

**BRC**

MARKETING & SOCIAL RESEARCH

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**Energy Safety Service  
Gasfitter survey**

1 August 2002

**CONFIDENTIAL**

**Energy Safety Service  
Gasfitters survey**

August 2002

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## Executive Summary

Summarised in this section are key findings for the survey of gasfitters. Refer to subsequent sections for a full description of the survey background and information requirements, a methodology description, and detailed survey results.

### Gas safety in the home

#### Perceived domestic installation and appliance safety

- Sixty six percent (66%) consider more than 80% of non-portable gas appliances in peoples' homes are safe.
- Sixty eight percent (68%) consider more than 80% of gas installations in homes are safe.
- Twenty one percent (21%) consider more than 80% of portable LPG appliances in homes are safe.

#### Maintenance and safety checks for domestic installations and appliances

- Seventy two percent (72%) believe gas safety checks should be made compulsory.
- Eighty percent (80%) believe household gas installations should be checked regularly.
- Among those who believe household gas installations should be checked regularly, 65% think they should be checked at least every one to two years.
- Ninety four percent (94%) believe household gas appliances should be checked regularly.
- Among those who believe household gas appliances should be checked regularly, 78% think they should be checked at least every one to two years.
- Ninety four percent (94%) believe household portable gas appliances should be checked regularly.

- Among those who believe household portable gas appliances should be checked regularly, 88% think they should be checked at least every one to two years. Importantly, a significantly **higher** proportion of wage and salary earning gasfitters (94%), compared to self-employed gasfitters (85%), believe household portable gas appliances should be checked at least every one to two years.

## **New domestic appliances and installations**

### **Level of safety compliance**

- Thirty eight percent (38%) consider **all** permanently connected gas appliances new on the market meet the legal safety requirements.
- Twelve percent (12%) consider **all** portable or mobile gas appliances new on the market meet the legal safety requirements.
- Just 1% consider **all** second-hand gas appliances meet the legal safety requirements.

### **Marking and installation instructions**

- Twenty four percent (24%) consider **all** permanently connected gas appliances new on the market meet the legal safety requirements for marking and installation instructions.
- Nine percent (9%) consider **all** portable or mobile gas appliances new on the market marked with technical information that meet legal requirements.

## Accident and hazard notification

### Accident notification (Act 17 of the Gas Act 1992)

- Fifty eight percent (58%) identified the Plumbers, Gasfitters & Drain layers' Board (PGDB) as an organisation to contact in the event of a serious gas accident.
- Fifty six percent (56%) identified the relevant gas supply authority as an organisation to contact in the event of a serious gas accident.
- Twenty six percent (26%) identified the Department of Labour/OSH as an organisation to contact in the event of a serious gas accident.
- Ten percent (10%) identified the Energy Safety Service (ESS)/Ministry of Consumer Affairs as an organisation to contact in the event of a serious gas accident. Importantly, a significantly **higher** proportion of wage and salary earning gasfitters (16%), compared to self-employed gasfitters (8%), identified ESS/Ministry of Consumer Affairs as an organisation to contact in the event of a serious gas accident.
- Eighty six percent (86%) have never contacted any organisation about a serious gas accident.
- Eighty nine percent (89%) of those who have previously contacted any organisation about a serious gas accident agree that they were easy to get in touch with.

### Hazard notification (Regulation 27 of the Gas Regulations 1993)

- Sixty eight percent (68%) would contact the PGDB if a gas appliance, installation or fitting that was dangerous to people or property was discovered.
- Thirty eight percent (38%) would contact the relevant gas supply authority if a gas appliance, installation or fitting that was dangerous to people or property was discovered. Importantly, a significantly **lower** proportion of wage and salary earners (23%), compared to the self-employed (43%), would contact the relevant gas supply authority a gas appliance, installation or fitting that was dangerous to people or property was discovered.
- Twenty five percent (25%) would contact the property/appliance owner if a gas appliance, installation or fitting that was dangerous to people or property was discovered.

- Fifty seven percent (57%) have never contacted any organisation about a gas appliance, installation or fitting that was dangerous to people or property being discovered.
- Eighty four percent (84%) of those who have contacted any organisation about a gas appliance, installation or fitting that was dangerous to people or property, agree that they were easy to get in touch with.

### Non-conforming new appliances and installations

- Fourteen percent (14%) would do nothing or not connect the appliance or fitting if they were unsure if it conformed to regulations. Conversely, 53% would get more information from the PGDB.
- Fifty three percent (53%) would not install a new appliance or fitting if they considered it unsafe. A further 21% would notify, or get more information from, the PGDB.

## Worker practices

### Certificates of compliance (CoCs)

- Nine percent (9%) have issued no CoCs in the last 12 months. Importantly, a significantly **higher** proportion of wage and salary earners (21%), compared to the self-employed (4%), have issued no CoCs in the last 12 months.
- Five percent (5%) believe that none of the work they were responsible for in the last 12 months was of the type that required a CoC to be issued. Conversely, thirty percent (30%) believe all the work they were responsible for in the last 12 months was of the type that required a CoC to be issued.
- Thirteen percent (13%) believe all gasfitters issue CoCs when they should.
- Conversely, two percent (2%) believe more than 80% of gasfitters do **not** issue CoCs when they should.
- Twenty nine percent (29%) believe up to 10% of other gasfitters' work requires a CoC, but is not issued. Importantly, a significantly **higher** proportion of wage and salary earners (38%), compared to the self-employed (25%), believe up to 10% of other gasfitters' work requires a CoC, but is not issued.
- Conversely, two percent (2%) believe more than 80% of other gasfitters' work requires a CoC, but is not issued.

### **Awareness of the Certificate of Compliance issuing requirements (Regulation 24 of the Gas Regulations 1993)**

In terms of the overall number of “correct” responses to identifying work types in which a CoC **should** be issued (i.e. issuing CoCs when required), we found the following:

- Only 2% of gasfitters did not correctly identify **any** of the four types of work as situations in which a CoC needs to be issued.
- 2% correctly identified one of the four.
- 5% correctly identified two of the four.
- 20% correctly identified three of the four.
- 70% correctly identified all four.

By way of comparison, in terms of the overall number of “incorrect” responses to identifying work types in which a CoC should be issued (i.e. not issuing CoCs when required), we found the following:

- Fifteen percent (15%) of gasfitters incorrectly identified all three types of work that do **not** in fact require a CoC, as a work type that **does** require a CoC.
- 57% incorrectly identified two of the three.
- 19% incorrectly identified one of the three.
- 8% incorrectly identified none of the three.

## Gas leaks

- Eighty three percent (83%) have experienced no gas leaks in the last 12 months, and a further 10% have experienced one or two gas leaks in the last 12 months.
- Among those who experienced a gas leak while working in the last 12 months, the following causes were most frequently reported:
  - Equipment failure (53%).
  - Not following a safe work practice (41%).
  - Not testing the line before working on it (16%).
- Consistent with the above summary, the following ideas for ensuring people would avoid experiencing a gas leak from the causes summarised above were reported:
  - Following work safety procedures/installation instructions (44%).
  - Test line before working on it/more thorough checks (28%).
  - Clearly mark/identify pipes (9%).
  - Training (6%).

