation work by *Contractors* must be tested to check its compliance with *AS/NZS 3000:2000 – Wiring Rules* and a test report completed.

Testing must be carried out by one or more of the following:

- the licensed electrical *Contractor* who completed the work
- another licensed electrical *Contractor*
- a person authorised for testing by the electricity supply authority for the area
- a suitably authorised *Accredited Service Provider* undertaking pre-energising checks (refer ES 4 Section 9).

The *Rules and Standards* also require (with specified exceptions listed in the Electricity Safety (Electrical Installations) Regulation 1998 that EnergyAustralia and the customer be officially notified of all work undertaken.

Contractors will be required to provide written notification and test reports in a format specified by EnergyAustralia. This typically includes a copy for the customer. We use these reports to update our installation data system, create new customer accounts and better plan system augmentation. These reports also are essential to the establishment of our audit responsibilities under this Plan.

4.1 What we aim to achieve

That all installations connected to the supply are safe.

4.2 How we plan to achieve it

- monitoring electrical installation work to ensure that it is only carried out by licensed persons
- requiring tests to be performed that confirm work complies with the *Rules and Standards* (in particular Australian Standard *AS/NZS 3000:2000 Wiring Rules* and the *NSW Service and Installation Rules*)
- managing a system for *Contractors* to notify us of all installation work and tests (except minor works as specified) using a Notification of Electrical Work (NOEW) form
- managing a system for all *Accredited Service Providers* (authorised by EnergyAustralia) to provide written notification and test reports in a specified format using a Notification of Service Work (NOSW) form.

4.3 How we will communicate it

- highlighting to industry bodies such as the National Electrical and Communications Association (NECA), the importance of the notification and testing process (as specified by the Regulation) and the consequences if their members fail to undertake these
- providing information on the inherent dangers and consequences of reverse polarity connections
- targeting *Contractors* and *Accredited Service Providers* (Level 2) with information specific to their responsibilities
- providing information on industry guidelines and procedures relating to working safely with asbestos (a copy is published on WorkCover's website: www.workcover.nsw.gov.au)
- meeting with customers and *Contractor* representatives to discuss testing, connection and notification criteria.

4.4 How we will measure it

- Number of notifications received
 - Notification of Electrical Work (NOEW)
 - Notification of Service Work (NOSW)
- Installation inspection trends.

5. Inspection Regime and Procedures

EnergyAustralia operates an audit inspection regime aimed at securing compliance by both the individual *Contractor* and the contracting company with requirements to maintain an acceptable standard for each category and type of installation work.

Notified installation work by a particular *Contractor* will be inspected until an appropriate standard of work has been demonstrated. A sample of works of all *Contractors* will generally then be inspected on a risk basis.

All inspections by EnergyAustralia are intended to verify aspects of the work to assist in its regulatory responsibilities.

It is the responsibility of the customer to employ a licensed electrical Contractor. The Contractor must ensure that the completed work complies with the *Rules and Standards*.

The number of notifications submitted will be considered when assessing the *Contractor's* overall performance. The sample of work inspected on an audit basis will be determined for each category of installation work (eg domestic, commercial, high voltage or hazardous area).

The audit program is reviewed regularly.

A similar program will operate for contestable connection work performed by *Accredited Service Providers* who connect the installation to our electricity distribution network.

Unsafe or hazardous work identified during routine or emergency inspections or other work will be notified to the customer and immediate action will be taken if required including disconnection if necessary.

If major safety defects are detected (ie dangerous to life, health or property – refer to ES1 for more details) all future work by that *Contractor* is inspected until the required standard of work has once again been demonstrated.

EnergyAustralia may also disconnect customers' installations as permitted under the Standard Form Customer Connection Contract and for reasons other than safety. These are disconnections that are carried out when a premise is vacated, or for breaches of EnergyAustralia's Standard Form Customer Connection Contract such as for non-payment of accounts. EnergyAustralia will ensure those who carry out this disconnection work are appropriately trained and competent.

5.1 What we aim to achieve

The detection, rectification and disconnection of unsafe installation work and taking corrective action as appropriate.

5.2 How we plan to achieve it

- maintaining and monitoring records of work performed by *Contractors*.
- maintaining a risk based inspection process and adequate samples to secure compliance by *Contractors* with requirements
- when inspection are undertaken, confirming that workmanship has been sound (and specific obligations met) with particular attention paid to work involving:
 - consumer's mains
 - main switchboards
 - high voltage installations
 - installations in environments classified as hazardous (by relevant Australian Standards)
- using only trained staff and documented procedures in the audit inspection program
- carrying out inspections within the time required by the Code
- conducting reviews of internal inspection processes to check for adequacy and compliance with the objectives of this Plan
- carrying out any disconnection work in accordance with statutory requirements and by appropriately trained and competent staff.

5.3 How we will communicate it

- liaising directly with individual *Contractors* and industry bodies such as the National Electrical and Communications Association (NECA), the Office of Fair Trading and other distributors to improve procedures
- providing general information updates via our Customer Installation Advices (CIAs) and other communication channels.

5.4 How we will measure it

- Number of inspections performed
- Number and details of audits performed
- Defect rates for major defects
- Corrective and disciplinary action taken.

6.

Corrective Action Procedures

EnergyAustralia will seek corrective or disciplinary action to remedy non-compliance with the *Rules and Standards*. This may include action against customers, *Contractors*, employees or individuals - in the form of warnings, retraining or disciplinary measures.

6.1 We will take action relating to

Where work is dangerous to life, health or property, we will act immediately to prevent an accident by making the installation safe either by disconnecting the entire installation or part thereof.

