

Energy

BULLETIN

Office of **ENERGY WA**

Technical & Safety Division

20 Southport Street

West Leederville (Perth)

Western Australia 6007

Telephone: (08) 9422 5200 Fax: (08) 9422 5222

Web: www.energy.wa.gov.au

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A Busy Time

During recent months, the Technical & Safety Division has worked extensively with other Divisions of the Office of Energy, and with industry, to help lay the groundwork for the sale of AlintaGas which is expected to be completed during the next three months approximately. From a technical and safety regulatory perspective, the following key projects have been undertaken:

- the development of a set of regulations covering gas distribution (safety and supply standards);
- the development of guidelines for gas distribution network planning and design (as gas network design and construction in subdivisions will become contestable); and
- consultation with industry on improvements to the gas regulatory legislation generally.

At the same time, we are progressing a number of electrical regulatory projects and issues. These include:

- discussions with Western Power and the Chamber of Minerals & Energy on the long-proposed “Electricity Supply Regulations” covering safety and supply standards;
- a major review of the “WA Electrical Requirements” document;
- the introduction of the new Wiring Rules; and
- continuing attempts to resolve the dispute with Western Power on the content of their “Inspection Plan”, which is intended to set out their consumer installation inspection system.

Some of the matters referred to are covered in more detail in this Bulletin, which I trust you will find informative.



ALBERT KOENIG
DIRECTOR OF ENERGY SAFETY



GOVERNMENT OF WESTERN AUSTRALIA

Electric Shock Fatality

A young graduate engineer employed by Western Power received a high voltage electric shock at the Ladyloch Pumping Station in Coolgardie on Wednesday 19 January 2000.

He and a meter reader entered a transformer compound which contained two 300 kVA 33,000/440 Volt transformers that supplied the pumping station indoor switchboard via open air insulated low voltage busbars. The high voltage supply to the transformers was from a single overhead line which supplied each unit via pole-mounted drop out fuses and uninsulated aerial droppers down to open transformer bushings. One transformer was isolated. The second transformer was energised, supplying the pump station. Each transformer rested on a low concrete pad.

The young engineer apparently walked into the arcing horn of a high voltage bushing on the live transformer and received a severe electric shock. He was thrown to the ground and badly burned in a resulting intense fire in long grass within the transformer compound. He subsequently died from injuries received from the electric shock and the burns.

Investigations revealed that the transformer compound had been built around 1971 and did not comply with the current Australian Standard AS 2067 - 1984 which, amongst other things, defines safety clearances to any exposed live equipment. The incident highlighted the need for all utilities and HV installation owners to ensure that such hazardous installations are brought up to current standards. Furthermore, until such hazardous installations are brought up to current safety standards, it is recommended that access to them must be completely denied unless they are made safe by isolation and earthing of live conductors before entry. It is essential that there is also clear signage at entry points and regular warnings advising all field personnel of the dangers and emphasising the need to wear proper safety gear within substations.

The Office of Energy, WorkSafe WA and Western Power have been investigating and addressing the issues arising from the incident in an endeavour to ensure that it does not happen again.

It is recommended that all installations with open bushing transformers are checked to ensure that they meet current standards and

that appropriate action is taken where necessary, to ensure the safety of personnel.



Transformer compound at Ladyloch Pumping Station

Mine Site Inspections — New Arrangements

For many years now, the Office of Energy's (previously SECWA's) Electrical Inspectors have conducted electrical inspections of mine sites to assess compliance with the *Electricity Act 1945* and, at the same time, with the *Mine Safety and Inspection Act 1994*.

This inspection arrangement was carried out under a contractual arrangement between the Department of Minerals & Energy and the Office of Energy. However, the Department has advised that it will not be renewing this agreement as of 30 June 2000 and will engage its own electrical inspectors.

Therefore, from 1 July 2000, mine sites will be receiving visits from Department of Minerals & Energy Electrical Inspectors for compliance under the *Mine Safety and Inspection Act 1994*. Electrical Inspectors from the Office of Energy will also inspect mine sites from time to time, to check for compliance with the *Electricity Act 1945*.

Electrical accidents on mine sites must still be reported to the Director of Energy Safety at the Office of Energy as well as to the Department of Minerals & Energy.

Importantly, as of 1 July 2000, all queries, notifications and correspondence relating to mines electrical installations, including high voltage installations/submissions, electrical supervisor appointments and high voltage operators, must be addressed to the Department of Minerals and Energy (Mining Operations Division), 100 Plain Street, East Perth WA 6004. They can no longer be accepted at the Office of Energy.

Missing MEN Connection Causes Fatality

On 23 February 2000, a young boy died while taking a bath. It appears that the boy suffered an electric shock prior to his death.

The Office of Energy's preliminary investigation found that:

- the taps in the bathroom were live at a voltage of 140 volts ac;
- the house was supplied from an aerial submain and the switchboard at the house did not have a MEN connection; and
- the internal insulation of an old rubber sheathed and insulated extension cord had failed, causing an active to earth fault.

This tragic death could have been avoided if an MEN connection had been made at the house switchboard.

It is essential that when an electrical worker carries out any additions to an installation (eg. installs a ceiling fan or new GPO) that this part of the work be correctly checked for compliance with the Wiring Rules. The Wiring Rules require that the earthing system resistance be checked from the equipment to the point that the neutral conductor is connected to the earthing system (MEN connection).

