



### **Energy Bulletin 5**

#### **Public Safety and Energy Supplies**

Regrettably, a 10 year old boy was electrocuted in late July, after climbing a Western Power Corporation electricity distribution pole in Port Hedland.

Although the circumstances of this tragic incident are yet to be formally assessed by the District Coroner, Port Hedland, the preliminary report I have received from the Chief Electrical Inspector of this office leaves little doubt.

It appears the boy was attempting to gain access to a bird's nest in the end of a hollow steel crossarm near the top of the transformer pole, which carries 22kV and 415V bare aerial conductors. He received a HV electric shock and fell.

Unfortunately this incident is not an isolated one, as there have been other accidents involving entry to substations and fallen power lines (eg. electrocution of one person and another seriously injured in Kalgoorlie in early 1995).

Energy suppliers (ie. network operators) need to be vigilant to ensure that the public - especially children - cannot gain access to potentially dangerous electricity/gas supply facilities or are exposed to hazards in other ways.

You will therefore no doubt be pleased to know that with the endorsement of the Minister for Energy, we are presently working in consultation with the energy supply industry to develop two sets of regulations to establish statutory obligations for suppliers. One set will cover electricity and the other gas, in respect of safety and minimum standards of supply (eg. quality and metering accuracy). It is expected that this project will be completed prior to the end of this year.

Furthermore, this office will continue to collaborate with suppliers in providing information to the public (eg. schools, homes) to maintain an awareness of the potential hazards of electricity and gas.

Should you wish to make any comment on the regulation development project (eg. requesting that certain issues be addressed in the proposed regulations) please write to me at the Office of Energy without delay.

ALBERT KOENIG

DIRECTOR OF ENERGY SAFETY

## ***Revision of Electricity (Licensing) Regulations 1991***

A review of the Electricity (Licensing) Regulations 1991 has been completed.

The approach to the review process endeavoured to accommodate the requests of industry where possible, as well as to deal with known deficiencies.

The changes which deal principally with the correction of errors, providing greater clarity and essential updating, include:

- accommodation of the new trade of Engineering Tradesperson (Electrical) by the regulations;
- a requirement for electrical contractors to maintain public liability insurance coverage;
- expanding and strengthening the provisions for exempting certain types of electrical work; and
- modifying the requirements to gain an electrical contractors licence to ensure uniformity with other States.

The revisions are set out in the Electricity (Licensing) Amendment Regulations 1996 which will be published in the Government Gazette.

(sketch showing danger zone of trees)

## ***New Requirements for Worker Safety When Cutting Trees near Power Lines***

Following a number of accidents/fatalities, industry parties and regulators (the Office of Energy and WorkSafe WA) have collaborated to introduce new safety measures.

There are now new safety requirements for all persons who are contracted or employed to carry out vegetation control work (cut, trim, prune or fell trees and vegetation) near live overhead power lines.

Regulation 316A of the Electricity Act Regulations 1947 now requires that if any vegetation or worker or any tool, equipment or vehicle used by that worker, comes within the "danger zone" of a live overhead power line, those workers must:

- be properly trained; and
- comply with the electrical safety requirements of the "Code of Practice for Personnel Electrical Safety for Vegetation Control Work Near Live

Powerlines" (issued by the Office of Energy) or an alternative approved by the Director of Energy Safety.

The "danger zone" is:

- above any power line; and
- closer than 3 metres to power lines up to and including 33,000 volts; or
- closer than 6 metres to power lines over 33,000 volts.

The requirements will formally apply from 1st December 1996.

*For copies of the free information pamphlet, please contact the Office of Energy, Leederville by telephoning (09) 422 5282.*

*Copies of the Code of Practice are also available from the Office, at a cost of \$30.00.*

### **Approval of Type B Gas Appliances and Inspection of Consumers' Installations**

Installation of these generally large commercial and industrial gas appliances, is specifically dealt with in the Gas Standards Regulations 1983 as follows:

- Schedule 5, item 501(3) - a Type B appliance shall not be installed in a consumer's gas installation unless it is the same as an appliance that is currently approved for such installation by the Director or it is individually approved for such installation by an inspector; and
- Regulation 29 - a gasfitter who installs a Type B appliance in a consumer's gas installation shall ensure that the appliance is not permanently connected to the gas supply until it has been inspected by an inspector and a certificate has been given by the inspector to the effect that the appliance has been, or is of a kind that has been, approved as required by item 501(3).

