GUIDELINE TO ASSIST PROPONENTS IN APPLYING FOR VARIATION/EXEMPTIONS FROM PRESCRIBED STATUTORY REQUIREMENTS IN WESTERN AUSTRALIA CONTAINED IN THE *GAS STANDARDS (GASFITTING AND CONSUMER GAS INSTALLATIONS) REGULATIONS 1999*

Introduction

An application may be made for a variation/exemption from the requirements of Regulation 32(1) of the *Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999*. Generally requests are received for variation/exemptions to Schedule 6 of the Regulations or clause requirements from the Standards/Codes that are referred to in Schedule 7 of the Regulations.

When can you apply for a Variation/Exemption?

An application for a variation/exemption needs to be submitted at the design/planning stage prior to the proposed installation taking place. An application for an existing installation will not be considered.

Energy*Safety* WA may review the validity of an application for a variation/exemption to ensure adherence to the policy of conforming with Australian Standard requirements wherever possible prior to processing the application. This is of particular relevance for installations that need to comply with the requirements of the Australian Standard AS/NZS 5601: Gas installations.

A variation/exemption application may be considered by the Director of Energy Safety or delegate under Sub-regulation 32(3) of the Regulations:

The Director may, in relation to a requirement for consumer's gas installation or type of consumer's gas installation specified in schedule 6 or 7 of the Regulations:

a) vary a requirement;
b) specify that a requirement does not apply; or
c) specify a requirement in addition to the requirements.

Who can apply for a Variation/Exemption?

For Class G (general or commercial) installations the application can be submitted via a gas fitter/consultant/owner operator/appliance manufacturer or other party.

For Class I (industrial or large commercial) installations the application is generally submitted via a Type B Designated Gas Inspector.

Irrespective of who submits the application, it must contain evidence that it is supported by the owner/operator.

How to apply for a Variation/Exemption?

You can fax, post or email your application for a variation/exemption to the Director of Energy Safety or delegate. Contact details are as follows:

- Post:
  Energy*Safety* WA (Attention: Principal Engineer Gas Utilisation)
  PO Box 135
  Cannington WA 6987, Australia.
- Email:
  anthony.smith@dmirs.wa.gov.au
- Facsimile:
  Energy*Safety* WA (Attention: Principal Engineer Gas Utilisation)
  +61 8 9422 5244.

In all cases, confirmation of receipt of the application should be requested. Variation/exemptions are normally processed within 10 working days from receipt of an application that contains all the relevant information to support the request for a variation/exemption.

Preparing a Variation/Exemption application

To prepare an application to the Director of Energy Safety seeking approval to vary or exempt a gas installation from the requirements of Schedule 6 of the Regulations or clause requirements from the Standards that are referred to in Schedule 7 of the Regulations, the following information must be included and/or adequately addressed:

1. The details of the installation, including the following information:
    - Full installation site address including postcode;
    - Make and model of gas appliance(s) and their unique site identification number(s) (for example, Gas Engines 1 to 4 (GE Jenbacher JG616 GS-NL);
    - Gas appliance manufacturer's organisation/business name(s), contact person's name, email and full address including postcode;
    - Type of gas consumed (for example, LP Gas, Natural Gas, Hydrogen and the like) and gas consumption (MJ/h or GJ/h) for each appliance; and
    - Owner/operator/consumer's organisation/business name(s), contact person's name, email and full address including postcode.
2. The applicant organisation/business name and address, contact person's name, email and full address including postcode.
3. The responsible person or installer organisation/business name and address, contact person's details and full address including postcode.
4. The relevant clause(s) in Schedule 6 of the Regulations or the clause requirements of the primary standard/code in which you are seeking a variation or exemption.
5. Specify the requirements of the above clause(s).
6. Details describing how the proposed installation varies from the requirements of this clause.
7. An assessment (supported by evidence) that the proposed installation would maintain an equivalent or better level of safety as prescribed by the code/standard. This can be supported by physical enhancements, additional emergency procedures or instructions or additional training of operational personnel.
8. An explanation as to why compliance with the requirements cannot be achieved.
9. A manufacturer's statement to confirm acceptance of the proposed installation and that the warranty on the appliance is not void (if applicable).
10. Approval from the gas supplier (evidence of such approval would assist in the approval process) [if applicable].
11. A clear summary of your assessment confirming that the proposed equipment/system will maintain an equivalent level of compliance and will function safely.

Examples of Variation/Exemption applications

Example 1: Variation/Exemption granted for Gas Turbine Unit (Class I installation)

An independent Type B Gas Appliance Inspector had on behalf of the original equipment manufacturer (OEM) requested approval for a variation/exemption to AS 3814 code requirements under Regulation 32(1)(b) of the *Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999* for a Gas Turbine Unit.

The variation/exemption request was in reference to AS 3814: Industrial and commercial gas-fired appliances, Clause 5.8.6 requirement that a suitable flexible metallic connection be provided in the exhaust section of a gas turbine to minimise the possibility of fracture due to vibration or expansion and contraction.