This test therefore verifies that an MEN connection is present. The Office of Energy also recommends that all electrical contractors carry out this check as a free safety check for their customers.

Failure to make an MEN connection is a very serious breach of the *Electricity (Licensing) Regulations 1991*. Action is currently being taken against a number of licence holders for either not installing an MEN connection or not replacing the connection after testing.

Electrical contractors need to ensure that their employees perform this kind of work correctly, through their own monitoring and quality control methods. Failure to do so exposes them and their workers to Court action as well as disciplinary proceedings, possibly involving loss of their licence.

The New "WA Electrical Requirements"

Energy Bulletin No. 14, August 1999 alerted contractors, consultants and electricity supply authorities that the WA Electrical

Requirements (WAER) document was being revised.

Comments received on the initial draft of the revision indicated a need for a single set of 'service' rules and related requirements. A working group comprising representatives from the Office of Energy, Western Power Corporation and the Electrical Contractors Association was formed to determine the proposed content of the revised WAER.

More recently, a wider industry review committee has been assessing the output of the working group. A revised draft has been prepared and is now available for wider stakeholder comment on the Office of Energy website www.energy.wa.gov.au. The final version is expected to be released in July 2000.

In the meantime, the existing WAER continues to apply.

Cooperation Agreement Between Office of Energy and WorkSafe WA

The Office of Energy and WorkSafe WA entered into a cooperative agreement in September 1999, reflecting the complementary nature of some of the Agencies' functions.

The Director of Energy Safety and the WorkSafe WA Commissioner wish to ensure that industry has clarity about the operational arrangements between the organizations, that there is adequate enforcement cover, that there is no unnecessary duplication of effort and that all reasonable steps are taken to avoid conflicting advice being given to industry by their staff. The agreement provides for:

- an acknowledgement of each agency's statutory role;
- support for each agency's role by notifying each other of accidents/incidents in areas of common interest;
- referral to the agency best able to undertake investigations;
- commitment to keeping each agency informed of progress and the outcomes of investigations;
- liaison on policy and legislative projects in areas of common interest; and
- continuation and enhancement of the existing cooperative approach at operational levels.

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The Director of Energy Safety and the WorkSafe WA Commissioner believe these arrangements will improve regulatory efficiency and assist industry when dealing with their departments.

Electrical and Gas Licensing Disciplinary Matters

Alleged breaches of regulations are periodically brought to the attention of the Electrical Licensing Board and the Director of Energy Safety. These alleged breaches are normally single events and often result from inadequate checking and testing.

Investigations into some recent breaches resulted in a number of actions, which are summarised below.

Electrical Contractors and Electrical Workers

The Electrical Licensing Board held 23 interviews, 10 summary proceedings and 4 formal proceedings with electrical workers and contractors. The outcomes of these actions were that 13 licensees were censured, 2 were required to change their work management practices, 10 had to undertake competency assessments and 1 was required to undergo training.

Mr Guiseppe Zampogna trading as JoJoy Pty Ltd had his nominee registration cancelled and was censured because his business had carried out substandard and unsafe electrical work. JoJoy's electrical contractor's licence was temporarily suspended until a new nominee was registered. Mr Zampogna must successfully complete part of the Electrical Contractor's Training Program to be re-registered as a nominee.

Mr Christopher Bye failed to effectively supervise an apprentice who was working in close proximity to live equipment. The Electrical Licensing Board placed a condition on his licence to the effect that he had to work under supervision for three months and he shall not be permitted to supervise apprentices for a period of at least twelve months.

In addition to investigating individual breaches, the Electrical Licensing Board has now started to focus on those electrical

contractors who have reportedly accumulated a significant number of defects.

The performance of D'Adamo Nominees trading as L&A Electrics was reviewed by the Board in this context. As a result, this contractor's work will be closely monitored by Inspectors during the next few months. If significant defects are found, a likely outcome is licence cancellation.

Gas Fitters

Three gas fitters have been interviewed since October 1999. The outcomes were:

1. One gas fitter was strongly censured and was required to successfully complete a training course.
2. No further action was taken against the second gas fitter.
3. A formal inquiry was held by the Director of Energy Safety to consider whether gas fitter Mr Kevin Host should continue to work in the industry. Mr Kevin Host of Host Plumbing Services subsequently had his Certificate of Competency suspended for six months from 7 April 2000. Mr Host admitted that he disconnected the over temperature cutout device on a water heater which later overheated and caught fire. He also admitted leaving the appliance in an unsafe condition and to putting the consumer at risk. The consumer received steam burns while trying to turn a shower off. It was also proven that Mr Host failed to attach a label in an approved place.

To lift the suspension, Mr Host must demonstrate that he is a competent gas fitter by successfully completing a gas servicing course.

Alternative formats of the Energy Bulletin may be available to meet the needs of people with disabilities.

The Office of Energy website is located at:

www.energy.wa.gov.au

For enquiries on articles in this Energy Bulletin, please contact Harry Hills, Office of Energy:

Tel: 08 9422 5208

Fax: 08 9422 5244

URL: hhills@energy.wa.gov.au