There are other general regulatory requirements for gasfitting which may also apply to Type B appliance installations, for example, the need to give the necessary notices, compliance of fitting lines and provision of protection from excessive pressure.

In addition, gas suppliers must ensure the safety of consumers' installations to which they connect gas supply.

These issues have been the subject of industry consultation by the Office of Energy. This has culminated in the production in July 1996 of a Position Paper entitled "**Gas Installation Inspections and the Approval of Industrial Gas Appliances**".

That paper, on the basis of the consultative process, effectively sets out the principal roles and responsibilities of industry participants when acting in a

particular capacity.

The outcomes arrived at are not intended to replace, supplement or detract from any of the requirements or provisions of the relevant legislation.

They will however enable industry participants to understand and comply with the practical limits of their responsibilities by reference to their roles and the roles of others as summarised in the following guidelines:

### **1. Gas Suppliers generally:**

- ensuring the safety of consumers by monitoring the compliance of work on consumers' installations;
- performing an investigation and reporting role, in liaison with the regulator (the Director of Energy Safety of the Office of Energy); and
- receiving Preliminary and Compliance Notices for gas fitting work on consumers' premises and auditing same in accordance with their inspection plan (which will in each case include confirmation that an inspector's approval certificate has been submitted for each installed Type B appliance).

### **2. In relation to Type B gas appliance installations specifically:**

- **Installation Owners** - engaging third party Type B gas appliance designated inspectors to perform the necessary appliance installation approval/s.  
(ie. not direct employee of appliance manufacturer, vendor or installer)
- **Type B Gas Appliance Inspectors** - approving Type B gas appliance installations as required by regulation and providing appliance installation approval certificates for submission to the gas supplier.
- **Type B Gas Appliance Suppliers (Manufacturers/Distributors)** - obtaining where necessary the type (ie. design) approval of the Director (or an inspector with the relevant delegated powers) as required by legislation for advertising, selling and hiring gas appliances (see also Note below).
- **Gas Installation/Commissioning Contractors (or gasfitter employees)** - installing only approved appliances, providing necessary documentation (notices, certificates, test results etc) to the gas supplier and obtaining approval for permanent gas supply.
- **Pipework Installers (where they are not the appliance installer)** - ensuring that they identify the scope of their work on notices submitted to the gas supplier and isolate the gas supply from any Type B appliances until the appliance certification inspector grants the supply of commissioning gas to same.

### **3. The Director of Energy Safety will as appropriate:**

- issue the necessary authorisations and exemptions required and/or permitted by legislation;
- issue lists of appropriately designated inspectors;
- receive appeals regarding inspectors' rulings;
- facilitate dispute resolution; and
- provide an advisory service to industry, including a more detailed statement of the guidelines in (1) and (2) above, in the form of a booklet.

#### **Note:**

**(i)**Section 13D of the Gas Standards Act prohibits the sale, hire or advertising for sale or hire of a gas appliance that is not specifically approved by the Director of Energy Safety (or an Inspector with delegated powers).

**(ii)** General advertising or promotion of a person's capability in respect of, say, the design or construction of gas appliances is not (without more) regarded as a breach of Section 13D of the Gas Standards Act.

#### **Conference - Energy in Western Australia**

The Office of Energy invites industry participants to attend the "Energy in Western Australia" conference on 7 and 8 November 1996.

The conference will focus on new initiatives, technologies, marketing opportunities and future supplies of energy in this State. The conference will also provide opportunities for networking and interaction with speakers and other delegates in the pleasant surroundings of the Langley Hotel in Perth.