- defective or unsafe installation work ('major' and 'minor' safety defects)
- unsafe work practices when performing installation work
- failure of *Contractors* to notify EnergyAustralia of work performed
- unauthorised connections to the supply network
- failure by *Contractors* to carry out required tests and correct any defects
- work performed by unqualified persons.

6.2 Disciplinary action may include

The disciplinary action taken will depend on the seriousness of the non-compliance and/or the number or frequency of non-compliance cases.

- a verbal or written advice or warning
- a re-assessment of the audit program for the offending *Contractor* (eg, more frequent inspections)
- recommendations for additional training
- a formal interview or counselling session, possibly involving the Office of Fair Trading* or Ministry of Energy & Utilities*
- suspension or cancellation of network connection authorisations granted by EnergyAustralia
- reporting the offending *Contractor* to other NSW electricity distributors and the licensing section of the Office of Fair Trading*
- recommending to the appropriate body the re-grading, suspension or cancellation of the offender's accreditation or licence
- reporting unlicensed persons performing electrical contracting work directly to the Office of Fair Trading*
- increasing the flow of information, alerting *Contractors* and customers to their obligations and responsibilities (and any specific issues) as appropriate.

EnergyAustralia will continue to liaise with the Office of Fair Trading and Ministry of Energy and Utilities (as the compliance regulators) to encourage 100% compliance by *Contractors* with the *Rules and Standards*.

We will also endeavour to ensure the customer is kept informed at all times of any disciplinary action being undertaken.

* The NSW Office of Fair Trading is responsible for the register of Electrical contractors, including licence type and status, and can remove a contractor's licence. The NSW Ministry of Energy and Utilities register lists all *Accredited Service Providers* (ASPs) and nominates the level of accreditation established through performance.

6.3 Right of Reply

In all cases we will grant a right of reply. Usually this will occur prior to any disciplinary action. Where appropriate, the customer concerned will also be advised on the action taken.

7. Management and Reporting

EnergyAustralia operates a due diligence framework to ensure that all risks are identified and that there is an appropriate system for ensuring compliance, proper supervision and facilitating compliance.

This *Customer Installation Safety Plan* and supporting internal documents, policies and procedures are managed in accordance with EnergyAustralia's quality management system (certified to *AS/NZS ISO 9000:2000*).

We monitor performance against the Plan and publish the results annually as part of our *Electricity Network Performance Report* (available on our website www.energy.com.au).

Activities related to the management and reporting of this Plan include:

- monitoring *Contractor* performance, defects and other parameters to allow proper inspection programs to be established and corrective action initiated
- developing and maintaining a database of regulatory and other relevant information
- maintaining a Risk Management Plan that includes, but is not limited to:
 - identifying risks and implementing cost effective management actions
 - assessing data from an effective safety monitoring system
 - assessing the consequences of failures of the system
 - periodic reviews
 - plans for improvement and corrective action.

Accredited Service Provider (ASP)	Refers to companies/sole traders who have gained accreditation through the Ministry of Energy and Utilities allowing them to perform contestable work in accordance with the Electricity Supply Act 1995.
Contractors	Includes both Electrical and Installing Contractors and ASPs.
Codes of Practice	This refers to the: <ul style="list-style-type: none"> • Electricity Association of NSW Code of Practice – Installation Safety Management (December 1997) • Electricity Association of NSW Code of Practice – NSW Service and Installation Rules (December 1997).
Electrical Contractor	A firm or person who holds an electrical contractor's licence issued by the Office of Fair Trading.
Electrical Installation	Fixed electrical wiring and associated equipment including the Customers private poles and overhead wires, but not electrical appliances, flexible leads or anything connected beyond an electrical outlet socket.
Installing Contractor	An electrical contractor who carries out installation work or tests (whether himself or herself or through any partner, sub-contractor or employee) whether or not for fee, gain or reward.
Rules and Standards	These are key documents for this Plan and are listed in the next section.

Other descriptions and terminologies used in the Plan have been drawn from:

- *AS/NZS 3000:2000 Wiring Rules* (and other relevant Australian Standards)
- *NSW Service and Installation Rules*

Key reference documents of the *Rules and Standards* include:

- AS/NZS 3000:2000 Wiring Rules and other relevant standards produced by Standards Australia
- AS 2467 - Maintenance of Electrical Switchgear
- AS 3017 - Electrical installations - Testing Guidelines
- Electricity Association of NSW Code of Practice – Installation Safety Management (December 1997)
- Electricity Association of NSW Code of Practice – NSW Service and Installation Rules (December 1997) and EnergyAustralia’s Local Service and Installation Rules as Part B of ES1 (collectively known as the *Service Rules*)
- EnergyAustralia’s Electrical Safety Rules
- EnergyAustralia’s Electricity Supply (ES) series of policy documents and Customer Installation Advice (CIA) documents for ongoing advice on policy and practices on customer supply matters
 - ES1 - Customer Supply Information and Local Service and Installation Rules
 - ES4 - Service Provider Authorisation
- EnergyAustralia’s Standard Form Customer Connection Contract
- Notification of Electrical Works form (NOEW)
- Notification of Service Works form (NOSW)
- NSW Occupational Health and Safety Regulation 2001 under the NSW Occupational Health and Safety Act 2000
- Relevant WorkCover safety guidelines, model procedures listed on their website (www.workcover.nsw.gov.au) from time to time

Other relevant documents specific to EnergyAustralia

- Public Electrical Safety Awareness Plan
- Bush Fire Risk Management Plan
- Network Management Plan (formerly Safety and Operating Plan)