## Ownership and use of test equipment

- Ninety nine percent (99%) own a manometer; 33% own a smoke tube; and 24% own a flue gas (carbon monoxide/dioxide) analyser.

### Use and ownership of installation standards and codes

- Sixty eight percent (68%) use, and 58% own, The installation of gas burning appliances and equipment, Part 1, 2, 3, NZS5261:1996.
- Fifty eight percent (58%) own, and 46% use, the Code of Practice for installation of gas burning appliances and equipment, NZS5261:1990.
- Forty seven percent (47%) use, and 34% own, AGA601:1995 – Gas installation code.
- Forty five percent (45%) use, and 36% own, AGA601/AS5601:2000 – Gas installation code. Importantly, a significantly **higher** proportion of wage and salary earning gasfitters (55%), compared to self-employed gasfitters (41%), use this installation code.
- In terms of following **any** of the two codes or standards (The installation of gas burning appliances and equipment, Part 1, 2, 3, NZS5261:1996 and The Code of Practice for installation of gas burning appliances and equipment, NZS5261:1990), we found that 18% of gasfitters follow **neither** of these, while the remaining 82% follow **at least one** of these codes or standards in their work.
- Eighty nine percent (89%) are using the installation standards and codes they prefer.
- Twenty seven percent (27%) of those who prefer other installation standards and codes, prefer AGA601/AS5601:2000 – Gas installation code.
- Forty seven percent (47%) of those who prefer other installation standards and codes, state the reason for their preference is it would be friendlier/easier to use/more up-to-date.

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# Introduction and information requirements

## Background

The Energy Safety Service (ESS) is responsible for developing and maintaining legislation relating to electrical and gas appliance safety and installation.<sup>1</sup> However, currently little is known about actual tradesperson behaviours and attitudes as they relate to the relevant legislation, and more generally, safe installation of gas and electrical appliances in domestic (residential) settings. Consequently a need for research among licensed electricians and craftsman gasfitters (the trades most commonly engaged with work involving electrical and gas appliances and installations) has been identified.

On an ongoing basis, ESS is required, in general terms, to understand attitudes, opinions and behaviour as it relates to electrical and gas safety and compliance among the following three groups:

1. The consumer
2. The industry
3. The tradesperson

Over the last few years, research has already been conducted among consumers and the industry, however as mentioned there is no up-to-date information about relevant **tradespersons'** attitudes and behaviour in relation to electrical and gas safety, and compliance with the legislation. This report presents findings of a survey of licensed electricians and craftsman gasfitters, conducted to better understand existing attitudes, opinions and behaviour in relation to gas and electrical installations in domestic settings.

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<sup>1</sup> Although this report summarises results for only the survey of gasfitters, described in this section is the background and information requirements relating to both the survey of electricians and craftsman gasfitters.

## Research and information requirements

Five broad research objectives were identified by ESS, as follows:

1. Electrical and gas safety in the home.
2. The extent to which new gas and electrical appliances comply with the legislation.
3. Tradespersons' work practices and use of correct codes/standards and equipment.
4. Tradespersons' knowledge of the legislative requirements in relation to accident reporting and notification of dangerous appliances or installations.
5. Use of Certificates of Compliance (COCs).

At the more detailed level of information requirements, the research addressed the following information objectives:

1. A **demographic profile of tradespeople** including a description of the work they normally undertake.
2. **General attitudes and opinions** toward the safety condition of existing gas and electrical appliances, installations and fittings in homes.
3. **Frequency of gas and electrical safety checks** (appliances and installations) done (actual) and supposed to be done (perceived) by qualified tradespeople.
4. Extent to which current legislative **safety requirements** are met by new permanent domestic appliance installations.
5. Extent to which current legislative **marking and installation instruction requirements** are met by new permanent domestic appliance installations.
6. Extent to which current legislative **safety requirements** are met by new portable ("plug & use") appliances.
7. In the last 12 months, **how often tradespeople found themselves in danger** by receiving an electric shock or working in a major gas leak area. Relatedly, the immediate cause (type of action/what went wrong), and how could others avoid a similar circumstance.

8. The **name(s) of the authorities to report serious electrical or gas injury** (requiring medical treatment, or absence from work for more than a few days), or significant damage to property. Relatedly, have the relevant authorities been contacted before, and how easy (or difficult) that was.
9. The **name(s) of the authorities to notify a hazardous appliance or installation**, that may present immediate danger to life or property.
10. **Under what circumstances electricians and gasfitters should issue Certificates of Compliance** (COCs), and the proportion of tradespeople not issuing COCs.
11. **Whether appropriate safety and compliance measuring equipment is owned** (for gasfitters: flue gas (carbon monoxide) analyser, smoke tube and manometer; for electricians: insulation resistance tester). And under what situations and how often they are used.
12. How appliances/fittings used in installation are confirmed **safe and complying with the relevant legislation** before certifying installation. Steps taken when there is uncertainty about compliance with the relevant legislation or suspect an appliance/fitting is unsafe.
13. Understanding there exist different gas/electrical safety standards, **which standard is used**, and perceptions toward these standard(s).

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## Method

### Sample design

Respondents for this survey were randomly selected from the registering board's database of registered craftsman gasfitters, with ESS acting as an "intermediary" on BRC's behalf to achieve this.

A total population of N=1,323 registered craftsman gasfitters was initially delivered to BRC, however in contrast to the registering board's database of electricians, the gasfitter database did not contain telephone numbers. As such these 1,323 individual records were sent to Telecom for data matching, and a total of 703 were accurately matched against a current telephone number. All of these n=703 individuals were sent a general letter of introduction, inviting participation and summarising the purpose of the survey.

### Sample profile

Refer to the Section *Demographic profile* on p.64, for a full description of the final sample achieved.

### Sampling error

For our total sample of n=201 interviews secured among the 703 craftsman gasfitters sent a letter of introduction, the maximum margin of error at the 95% confidence level is  $\pm 6.4\%$ , while the maximum margin of error at the 80% confidence level is  $\pm 4.2\%$ .

For **differences** between estimates for **self-employed** and **wage and salary earning** gasfitters, the maximum margin of error on the difference (at the 95% confidence level) is  $\pm 14.2\%$ . At the 80% confidence level, the maximum margin of error on the difference between two sub-group estimates is  $\pm 9.3\%$ .

In the main body of the report, significant differences at the 80% confidence level are flagged with a **single** asterisk (“\*”) while significant differences at the 95% confidence level are flagged with **two** asterisks (“\*\*”).<sup>2</sup>

## Interviewing

A total of n=201 interviews were conducted by telephone between 27 March and 9 April, 2002, being identified as the most cost and time-effective method in light of our target population. Interviewing was conducted at BRC’s purpose-built call centre in downtown Wellington, and conducted using a computer-assisted telephone interview (CATI) approach. Most interviews were conducted during the day (9am to 5pm), although some interviews and scheduled call backs were conducted during the evening (5 to 9pm). The average interview length was 21 minutes.