*For further enquiries, please contact the conference coordinator, Promo Promotions Pty Ltd, by telephoning (09) 364 8311.*

#### **Appointment of Deputy Director Energy Safety**

Kevan McGill recently joined the Technical & Safety Division of the Office of Energy as Deputy Director Energy Safety. Kevan was formerly with the Building Management Authority and more recently was Director of Buildings with the Ministry of Justice.

As Deputy Director, Kevan also heads the Technical Services Branch of the Division.

*Deputy Director Energy Safety, Kevan McGill*

## **The House Energy Rating Scheme**

The Minister for Energy, the Hon Colin J Barnett, recently launched the new House Energy Rating Scheme, designed to help home buyers, builders and existing home owners evaluate and improve the energy efficiency of their homes.

Mr Barnett said the scheme uses a star rating system similar to that for household appliances. As well as cutting costs for energy bills, houses could be made more comfortable and there would also be environmental benefits from the reduced demand for energy generation.

### *A data entry panel in the House Energy Rating Scheme computer program*

The House Energy Rating Scheme allows the energy efficiency of houses to be rated so that one house may be more easily compared with another in terms of its heating and cooling needs. The ratings are determined using a new software package which has been specially developed for Australian conditions. It can be used to assess the effect of including appropriate features in houses at the design stage, or for improving houses which are being renovated. House energy rating schemes have been introduced in many countries as a tool to help householders and home buyers with the purchase or construction of an energy efficient, comfortable house which does not get too cold in winter. The Australian version follows the lead of these schemes but also takes into account energy needs for cooling in Australia's hot summers.

"This Program takes the guess work out of designing an energy efficient house," Mr Barnett said.

The scheme promotes the concept of 'more comfort, less costs'. "It makes the point that by using the House Energy Rating Scheme, people can have more comfortable houses which cost less to run".

"By paying careful attention to energy efficient design principles, which includes appropriate orientation and placement of the house on the block, Perth householders can take advantage of our mild climate and have a home which will be warm in winter and cool in summer, even without the use of heating or air-conditioning".

"Just as the energy star rating system for household appliances has resulted in a high level of consumer awareness of energy efficiency, the House Energy Rating Scheme will help people make the best decisions when buying a new or established home, or when they are looking at improving the energy efficiency of their existing home or extension".

The House Energy Rating Scheme is a Nationwide program, which is being administered in Western Australia by the Office of Energy. Houses will be given a rating between 0 and 5 stars and as long as ceiling insulation is included, any project house can be made to achieve a 4 star rating at little or no extra cost. A 5 star rating would be more expensive to achieve, because special features would need to be incorporated.

The Office of Energy will arrange training of architects, designers and

builders who wish to use the House Energy Rating Scheme software to assess the energy efficiency of house designs. Completion of both a software training course and an accreditation test will be required before an assessor is able to submit an application to the Office for the issue of a House Energy Rating Certificate.

*Enquiries about the operation of the scheme and details of persons who are accredited to carry out assessments of houses should be directed to the Office of Energy, Perth Office, by telephoning (09) 321 1477.*

### **Magnetic Field Mitigation to Reduce VDU Interference**

The effect of low frequency magnetic fields on the readability of visual display terminals (VDU's) ie screen display movement or jitter, is an issue which has become more prominent in recent times due to the increased use of computing facilities, especially personal computers.

Particularly, in the case of commercial and industrial development, care is required when siting power supplies and associated cabling in order to limit magnetic field levels. Electricity utilities are often asked to provide guidance on reducing magnetic fields to acceptable levels in these circumstances. Such guidance may involve a simple relocation of the VDU from the source of the magnetic field or a more complicated shielding procedure involving the susceptible VDU or the source or both.

A guideline document "Magnetic Field Mitigation to Reduce VDU Interference", has been produced by the Electricity Supply Association of Australia to provide such guidance to engineering consultants, utility personnel, electrical contractors and others who may have to deal with this issue. Case studies have been included in the guideline document to give readers practical examples of the mitigation techniques described.

Background information is given on the nature of magnetic fields, as well as measurement techniques and field strength calculations.

