



# gas | focus

This edition of the Gas Focus takes a particular look at issues relevant to industrial gas installations

## Gas Inspections at Industrial Sites

Recent inspections conducted by Technical & Safety Division gas inspectors at mine sites and other industrial sites throughout WA have highlighted many non-compliance issues with the *Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999* and Australian Standards AS 5601 and AS 3814.

Three areas are of particular concern:

1. unapproved Type B gas appliances;
2. servicing of Type B gas appliances; and
3. gas pressure regulation.

A number of Inspector's Orders have been issued requiring rectification work to be carried out to address these and other safety concerns during the inspections.

### 1 Unapproved Type B Gas Appliances

Unapproved Type B gas appliances have been found in a number of installations. Type B gas appliances had been installed and were in use, but the appliances could not be identified as having been "approved for installation and use". During the past two years, 111 unapproved Type B gas appliances have been found.

These appliances included:

- elution heaters
- regeneration kilns
- gold smelting furnaces
- fusion furnaces
- boilers
- air heaters
- muffle furnaces

When these unapproved gas appliances are found during site inspections, an Inspector's Order is issued for the appliance to be assessed and approved in accordance with regulatory requirements.

Gas fitters who are involved in industrial gasfitting and industrial gas maintenance work should ensure that gas appliances are "approved for use". If the gas fitter cannot confirm the appliance is approved, the matter should be reported to the Technical & Safety Division's Gas Inspection Branch to enable follow-up action to be taken.

### 2 Servicing of Type B Gas Appliances

Articles in Energy Bulletin No. 20 (April 2001) addressed gas fitters who are carrying out servicing and maintenance work on Type B gas appliances and are not complying with Regulation 23 of the *Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999*. This regulation requires the gas fitter to clearly display on a label/badge, his/her gasfitting details and the date the servicing work was done. Inspections carried out by gas inspectors confirm that many gas fitters working on this type of equipment are clearly breaching Regulation 23.

Due to the problems associated with this method of recording servicing information, the Technical & Safety Division has produced a Gas Service Logbook. This logbook will assist industry, including gas fitters and owners/operators of Type B appliances, to meet appropriate obligations, including regulatory requirements associated with recording details of their servicing work.

The logbook is available for use (subject to the Director's approval) for any installation where Type B gas appliances are installed. The logbook provides the added benefit of maintaining a comprehensive record of all maintenance work carried out to

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Type B gas appliances and the gas installation.

Information about the Gas Service Logbooks, including an application to use the logbook, can be obtained by contacting the Gas Inspection Branch (telephone 9422 5297). The owner/operator or manager of the premise is responsible for making an application to use the logbook. However, gas fitters are welcome to apply for the logbook information and advise their clients accordingly.



Gas Service Logbook

Gas fitters are reminded that they have an obligation under the regulations to either fit a service label/badge or ensure that there is another approved means of recording the information available. Failure to comply with these requirements may result in disciplinary or other action being taken.

### 3 Gas Pressure Regulation

Some industrial gas fitters and gas inspectors are aware of the Technical & Safety Division's concerns when gas pressure regulators are used in certain situations. These concerns relate to:

- the location of the regulator;
- any necessary vent line required to be fitted to a regulator; and
- the installation of the regulator in compliance with the manufacturer's instructions.

An example of these concerns is the Fisher 67 regulator that has been installed and used for many Type B gas appliance installations. These regulators are widely used for pottery kilns, laboratory furnaces and gold smelting furnaces and, if installed correctly

and in an outside situation, do not generally present any problems.

Inspections of mine sites and other industrial installations by Technical & Safety Division inspectors have identified several of the Fisher Type 67 regulators installed in an inside location. This is contrary to the manufacturer's instructions and could create an unsafe situation. The manufacturer's instructions state: "**Type 67 Series regulators should not be used on indoor installations**".



Fisher 67 Regulator

Regulation 20 (Installation of an appliance, apparatus or part) of the regulations states:

- (1) *When a gas fitter installs in a gas installation an appliance or apparatus, part of an appliance or apparatus or a part of the installation the gas fitter must install the appliance, apparatus or part –*
- (a) *in a suitable place; and*
  - (b) *in accordance with any instructions or recommendations of the manufacturer or designer relating to the installation of that appliance, apparatus or part.*

The Technical & Safety Division followed up these concerns with the regulator manufacturer because of the large number of such regulators in use on industrial gas installations. The manufacturer confirmed that:

1. The Fisher 67 regulator should only be installed outdoors because the spring case vent cannot be piped out of the building as required on indoor installations.
2. If installed indoors, the vent hole provided in the Fisher 67 would pass a significant amount

of gas if the diaphragm failed. The Fisher 67 example is a reminder to industry that there is a need to ensure that the requirements of the regulations are met at all times.