Unfortunately, due to a technical problem extracting the data from our CATI system, many of the “control” variables, e.g. telephone number, ID, and other contact details, were corrupted in the export. Also, because we did not ask a question about region, we lost the ability to accurately describe the geographic distribution of responses. However, by examining the initial mail-out database, the 703 gasfitters randomly selected and sent a letter of introduction, more-or-less reflect the overall population distribution, with the following STD codes represented:

- 09 prefix (Northland, Auckland) – 30%.
- 07 prefix (Waikato, Bay of Plenty) – 16%.
- 06 prefix (Gisborne, Hawke’s Bay, Taranaki, Wanganui, Manawatu, Wairarapa) – 17%.
- 04 prefix (Wellington) – 22%.
- 03 prefix (Nelson & Bays, Marlborough, West Coast, Christchurch, Timaru/Oamaru, Otago, Southland) – 16%.

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<sup>2</sup> We have not signalled statistical significance for “other”, “don’t know”, or “refused” responses. Nor is statistical significance signalled for comparisons of estimates where there were no respondents in any one sub-group, because the difference between **any** percentage against zero percent, is by definition statistically significant.

**The overall response rate for this survey was 35%**, derived from the following overall distribution of responses:

- 201 respondents.
- 166 eligible non-respondents.
- 97 ineligible non-respondents.
- 261 respondents of unknown eligibility.

Among the 261 respondents of unknown eligibility, we estimated 206 would have been eligible, resulting in a final response rate of  $201/(166 + 201 + 206) = \text{respondents}/(\text{eligible non-respondents} + \text{respondents} + \text{estimated eligible non-respondents among eligibility unknown}) = 35\%$ .

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## Gas safety in the home

### Perceived domestic installation and appliance safety

Table 1 indicates that two thirds (66%) of gasfitters consider more than 80% of non-portable gas appliances in homes are safe.

Table 2 indicates that two thirds (68%) of gasfitters consider more than 80% of gas installations in homes are safe.

Table 3 indicates that one fifth (21%) of gasfitters consider more than 80% of portable LPG appliances in homes are safe.

**Table 1: Safety of non-portable gas appliances in homes**

*Q5. Thinking about non-portable gas appliances (such as fixed hot water appliances or heaters) that people have in their homes, how many do you think are safe? Would you say...*

	Total Sample n=201 %	Self-employed Tradesperson n=145 %	Salary or wage earner n=56 %
Up to 10%	-	1	2
11 to 40%	2	2	2
41 to 80%	23	22	25
More than 80%	66	67	63
Don't know	8	8	9
Total	100	100	100

Note: Components may not always add to 100% exactly because of rounding.

**Table 2: Safety of gas installation in homes***Q6. What about gas installations in homes, how many do you think are safe? Would you say...*

	Total Sample n=201 %	Self-employed Tradesperson n=145 %	Salary or wage earner n=56 %
Up to 10%	1	2	2
11 to 40%	2	3	2
41 to 80%	22	22	21
More than 80%	68	68	68
Don't know	5	5	7
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>

Note: Components may not always add to 100% exactly because of rounding.

**Table 3: Safety of LPG appliances in homes***Q7. And how about portable LPG appliances (such as LPG heaters and BBQ's) in homes, how many do you think are safe? Would you say...*

	Total Sample n=201 %	Self-employed Tradesperson n=145 %	Salary or wage earner n=56 %
Up to 10%	7	<b>6*</b>	<b>15*</b>
11 to 40%	6	7	4
41 to 80%	43	44	41
More than 80%	21	20	23
Don't know	22	23	18
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>

Note: Components may not always add to 100% exactly because of rounding.

## Maintenance and Safety checks for domestic installations and appliances

Table 4 indicates that three quarters (72%) of gasfitters believe gas safety checks should be made compulsory.

Table 5 indicates that four in five (80%) of gasfitters believe household gas installations should be checked regularly.

Among those who believe household gas installations should be checked regularly, Table 6 indicates that two thirds (65%) believe household gas installations should be checked at least every one to two years. Just 3% believe household gas installations should be checked at most every five years, but at least every ten years.

Table 7 indicates that the overwhelming majority of gasfitters (94%) believe household gas appliances should be checked regularly.

Among those who believe household gas appliances should be checked regularly, Table 8 indicates that four in five (78%) believe they should be checked at least every one to two years. Importantly, a significantly **lower** proportion of wage and salary earning gasfitters (9%), compared to self-employed gasfitters (21%), believe household gas appliances should be checked at most every two years, but at least every five years.

Table 9 indicates that the overwhelming majority of gasfitters (94%) believe household portable gas appliances should be checked regularly.

Among those who believe household portable gas appliances should be checked regularly, Table 10 indicates that 88% believe they should be checked at least every one to two years. Importantly, a significantly **higher** proportion of wage and salary earning gasfitters (94%), compared to self-employed gasfitters (85%), believe household portable gas appliances should be checked at least every one to two years. Conversely, a significantly **lower** proportion of wage and salary earning gasfitters (4%), compared to self-employed gasfitters (12%), believe household portable gas appliances should be checked at most every two years, but at least every five years.

**Table 4: Compulsory gas safety checks***Q12. Do you think that gas safety checks should be made compulsory?*

	Total Sample n=201 %	Self-employed Tradesperson n=145 %	Salary or wage earner n=56 %
Yes	72	72	71
No	23	23	23
Don't know	5	5	5
Total	100	100	100

Note: Components may not always add to 100% exactly because of rounding.

**Table 5: Should household gas installations be checked regularly?***Q8a. Do you think that household gas installation should be checked regularly?*

	Total Sample n=201 %	Self-employed Tradesperson n=145 %	Salary or wage earner n=56 %
Yes	80	79	84
No	19	20	16
Don't know	1	1	-
Total	100	100	100

Note: Components may not always add to 100% exactly because of rounding.

**Table 6: Frequency of checking household gas installations**

*Q9. Now, thinking generally about all household gas installations, whether old or new. How often do you think household gas installations should be checked? Would that be...?*

	Sub Sample n=161* %	Self-employed Tradesperson n=114 %	Salary or wage earner n=47 %
At least every 1 to 2 years	65	64	68
At least every 5 years	31	32	28
At least every 10 years	3	4	2
Less often than every 10 years	-	-	-
Don't know	1	-	-
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>

Note: Components may not always add to 100% exactly because of rounding.

\*Note: Includes only those gasfitters who mentioned "yes" that household gas installation should be checked regularly in Q8a.

**Table 7: Should household gas appliances be checked regularly?**

*Q8b. Do you think that household gas appliances should be checked regularly?*

	Total Sample n=201 %	Self-employed Tradesperson n=145 %	Salary or wage earner n=56 %
Yes	94	93	95
No	6	6	5
Don't know	-	1	-
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>

Note: Components may not always add to 100% exactly because of rounding.