The OEM had advised that flexible metallic connectors were not provided in the exhaust system of the turbine but instead use flexible connectors with outside material of texturised PTFE coated glass fabric and internal material of needled fibre blanket in woven fibre mesh, that:

- Is routed between the exhaust diffuser and boiler of the heat recovery steam generator in such a way that they are capable of withstanding the operating stresses likely to be induced by vibration, thermal expansion, earthquake loads or sustained loads.
- Is an integral part of their design using appropriate safety factors and is fit for purpose as described in the submission.
- will provide an equivalent level of safety to that provided by a flexible metallic connection and had been installed and safely used in many installations.

The gas inspector's assessment and his recommendations were concurred with and a recommendation made to the Director of Energy Safety that the requested variation be granted. A Variation/Exemption was subsequently granted to the Type B inspector on behalf of the applicant.

Example 2: Variation/Exemption rejection of Corn Chip Oven (Class I installation)

An independent Type B Gas Appliance Inspector had on behalf of a gas fitter, requested approval for variations to AS 3814: Industrial and commercial gas-fired appliances, code requirements under Regulation 32(1)(b) of the *Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999.*

The variation/exemption was in reference to a Corn Chip Oven. AS 3814, Clause 2.24.9 requires that where an intermittent or permanent pilot is used on atmospheric burner(s) exceeding 1GJ/h (275kW), or forced or induced draft burner(s), either two electronic flame safeguard systems or two electronic flame detectors connected to one flame safeguard system shall be used.

The gas fitter proposed that the Corn Chip Oven had forced draft burners ignited by a single atmospheric pilot burner, which is intermittent

in operation and supervised by a single electronic flame detector. The gas fitter had proposed the following for the Corn Chip Oven:

- The oven's four main burners:
  - Had a total natural gas consumption of 500MJ/h;
  - Are forced draft premix bar burners which are proposed to be ignited by a continuously supervised single atmospheric pilot burner which is intermittent in operation; and
  - Are at four different levels within the oven and will not cross light from each other.
- The pilot and main gas valves are connected to the single flame safeguard with the single flame detector (ionisation rod) on the pilot burner. The burner conforms with clause 2.24.2(b) in that main burner ignites smoothly and reliably under all operating conditions from the pilot burner that is fitted with a flame safeguard system and the unsupervised main burner cannot be operated unless the supervised pilot burner is already operating.
- The oven is open at the bottom with sufficient area for explosion relief and the forced draft burner airflow is continuously proven (unlike an atmospheric burner).
- The oven is provided by the manufacturer with this control as an integral part and fit for purpose.

The gas fitter had advised that the proposed main burners in each appliance light reliably from the supervised intermittent pilot and would in his opinion achieve an equivalent level of safety to that required by AS 3814.

Although the independent gas inspector's assessment recommended that an exemption be provided, the application was refused, because it would have allowed the installation of the Corn Chip Oven with an unsupervised forced draft main burner.

The claim that an equivalent level of safety would be provided without main flame supervision was not supported by any evidence of justification in the submission and therefore the installation was to conform to the requirements of clause 2.24.9.

Example 3: Variation granted for range hood with LP Gas and combination LP Gas - electric cookers (Class G installation)

A range hood manufacturer requested approval for a variation/exemption to AS 5601: Gas Installations, requirements under Regulation 32(1)(b) of the *Gas Standards (Gasfitting and Consumer Gas Installations) Regulations 1999* for their manufactured RH Series range hoods installed in various popup vans.

The variations/exemptions sought by the manufacturer were in reference to Clause 5.12.1.1 requirement that a clearance between a cooking appliance and a combustible surface shall be at least that given in Figure 5.1. Figure 5.1 requires a clearance of 600mm above the highest cooker hob part to a range hood, and in no case shall this clearance to any surface be less than 450mm.

The hood manufacturer in their application for variation/exemption advised the following:

- Range hoods in caravan and recreational vehicle are commonly mounted at 450mm above the highest point of the hob in Victoria, as vehicle manufacturers' try to maximise storage space, at their customers' request, in the form of bulkhead cupboards.
- Extensive testing of range hood models has been undertaken. This has involved electrical reliability testing to IEC codes adopted by Australian Standards and testing to the requirements of AS 4551: Domestic gas cooking appliances. AS 4551 has a temperature hazard requirement that no surface exceed 65ºC above ambient temperature. This is consistent with the requirements of AS 5601, Clause 5.12.1.2 protection of combustible surfaces near a cooking appliance. These tests had been conducted under worst-case conditions, with all of the gas burners operating and the range hood fan isolated and successfully proved the integrity of their range hood.
- The Office of Gas Safety in Victoria issued a global exemption on 8 November 2002 for range hoods installed in caravans and recreational vehicles allowing installation at not less than 400mm. Together with a hood height of 50mm this would comply with the AS 5601 Figure 5.1 requirement that in no case shall this clearance to any surface be less than 450mm.

The hood manufacturer's tests on the range hood using a cooker with the largest burners in their range installed in caravans appeared extensive and in compliance with AS 4551. A recommendation was consequently made to the Director of Energy Safety that the requested variation be granted at an overall clearance of 450mm, from the highest point of the cooker hob to the underside of the range hood, consistent with the interpreted requirements of AS 5601. A variation/exemption was subsequently granted to the range hood manufacturer.