Technical & Safety Division gas inspectors have issued and will continue to issue Inspector's Orders for any non-compliance such as the incorrect installation of regulators. It is recommended that, if such non-compliances are identified by a gas fitter, the owner/operator/manager is notified and/or a report is made to the Technical & Safety Division's Gas Inspection Branch so that follow up action can be taken.

### Regulators – Identification of Gas Operating Pressures

Inspections of industrial gas installations have revealed that the operating pressures at the outlet of a regulator are not being displayed. Clause 4.5.5 of AS 5601 – 2000 (Gas Installations) states that:

***Where the outlet operating pressure setting of a consumer piping gas pressure regulator for Natural Gas, Town Gas or TLP exceeds 1.5 kPa or for LP Gas exceeds 3.5 kPa, there shall be a permanent and durable notice in a prominent position near the regulator showing the outlet pressure setting.***

A durable notice or disc adjacent to or attached to the regulating equipment is acceptable as meeting this requirement.

### Compliance with an Inspector's Order

Some parts of industry are unsure of the requirements when an Inspector's Order is issued for rectification work to be carried out.

An Inspector's Order is usually issued (on the installation owner/occupier) when the gas inspector cannot identify the gas fitter who carried out the work, or if the identified safety concern is on an existing gas installation.

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When a gas inspector issues an Inspector's Order, the inspector will normally state the date by which rectification work must be completed. The inspector may apply some discretion with the time allowed for completion of any identified defects/safety concerns, in situations where safety will not be compromised.

In some instances, the work identified in the Order is not being rectified within the specified time limits. An instance early this year resulted in an industrial gas appliance being prohibited from use until the identified safety concerns had been dealt with. In a more recent instance, a mine site came close to being shut down because of similar safety concerns.

Technical & Safety Division gas inspectors are not unreasonable in the time they allow for rectification work to be carried out and, if necessary and appropriate, may extend the period of the Order. Reasonable grounds must be provided however to justify any extension of the period of the Order. However, inspectors have obligations and responsibilities to act should any safety concerns be identified and will not hesitate to disconnect or prohibit any piece of equipment found unsafe or where an Order has not been complied with. The inspector's actions will be in the interests of gas safety.

Under Section 19 of the *Energy Coordination Act 1994* (the Act), any person aggrieved by an order made by an inspector under Section 18 [of the Act] may appeal that Order by application to the Director in the prescribed manner.

**Note:**

1. An **Inspector's Order** is issued by a designated Inspector (Gas) under section 18 of the *Energy Coordination Act 1994*. This order is generally issued when a gas installation is found to not conform to an Act or Regulation or where the gas fitter cannot be identified.
2. A **Notice of Defects** is issued under regulation 29 of the *Gas Standards (Gasfitting and*

*Consumer Gas Installations) Regulations 1999*. This Notice is generally issued to the gas fitter when it is found that the gasfitting work carried out by him or her does not comply with the regulations. A Notice of Defects can also be appealed to the Director in the prescribed manner.

## Gasfitting Work

Some mine site/industrial site maintenance personnel may inadvertently have been carrying out unauthorised gasfitting work without realising it. Inspections at these sites have found that electricians in particular carry out work to gas appliance gas train components and equipment that affect the operation of that gas appliance. Any work on the gas appliance/equipment or gas train is deemed to be gasfitting work and requires a gasfitting Permit or an on-site gasfitting Authorisation. Any person who performs this type of work without the appropriate licence is performing illegal gasfitting work and is liable for prosecution.

## Approval Process for Carrying Out Modifications to an Existing Type B Appliance

Regulation 36(1a) of the *Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999*, requires modifications to Type B appliances to be approved by an inspector and for the inspector to issue a Certificate of Compliance in relation to the appliance.

A modification to a Type B appliance is defined as any upgrade or modification to gas valve train equipment, or combustion/purge air system, or flame monitoring system, or burner management system (not involving like-for-like exchange) that possibly changes the safety integrity of the existing system or takes the gas appliance out of its original approval criteria. Like-

for-like not only includes exchanges of components that are of the same model or brand, but also those that have the same functional performance.