**Table 8: Frequency of checking household gas appliances**

*Q10. And, thinking generally about all household gas appliances, whether old or new. How often do you think household gas appliances should be checked? Would that be...*

	Sub Sample n=188* %	Self-employed Tradesperson n=135 %	Salary or wage earner n=53 %
At least every 1 to 2 years	78	76	83
At least every 5 years	18	21**	9**
At least every 10 years	4	3	6
Less often than every 10 years	-	-	-
Don't know	1	-	2
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>

Note: Components may not always add to 100% exactly because of rounding.

\*Note: Includes only those gasfitters who mentioned "yes" that household gas appliances should be checked regularly in Q8b.

**Table 9: Should household portable gas appliances be checked regularly?**

*Q8c. Do you think that household portable gas appliances should be checked regularly?*

	Total Sample n=201 %	Self-employed Tradesperson n=145 %	Salary or wage earner n=56 %
Yes	94	94	91
No	6	5	9
Don't know	-	1	-
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>

Note: Components may not always add to 100% exactly because of rounding.

**Table 10: Frequency of checking household portable gas appliances**

Q11. Thinking generally about all household portable gas appliances, whether old or new. How often do you think household portable gas appliances should be checked? Would that be...?

	Sub Sample n=188* %	Self-employed Tradesperson n=137 %	Salary or wage earner n=51 %
At least every 1 to 2 years	88	<b>85**</b>	<b>94**</b>
At least every 5 years	10	<b>12**</b>	<b>4**</b>
At least every 10 years	2	1	2
Less often than every 10 years	-	-	-
Don't know	1	1	-
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>

Note: Components may not always add to 100% exactly because of rounding.

\*Note: Includes only those gasfitters who mentioned "yes" that household portable gas appliances should be checked regularly in Q8c.

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## New domestic appliances and installations

### Level of safety compliance

Table 11 indicates that the overwhelming majority of gasfitters (88%) believe “most” or “all” new permanently connected gas appliances meet the legal safety requirements.

Consider new portable or mobile gas appliances, Table 12 indicates that three in five (60%) believe “most” or “all” meet the legal safety requirements. Importantly, a significantly **lower** proportion of wage and salary earning gasfitters (41%), compared to self-employed gasfitters (51%), believe “most” new portable or mobile gas appliances meet the legal safety requirements.

Considering second-hand gas appliances, Table 13 indicates that one in five (19%) believe “most” or “all” meet the legal safety requirements. Conversely, one in three (33%) believe “only a few” second-hand gas appliances meet the legal safety requirements.

**Table 11: Legal safety of new gas appliances (permanently connected) on market**

*Q13a. Thinking about the type of gas appliances that are permanently connected, how many of the new ones on the market do you think Meet the legal safety requirements? Would that be only a Few, Some, Most or All?*

	Total Sample n=201 %	Self-employed Tradesperson n=145 %	Salary or wage earner n=56 %
Only a few	1	1	-
Some	1	1	4
Most	50	52	43
All	38	36	45
Don't know	9	10	9
Total	100	100	100

Note: Components may not always add to 100% exactly because of rounding.

**Table 12: Portable or new gas appliances on the market**

*Q14a. What about portable or mobile new gas appliances (including appliance fuel from 9kg cylinder or similar), how many of the new ones on the market do you think meet the legal safety requirements. Would that be only a Few, Some, Most or All?*

	Total Sample n=201 %	Self-employed Tradesperson n=145 %	Salary or wage earner n=56 %
Only a few	3	3	4
Some	7	8	7
Most	48	<b>51*</b>	<b>41*</b>
All	12	12	14
Don't know	29	27	34
Total	100	100	100

Note: Components may not always add to 100% exactly because of rounding.

**Table 13: Second-hand gas appliances on the market**

*Q15a. How about second-hand gas appliances, how many of the new ones on the market do you think meet the legal safety requirements? Would that be only a Few, Some, Most or All?*

	Total Sample n=201 %	Self-employed Tradesperson n=145 %	Salary or wage earner n=56 %
Only a few	33	34	30
Some	19	19	18
Most	18	19	18
All	1	1	2
Don't know	29	28	32
Total	100	100	100

Note: Components may not always add to 100% exactly because of rounding.

## Marking and installation instructions

Table 14 indicates that the overwhelming majority (86%) of gasfitters believe “most” or “all” new permanently connected gas appliances meet the legal safety requirements for marking and installation instructions. Importantly, a significantly **higher** proportion of wage and salary earning gasfitters (5%), compared to self-employed gasfitters (1%), believe “only a few” new permanently connected gas appliances meet the legal safety requirements for marking and installation instructions.

Considering new portable or mobile gas appliances, Table 15 indicates that half (56%) believe “most” or “all” are marked with technical information that meets the legal requirements. Importantly, a significantly **lower** proportion of wage and salary earning gasfitters (7%), compared to self-employed gasfitters (13%), believe “some” new portable or mobile gas appliances are marked with technical information that meets the legal requirements.

**Table 14: Marking and installation instructions for permanently connected gas appliances**

*Q13b. Thinking about the type of gas appliances that are permanently connected, how many of the new ones on the market do you think meet the legal safety requirements for marking and installation instructions. Would that be only a Few, Some, Most or All?*

	Total Sample n=201 %	Self-employed Tradesperson n=145 %	Salary or wage earner n=56 %
Only a few	2	<b>1*</b>	<b>5*</b>
Some	4	6	-
Most	62	<b>65*</b>	<b>54*</b>
All	24	<b>21*</b>	<b>34*</b>
Don't know	7	8	7
Total	100	100	100

Note: Components may not always add to 100% exactly because of rounding.

**Table 15: Marking and technical information for new portable or mobile gas appliances**

*Q14b. What about portable or mobile new gas appliances (including appliance fuel from 9kg cylinder or similar), how many of the new ones on the market do you think are marked with technical information (i.e. writing on the unit itself) that meets legal requirements.*

*Would that be only a Few, Some, Most or All?*

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	Total Sample n=201 %	Self-employed Tradesperson n=145 %	Salary or wage earner n=56 %
Only a few	7	7	7
Some	11	<b>13*</b>	<b>7*</b>
Most	47	48	43
All	9	8	13
Don't know	26	24	30
Total	100	100	100

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Note: Components may not always add to 100% exactly because of rounding.

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## Accident and hazard notification

### Accident notification (Act 17 of the Gas Act 1992)

Respondents were asked to identify who, apart from the normal emergency services, they would contact in the event of a serious gas accident, e.g. an accident in which someone is killed or injured to the extent that they required medical attention or more than a few days off work.

Table 17 indicates that the majority of gasfitters (58%) mentioned the Plumbers, Gasfitters & Drain layers' Board (PGDB) as an organisation they would contact. Further, 56% of gasfitters mentioned the relevant gas supply authority as an organisation they would contact.

There was relatively low recall of the Energy Safety Service/Ministry of Consumer Affairs (10%), Ministry of Economic Development/Ministry of Commerce (12%), and Office of the Chief Gas Engineer (4%), as an organisation to contact in the event of a serious electrical accident.