*Further enquiries on this matter should be directed to the Electricity Supply Association of Australia, EMF Advisory Group by telephoning (03) 9670 1017.*

### **IECEX Scheme**

There is always the possibility of an explosion or a fire occurring wherever flammable or combustible materials are handled and the use of electrical equipment in these areas increases the risk dramatically. It's not always possible to move electrical equipment out of hazardous areas, so it is essential that such equipment conforms to the appropriate national or international Standard.

In 1991, the International Electrotechnical Commission (IEC) considered a certification scheme for Ex equipment (equipment specifically manufactured

for use in hazardous areas) that could cross national boundaries. A survey of IEC participating countries found that 17 of them, including Australia, supported the development of such a scheme.

Known as the IECEx Scheme, the program provides the means for manufacturers of Ex equipment to obtain certificates of conformity that will be accepted at national level in all participating countries. The certificate, which will allow manufacturers to display a mark (to be known as the Ex Mark) on their products, is currently being developed. It will be granted by an Accepted Certification Body (ACB).

National deviations to the IEC Standard will be permitted during an agreed transitional period, however, participating countries are expected to eventually remove all differences to the IEC Standard from their own Standards.

The first meeting of the IEC ExCC, the IEC Certification Committee responsible for the administration of the IECEx Scheme, was held in London in May 1996. Australia was one of 12 countries, represented by a total of 32 delegates, attending. Four other countries indicated an interest in participating at a later stage.

Twelve countries including Australia have submitted applications to participate in the scheme. If successful, this will enable Australian manufacturers to be provided with alternative means to obtain an IECEx certificate of conformity from either Quality Assurance Services (QAS) or Safety in Mines Testing and Research Station (SIMTARS).

### **Electrical Inspection Review**

Earlier this year, Western Power announced to electrical contractors its intention to charge a lodgement fee for Notices of Completion for new projects. This caused considerable industry debate and subsequently the Minister for Energy commissioned the Office of Energy to carry out a review in consultation with industry.

The review is presently in progress and once completed will recommend to the Minister the strategy necessary to ensure an effective and administratively efficient installation inspection regime in the future.

### **Submission of Preliminary Notices and Notices of Completion**

Electrical contractors should note the following requirements and ensure that their Notices are submitted to the correct electricity supply authority.

The Electricity (Licensing ) Regulations 1991 require that Preliminary Notices and Notices of Completion for electrical installing work must be submitted to the relevant electricity supply authority. The relevant electricity supply authority is the supply authority that provides electricity to that installation. It will therefore be Western Power, Hamersley Iron, BHP Iron



Ore, Robe River Iron Associates, Western Mining Corporation or the Rottneest Island Authority.

For the major part of the State, Western Power is the relevant electricity supply authority. Notices for Western Power must be sent to Western Power, not to the Office of Energy at Leederville.

Notices for electrical installing work which is NOT connected to an electricity supply authority distribution system must be submitted to the Office of Energy. Such installations include those connected to a private generating plant, hybrid solar power system and the like. Also, the installation associated with an authorised independent power producer's power station falls into this category.

**For enquiries on articles in this Bulletin please contact Peter Domasz, Office of Energy.**

**Telephone(09) 422 5255**

**Facsimile(09) 422 5222**

#### **Regulatory Services Branch**

In the Electrical Focus and Gas Focus of Energy Bulletin No 4, we introduced readers to the staff of the Electrical and Gas Inspection Branches.

We now introduce the Regulatory Services Branch which operates in close liaison with the two Inspection Branches. The Branch is headed by Manager Regulatory Services, Peter Tuck, and comprises staff which form the Licensing Office at Leederville.

The functions of the Branch include:

- providing customers and industry with information about electrical/gas licensing
- administering the licensing of electrical workers, contractors, in-house installers and gasfitters
- providing administrative support for the Electrical Licensing Board and any enquiries in respect of the conduct of gasfitters.

Enquiries related to electrical and gas licensing may be directed to staff of the Branch by telephoning (09) 422 5252.

The Branch is also responsible for the publication and circulation of the many energy safety and licensing publications available from the Office of Energy.

*Manager Regulatory Services,*

*Peter Tuck*