To gain approval for a modification to a gas appliance, the owner/operator is required to satisfy a Type B Gas Appliance Inspector, through a technical submission (ie. desktop appraisal), that the appliance, including the modification, will satisfy the technical standards required by the current regulations. The Type B Gas Appliance Inspector, once satisfied that the gas appliance together with the proposed modification, meets the required standards, will issue an "Approval for Installation" notice to the owner/operator. This notice is required before the licensed gas fitter commences any part of the modifications to the gas appliance.

The technical submission must address technical and safety compliance issues in the same way as for a new appliance. Where existing equipment that forms part of the gas system is to be reused in the installation, the submission must also address the extent of any non-compliance of the existing equipment with the current code/standard requirements. The owner/operator can provide equivalent level of safety proposals for any issues of non-compliance with these requirements by submission in writing to the Type B Gas Appliance Inspector. This information is required to then enable the inspector to seek approval from the Director.

The installation, commissioning and certification requirements for the modified gas appliance are similar to that for a new appliance.

## Approval Process for Relocating a Type B Appliance

Where a Type B appliance has to be dismantled and then re-assembled in a different location, the relocation of the gas appliance requires individual approval in writing by an inspector. The

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process for gaining an "Approval for Installation" notice is similar to that of a modification to a Type B appliance, as provided in the above article.

The inspection, certification and badging that is required by Regulations 22A(1) and 22A(2) of the *Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999* may, with the approval of the Director, be waived where it can be demonstrated that relocating a Type B appliance does not involve re-assembly and meets the following criteria:

- the gas appliance is relatively small (eg. small kiln) and merely requires connection to a gas supply;
- there are adequate installation and commissioning instructions in place for the installing gas fitter to install and commission; and
- the appliance has an approval badge (recognised by the Director) attached.

This requires the owner/operator to submit a written application together with necessary supporting information to the Director of Energy Safety, seeking approval for this waiver.

## Disciplinary Action Taken by the Director of Energy Safety

1 January 2001 to 31 July 2001  
Summary

The Gas Licensing Committee, under powers delegated by the Director, interviewed 14 gas fitters. A summary of the actions taken is:

- One gas fitter had his Certificate of Competency cancelled
- Two gas fitters had their Certificates of Competency suspended
- One gas fitter had his permit suspended
- Two gas fitters received a censure
- Three gas fitters were required to undertake further training

- One gas fitter was required to have his work supervised.

**William Ives** (GF 000214) - Certificate of Competency was suspended for three months from 29 June 2001.

A formal Inquiry was held into Mr Ives because of the number of defect notices he had received. Mr Ives had signed Notices of Completion for work that he did not complete. The work was found to be defective.

**Gregory Carli** (GF 006677), J & D Cain and Sons - Gas Fitter Permit was suspended for one month from 19 April 2001.

Mr Carli failed to submit a Notice of Completion to the gas supplier within 48 hours of an installation being completed.

**Dragutin Markovic** (GF 003037) - Certificate of Competency was suspended for three months from 16 July 2001.

Mr Markovic used oxygen to test a gasfitting line. Mr Markovic also did not hold an appropriate licence for gasfitting work he carried out.

## PROSECUTIONS FOR BREACHES OF THE GAS STANDARDS ACT 1972 AND GAS STANDARDS (GASFITTING AND CONSUMER GAS INSTALLATIONS) REGULATIONS 1999

1 March 2001 to 30 June 2001

Breach	Name (and suburb of residence at time of offence)	Licence No.	Fine (\$)	Costs (\$)
Carried out gasfitting work without a certificate of competency, permit or authorisation Section 13A(2) GSA	Ross Ball (South Yunderup)	NLH	350.00	97.70
Installed an appliance internally when such an appliance was designed for external installation Regulations 18 & 32(1)(b) GSR	Lionel Hall (Armadale)	GF 002144	750.00	129.23
Failed to ensure flue terminal located no less than 500 mm laterally from a return wall Regulations 18 & 32(1)(b) GSR	Lionel Hall (Armadale)	GF 002144	750.00	129.23
Installed an appliance in a gas installation and failed to adjust it for a safe and correct operation Regulation 21(a) GSR	Lionel Hall (Armadale)	GF 002144	750.00	129.23

GSA Gas Standards Act 1972

GSR Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999

NLH No Licence Held