Considering the three "key" organisations collectively – Office of the Chief Gas Engineer, Energy Safety Service, and the Ministry of Economic Development/Ministry of Commerce, just one in four (24%) mentioned one or more of these three organisations as a point of contact in the event of a serious gas accident. Adding the PGDB and OSH/Department of Labour to this list, we found that four in five (77%) mentioned one or more of these five organisations.

Among those who could recall any organisation to contact in the event of a serious gas accident, Table 18 indicates that the majority (86%) have not actually had to contact any organisation. The most frequently mentioned organisations among those who have contacted an organisation about a serious electrical accident, were:

- The relevant gas supply authority (5%). Importantly, significantly **less** wage and salary-earning gasfitters (2%), compared to self-employed gasfitters (6%), have contacted the relevant gas supply authority about a serious gas accident.
- Plumbers, Gasfitters & Drain layers' Board (4%).

Table 19 indicates that nine in ten (89%) gasfitters agreed that it was easy to contact the relevant organisation(s) about a serious gas accident. Conversely, just 7% of gasfitters (two respondents) did not agree that the relevant organisation(s) were easy to contact. Two different reasons were reported by the two respondents who did not agree that it was easy to contact the relevant organisation(s): no one available, and reluctant to listen (Table 20).

**Table 16: Organisation for accident reporting – First mentioned**

Q16. These questions are about any serious gas accidents. By this, I mean ones where someone is killed, or someone is injured enough to need medical treatment, or to be off work for a few days, or where there is serious damage to a property. If you were there, you might contact the emergency services. What other organisation would you contact?

	Total Sample n=201 %	Self-employed Tradesperson n=145 %	Salary or wage earner n=56 %
ACC	-	-	-
Building Industry Authority Office of the Chief Gas Engineer (energy inspection)	-	1	-
Plumbers, Gasfitters & Drain layers' Board (PGDB)	2	1	4
Energy Safety Service (ESS)/Consumer Affairs (Ministry of)	28	28	27
Economic Development (Ministry of Commerce)	3	3	4
Labour (Department of)/OSH	5	6	4
Property/appliance owner	13	12	18
Gas supply authority	2	3	2
Emergency Services	28	28	29
Manufacturer/Supplier/Retailer	3	4	2
Local council	1	1	4
Do something myself/Isolate it	-	1	-
Other	3	3	4
Don't know	5	6	5
None	2	3	-
	-	1	-
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>

Note: Components may not always add to 100% exactly because of rounding.

**Table 17: Organisation for accident reporting – All mentioned**

Q16/17

	Total Sample n=201 %	Self-employed Tradesperson n=145 %	Salary or wage earner n=56 %
ACC	-	1	-
Building Industry Authority Office of the Chief Gas Engineer (energy inspection)	1 4	1 4	- 4
Plumbers, Gasfitters & Drain layers' Board (PGDB)	58	58	57
Energy Safety Service (ESS)/Consumer Affairs (Ministry of)	10	<b>8*</b>	<b>16*</b>
Economic Development (Ministry of Commerce)	12	<b>14*</b>	<b>7*</b>
Labour (Department of)/OSH	26	25	29
Property/appliance owner	10	<b>8*</b>	<b>16*</b>
Gas supply authority	56	55	57
Emergency Services	7	7	7
Gas Auditor	0	0	0
Manufacturer/Supplier/Retailer	6	<b>4*</b>	<b>11*</b>
My boss/employer	2	<b>1*</b>	<b>7*</b>
Local council	3	3	2
Do something myself/Isolate it	5	6	4
Office of Dangerous Goods/Dangerous Goods Inspector	3	3	5
Other	5	6	5
Don't know	2	3	-
None	-	1	-
<b>Total</b>	<b>**</b>	<b>**</b>	<b>**</b>

Note: Total may exceed 100% because of multiple response.

**Table 18: Organisation(s) previously contacted***Q18. Of those you mentioned, which have you contacted before about an accident?*

	Sub Sample n=196* %	Self-employed Tradesperson n=140 %	Salary or wage earner n=56 %
ACC	-	-	-
Building Industry Authority Office of the Chief Gas Engineer (energy inspection)	-	-	-
Plumbers, Gasfitters & Drain layers' Board (PGDB)	4	4	4
Energy Safety Service (ESS)/Consumer Affairs (Ministry of)	5	4	9
Economic Development (Ministry of Commerce)	2	3	-
Labour (Department of)/OSH	2	1	2
Property/appliance owner	-	-	-
Gas supply authority	5	<b>6*</b>	<b>2*</b>
Other	-	-	-
Don't know	-	-	-
None	86	88	82
<b>Total</b>	<b>**</b>	<b>**</b>	<b>**</b>

Note: Total may exceed 100% because of multiple response.

\*Note: Excludes those that mentioned "Don't know" or "None" to which organisation they had contacted before about an accident in Q18.

**Table 19: Ease of contacting organisation(s) about accidents**

*Q19. Of the organisations you have contacted about an accident, do you agree or disagree that it was easy to get in touch with them?*

	Sub Sample n=27* %	Self-employed Tradesperson n=17 %	Salary or wage earner n=10 %
Strongly agree	56	47	70
Agree	33	<b>47**</b>	<b>10**</b>
Neither agree nor disagree	-	-	-
Disagree	7	6	10
Strongly disagree	-	-	-
Don't know	4	-	10
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>

Note: Components may not always add to 100% exactly because of rounding.

\*Note: Excludes those gasfitters that mentioned they hadn't contacted any organisations before about an accident in Q18.

**Table 20: Difficulties experienced**

*Q20. For what reasons wasn't it easy to get in touch with them? Which specific organisations were difficult to get in touch with?*

	Sub Sample n=2* %	Self-employed Tradesperson n=1 %	Salary or wage earner n=1 %
No one available	50	-	100
Reluctant to listen	50	100	-
<b>Total</b>	<b>**</b>	<b>**</b>	<b>**</b>

Note: Total may exceed 100% because of multiple response.

\*Note: Includes only those gasfitters that "Disagreed" that specific organisations were easy to get in touch with in Q19.

## Hazard notification (Regulation 27 of the Gas Regulations 1993)

Similar to the previous section, respondents were also asked to identify who they would contact if they discovered a gas appliance, installation or fitting that was dangerous to people or property.

Table 22 indicates that the most frequently reported point of contact is the PGDB (68%). Other frequently mentioned organisations were:

- The relevant gas supply authority (38%). Importantly, a significantly **lower** proportion of wage and salary earning gasfitters (23%), compared to self-employed gasfitters (43%), would contact the relevant gas supply authority.
- The property/appliance owner (25%).

As for notification in regard to a serious gas accident, there was again relatively low recall of the Energy Safety Service/Ministry of Consumer Affairs (8%), and Ministry of Economic Development/Ministry of Commerce (8%), as an organisation to contact if a gas appliance, installation or fitting that was dangerous to people or property was discovered. Irrespective of low recall of these organisations, a significantly **higher** proportion of self-employed gasfitters (10%), compared to wage and salary earning gasfitters (4%), mentioned the Ministry of Economic Development/Ministry of Commerce.

Considering the three “key” organisations collectively – Office of the Chief Gas Engineer, Energy Safety Service, and the Ministry of Economic Development/Ministry of Commerce, just one in six (16%) mentioned one or more of these three organisations as a point of contact if a gas appliance, installation or fitting that was dangerous to people or property was discovered. Adding the Plumbers, Gasfitters & Drain layers’ Board and OSH/Department of Labour to this list, we found that three in four (74%) mentioned one or more of these five organisations.

Among those who could recall any organisation to contact if a gas appliance, installation or fitting that was dangerous to people or property was discovered, Table 23 indicates that most (57%) have not actually had to contact any organisation. The most frequently mentioned organisations among those who have contacted an organisation about a gas appliance, installation or fitting that was dangerous to people or property, were:

- The relevant gas supply authority (12%).
- Property/appliance owner (9%).

Table 24 indicates that five in six (84%) gasfitters agreed that it was easy to contact the relevant organisation(s) about a gas appliance, installation or fitting that was dangerous to people or property. There were, however 11% of gasfitters who did not agree that the relevant organisation(s) were easy to contact.

Among those who did not consider it easy to contact the relevant organisation(s), Table 25 indicates the following reasons:

- Unavailable, so left a message and waited for a response (40%).
- No specific organisation, just have to guess/no information (30%).
- Couldn't find out where they were/not clear who they are in the directory (20%).
- Gas company was difficult (10%).

**Table 21: Organisation for hazard reporting – First mentioned**

*Q21. If you came across a situation where a gas appliance, installation or fitting was dangerous to people or property, what organisation would you report it to?*

	Total Sample n=201 %	Self-employed Tradesperson n=145 %	Salary or wage earner n=56 %
ACC	-	-	-
Building Industry Authority	-	-	-
Office of the Chief Gas Engineer (energy inspection)	1	1	1
Plumbers, Gasfitters & Drain layers' Board (PGDB)	50	50	50
Energy Safety Service (ESS)/Consumer Affairs (Ministry of)	4	4	4
Economic Development (Ministry of Commerce)	2	3	2
Labour (Department of)/OSH	-	-	2
Property/appliance owner	15	15	16
Gas supply authority	18	20	13
No contact – I'll do it myself	-	1	-
Other	2	1	4
Don't know	3	3	5
None	3	3	4
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>

Note: Components may not always add to 100% exactly because of rounding.

**Table 22: Organisation for hazard reporting – All mentioned**

Q21/22.

	Total Sample n=201 %	Self-employed Tradesperson n=145 %	Salary or wage earner n=56 %
ACC	-	-	-
Building Industry Authority	-	-	-
Office of the Chief Gas Engineer (energy inspection)	2	1	4
Plumbers, Gasfitters & Drain layers' Board (PGDB)	68	69	66
Energy Safety Service (ESS)/Consumer Affairs (Ministry of)	8	7	13
Economic Development (Ministry of Commerce)	8	<b>10*</b>	<b>4*</b>
Labour (Department of)/OSH	4	<b>1**</b>	<b>13**</b>
Property/appliance owner	25	26	25
Gas supply authority	38	<b>43**</b>	<b>23**</b>
No one – I'll do it myself	-	1	-
All of them	-	1	-
Other	2	1	4
Don't know	3	3	5
None	3	3	4
<b>Total</b>	<b>**</b>	<b>**</b>	<b>**</b>

Note: Total may exceed 100% because of multiple response.

**Table 23: Organisation(s) previously contacted***Q23. Of those you mentioned, which have you contacted before about a dangerous situation?*

	Sub Sample n=189* %	Self-employed Tradesperson n=137 %	Salary or wage earner n=52 %
ACC	-	-	-
Building Industry Authority	-	-	-
Office of the Chief Gas Engineer (energy inspection)	1	1	2
Plumbers, Gasfitters & Drain layers' Board (PGDB)	20	20	19
Energy Safety Service (ESS)/Consumer Affairs (Ministry of)	4	<b>2*</b>	<b>8*</b>
Economic Development (Ministry of Commerce)	3	4	-
Labour (Department of)/OSH	-	-	-
Property/appliance owner	9	9	8
Gas supply authority	12	13	8
Other	11	<b>6**</b>	<b>23**</b>
Don't know	-	-	-
None	57	58	54
<b>Total</b>	<b>**</b>	<b>**</b>	<b>**</b>

Note: Total may exceed 100% because of multiple response.

\*Note: Excludes those that mentioned "Don't know" to which organisation they had contacted before about a dangerous accident in Q21.

**Table 24: Ease of contacting organisation(s) about hazards**

*Q24. Of the organisations you have contacted about a dangerous situation, do you agree or disagree that it was easy to get in touch with them?*

	Sub Sample n=85* %	Self-employed Tradesperson n=60 %	Salary or wage earner n=25 %
Strongly agree	59	57	64
Agree	25	<b>28*</b>	<b>16*</b>
Neither agree or disagree	2	2	4
Disagree	9	7	16
Strongly disagree	2	3	-
Don't know	2	3	-
Total	**	**	**

Note: Total may exceed 100% because of multiple response.

\*Note: Excludes those gasfitters that mentioned that they had not contacted any organisation before about a dangerous situation in Q23.

**Table 25: Difficulties**

*Q25. For what reasons wasn't it easy to get in touch with them? Which specific organisations were difficult to get in touch with?*

	Sub Sample n=10* %	Self-employed Tradesperson n=6 %	Salary or wage earner n=4 %
Couldn't find out where they were/not clear who they are in the directory	20	17	25
There is no specific organisation, just have to guess/No information	30	33	25
Gas company was difficult	10	17	-
Unavailable, so left a message and wait for a response	40	33	50
Total	**	**	**

Note: Total may exceed 100% because of multiple response.

\*Note: Includes only those gasfitters who mentioned "Strongly disagree/disagree" that it was easy to get in touch with the organisation in relation to a dangerous situation in Q24.

## Non-conforming new appliances and installations

Respondents were asked to identify what they would do if they were not sure the installation of a new appliance or fitting conformed to regulations. Table 26 indicates a wide range of responses, specifically:

- Get more information from PGDB (53%).
- Get more information from the manufacturer (29%).
- Do nothing or not connect it (14%).
- Get more information from colleagues (14%).
- Get more information from gas suppliers (14%).

Respondents were also asked what they would do if they thought a new appliance or fitting might be unsafe. Table 27 indicates a reasonably wide range of responses:

- Wouldn't install it (53%).
- Notify/get more information from the PGDB (21%).
- Get more information from the manufacturer (19%).
- Get more information from suppliers (15%).

**Table 26: Organisation/person to contact***Q40. When you are certifying the installation of a new appliance or fitting, if you were not sure whether it conformed to regulations, what would you do?*

	Total Sample n=200 %	Self-employed Tradesperson n=144 %	Salary or wage earner n=56 %
Do nothing/not connect it	14	15	11
Get more information from colleagues	14	13	16
Get more information from gas suppliers	14	13	16
Get more information from manufacturer	29	28	30
Get more information from Energy Safety Service	3	3	-
Get more information from Plumbers, Gasfitters & Drain layers' Board (PGDB)	53	53	54
Other	1	-	2
Don't know	3	3	4
Total	**	**	**

Note: Total may exceed 100% because of multiple response.

**Table 27: Act in response to possible unsafe new appliances and fittings**

*Q41. If you thought a new appliance or fitting might be unsafe, what would you usually do?*

	Total Sample n=201 %	Self-employed Tradesperson n=145 %	Salary or wage earner n=56 %
Do nothing	2	3	2
Get more information from colleagues	10	10	11
Get more information from gas suppliers	7	7	7
Get more information from appliance manufacturer	19	19	20
Get more information from suppliers	15	16	14
Notify the Energy Safety Service	4	4	4
Notify/get more information from the Plumbers, Gasfitters & Drain layers' Board	21	21	21
Wouldn't install it	53	55	48
Warn or inform the owner	5	6	5
Other	2	1	5
Don't know	1	1	2
<b>Total</b>	<b>**</b>	<b>**</b>	<b>**</b>

Note: Total may exceed 100% because of multiple response.

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## Worker practices

### Certificates of Compliance (CoC)

#### Own Work

Around one in ten gasfitters (9%) have issued no Certificates of Compliance (CoCs) at all in the last 12 months (Table 28), and significantly **more** wage and salary-earning electricians have issued no CoCs (21%), compared to self-employed electricians (4%). Conversely, around one in ten (9%) have issued more than 100 CoCs in the last 12 months.

Considering next the domestic work gasfitters were responsible for in the last 12 months, we found that one in five (19%) of gasfitters consider none or less than a quarter of their work the type that required a CoC. Conversely, one in three (30%) consider all of their work the type that requires a CoC.

**Table 28: Issuing of Certificates of Compliance in 12 months**

*Q4. About how many Certificates of Compliance have you issued for your own work and for others. In total, over the last 12 months, would you have issued...?*

	Total Sample n=201 %	Self-employed Tradesperson n=145 %	Salary or wage earner n=56 %
None	9	<b>4**</b>	<b>21**</b>
1 - 5	12	12	13
6 - 10	18	17	20
11 - 25	25	26	21
26 - 50	15	17	13
51 - 100	10	<b>12**</b>	<b>4**</b>
More than 100	9	10	7
Don't know	1	1	2
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>

Note: Components may not always add to 100% exactly because of rounding.

**Table 29: Work you were responsible for that required a Certificate of Compliance**

*Q27. In the last 12 months, how much of the work you were responsible for was the type that required a Certificate of Compliance to be issued? Would that be...?*

	Total Sample n=201 %	Self-employed Tradesperson n=145 %	Salary or wage earner n=56 %
None	5	5	7
Less than a quarter	14	<b>12*</b>	<b>20*</b>
More than a quarter but less than half	5	5	7
More than a half but less than three quarters	14	14	16
More than three quarters but less than all installations	30	32	25
All installations	30	32	25
Don't know	-	-	-
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>

Note: Components may not always add to 100% exactly because of rounding.

## Perception of others' behaviour

Respondents were asked to indicate what proportion of other gasfitters do not issue CoCs for work they should have. Table 30 indicates that around one in ten (13%) consider all gasfitters issue CoCs when they should. A further 25% consider at most 10% of gasfitters do not issue CoCs when they should. In contrast, around one in ten (10%) consider more than 40% of gasfitters do not issue CoCs when they should have.

Next, respondents were asked to report what proportion of other gasfitters' **work** for which a CoC was not issued when it should have been (Table 31). Results are consistent with those in Table 30, with around one in three (29%) considering at most 10% of gasfitters' work required a CoC, but did not have one issued for. Importantly, a significantly **higher** proportion of wage and salary earning gasfitters (38%), compared to self-employed gasfitters (25%), consider at most 10% of gasfitters' work required a CoC, but did not have one issued for.

Around one in ten (9%) of gasfitters consider more than 40% of gasfitters' work required a CoC, but did not have one issued for; and 2% of gasfitters consider more than 80% of others' work required a CoC, but did not have one issued for.

In general, there was consistency in response to the questions relating to other gasfitters per se, and other gasfitters' **work**, in relation to issuing CoCs when they should have. Specifically, we found that at least half of all gasfitters estimated the same proportion of other gasfitters do not issue CoCs when they should, as do not issue CoCs for their work.

**Table 30: Proportion of other gasfitters not issuing Certificates of Compliance**

Q28. Now thinking about other gasfitters, approximately what proportion of them do you think do not issue Certificates of Compliance for work they should have?

	Total Sample n=201 %	Self-employed Tradesperson n=145 %	Salary or wage earner n=56 %
None	13	13	14
Up to 10%	25	25	24
11 to 40%	10	12	9
41 to 80%	8	<b>7*</b>	<b>13*</b>
More than 80%	2	3	2
Don't know	40	41	39
Total	100	100	100

Note: Components may not always add to 100% exactly because of rounding.

**Table 31: Perceived proportion of work where Certificates of Compliance not issued**

Q29. Again thinking about other gasfitters, approximately what proportion of their work do you think they do not issue Certificates of Compliance for, when they should? Would that be...?

	Sub Sample n=175* %	Self-employed Tradesperson n=127 %	Salary or wage earner n=48 %
Up to 10%	29	<b>25*</b>	<b>38*</b>
11 to 40%	17	17	15
41 to 80%	7	7	8
More than 80%	2	2	2
Don't know	46	49	38
Total	100	100	100

Note: Components may not always add to 100% exactly because of rounding.

\*Note: Excludes those that mentioned "None" in Q28.

## Awareness of the Certificate of Compliance issuing requirements (Regulation 24 of the Gas Regulations 1993)

Respondents were asked to indicate the types of gasfitting work for which a CoC should be issued. In terms of “correct” responses from the range of options in Table 32 (i.e. correctly identifying work types for which a CoC should be issued), we found the following:

- New gas installation (97%).
- Alteration, extension or addition of existing installation (95%; a significantly **higher** proportion of wage and salary earning gasfitters (98%), compared to self-employed gasfitters (93%), identified this as a type of work requiring a CoC).
- New LPG installation supply from **two** 9kg cylinders (86%).
- Replacement of existing installation (78%).

In terms of **incorrect** responses (i.e. incorrectly identifying work types for which a CoC should be issued when in fact one is **not** required), we found the following:

- New LPG installation in a caravan (89%).
- New LPG installation supply from **one** 9kg cylinder (72%).
- Repairs to gas appliances (without prior accident, i.e. “normal maintenance”) (18%).

In terms of the overall number of “correct” responses to identifying work types in which a CoC **should** be issued (i.e. issuing CoCs when required), we found the following:

- Only 2% of gasfitters did not correctly identify **any** of the above four types of work as situations in which a CoC needs to be issued.
- 2% correctly identified one of the four.
- 5% correctly identified two of the four.
- 20% correctly identified three of the four.
- 70% correctly identified all four.

By way of comparison, in terms of the overall number of “incorrect” responses to identifying work types in which a CoC should be issued (i.e. not issuing CoCs when required), we found the following:

- Fifteen percent (15%) of gasfitters incorrectly identified all three types of work that do **not** in fact require a CoC, as a work type that **does** require a CoC.
- 57% incorrectly identified two of the three.
- 19% incorrectly identified one of the three.
- 8% incorrectly identified none of the three.

**Table 32: Work that requires the issuing of a Certificate of Compliance***Q26. For which of the following types of work do you think a Certificate of Compliance should be issued?*

	Total Sample n=201 %	Self-employed Tradesperson n=145 %	Salary or wage earner n=56 %
New gas installation	97	96	98
Alteration, extension or addition of existing installation	95	<b>93*</b>	<b>98*</b>
Replacement of existing installation	78	76	82
Repair of existing installation	41	40	45
Repairs to gas appliances (without prior accident, i.e. "normal maintenance")	18	17	23
New LPG installation supply from one 9kg cylinder	72	<b>68**</b>	<b>82**</b>
New LPG installation supply from two 9kg cylinder	86	85	89
New LPG installation in a caravan	89	88	93
In boats/caravans	9	10	9
Other	4	5	4
Don't know	1	1	2
Total	**	**	**

Note: Total may exceed 100% because of multiple response.

## Gas Leaks

Table 33 indicates that around five in six (83%) of gasfitters have not experienced an accidental gas leak while working in the last 12 months. In contrast, 2% have experienced five or more gas leaks in the last 12 months.

Among those who experienced a gas leak while working in the last 12 months, the following causes were most frequently reported (Table 34):

- Equipment failure (53%).
- Not following a safe work practice (41%).
- Not testing the line before working on it (16%).

There were no significant differences in responses when self-employed and wage and salary earning gasfitters are compared.

Consistent with the above summary, Table 35 indicates the following ideas for ensuring people would avoid experiencing a gas leak in the way reported in Table 34:

- Following work safety procedures/installation instructions (44%).
- Test line before working on it/more thorough checks (28%).
- Clearly mark/identify pipes (9%).
- Training (6%).

**Table 33: Endangering themselves and others**

*Q30. The next questions are about accidental gas leaks while working. About how many times in the last 12 months have you had an accidental gas leak, which may have been hazardous to you or to property?*

	Total Sample n=201 %	Self-employed Tradesperson n=145 %	Salary or wage earner n=56 %
Never	83	84	80
1 or 2 times	10	10	11
3 or 4 times	2	3	2
5 to 9 times	1	-	4
10 to 19 times	1	1	2
20 to 29 times	-	1	-
30 to 49 times	-	1	-
50 or more times	-	-	-
Don't know	1	1	2
Total	100	100	100

Note: Components may not always add to 100% exactly because of rounding.

**Table 34: Perceived cause of gas leaks***Q31. In the last 12 months, which of these things caused the accidental gas leak?*

	Sub Sample n=32* %	Self-employed Tradesperson n=22 %	Salary or wage earner n=10 %
Equipment failure	53	55	50
Not testing the line before working on it	16	14	20
Not turning off the gas supply before starting work	3	-	10
Not following a safe work practice	41	45	30
Not receiving adequate training or not familiar with the work	-	-	-
Unintentionally making a gas system live	6	9	-
Other	3	-	10
Don't know	3	-	10
Total	**	**	**

Note: Total may exceed 100% because of multiple response.

\*Note: Includes only those gasfitters who mentioned the number of times they have had an accidental gas leak in the last 12 months in Q30.

**Table 35: Lessons learnt***Q32. Can you tell me any ideas about how other people could avoid a similar accident?*

	Sub Sample n=32* %	Self-employed Tradesperson n=22 %	Salary or wage earner n=10 %
Training	6	-	20
Following work safety procedures/installation instructions	44	50	30
Test line before working on it/More thorough checks	28	23	40
Clearly mark/identify pipes	9	14	-
Don't know/Nothing	13	14	10
<b>Total</b>	<b>**</b>	<b>**</b>	<b>**</b>

Note: Total may exceed 100% because of multiple response.

\*Note: Includes only those gasfitters who mentioned the number of times they have had an accidental gas leak in the last 12 months in Q30.

## Ownership and use of test equipment

Table 36 indicates that nearly all gasfitters own a manometer (99%). Further, one third (33%) own a smoke tube, and one quarter (24%) own a flue gas analyser.

Considering the frequency of use of flue gas analysers, Table 37 indicates that three quarters (78%) **never** used one in the last 12 months. Importantly, a significantly **higher** proportion of self-employed gasfitters (81%), compared to wage and salary earning gasfitters (70%), reported never using a flue gas analyser in the last 12 months.

Among those who made at least some use of a flue gas analyser in the last year, a wide range of circumstances for using it were reported (Table 38):

- Fine-tuning an appliance (62%).
- After installation of a new gas appliance (36%; a significantly **higher** proportion of wage and salary earning gasfitters (53%), compared to self-employed gasfitters (25%), reported using a flue gas analyser for this purpose).
- Finding a fault in an appliance (31%; a significantly **lower** proportion of wage and salary earning gasfitters (18%), compared to self-employed gasfitters (39%), reported using a flue gas analyser for this purpose).

Considering next the frequency of use of a smoke tube, pellets or candlewicks, Table 39 indicates that one third (62%) **never** used one in the last 12 months.

Among those who made at least some use of a smoke tube, pellets or candlewicks, the following circumstances for using it were reported (Table 40):

- Checking for fuel spillage from an appliance (58%).
- Checking air movement to and around existing appliances (ventilation) (37%).
- After installation of a flue/chimney (34%).
- After repair of a flue/chimney (22%; a significantly **higher** proportion of wage and salary earning gasfitters (33%), compared to self-employed gasfitters (17%), reported using a smoke tube, pellets or candle wicks for this purpose).

Manometers are clearly a tool integral to the daily work of a gasfitter. Table 41 indicates that almost half (45%) used their manometer more than 100 times in the last 12 months. Conversely, just 9% used one at most ten times in the last year, and 3% reported never using one in the last 12 months.

Among those who made at least some use of a manometer in the last year, a wide range of circumstances for using it were reported (Table 42):

- After installation of a new appliance to set input pressure (56%).
- After repair/modification of a gas appliance to set/check supply pressure (56%; a significantly **higher** proportion of wage and salary earning gasfitters (66%), compared to self-employed gasfitters (53%), reported using a manometer for this purpose).
- After installation of a new appliance to check for leaks (soundness) (49%).
- After repair/modification or new gas installation to check for leaks (soundless) (48%).

**Table 36: Test equipment ownership**

*Q39. Can you tell me which of the following equipment you personally own?*

	Total Sample n=201 %	Self-employed Tradesperson n=145 %	Salary or wage earner n=56 %
A flue gas (carbon monoxide/dioxide) analyser	24	<b>19**</b>	<b>39**</b>
Smoke tube	33	<b>28**</b>	<b>45**</b>
Manometer	99	<b>100**</b>	<b>96**</b>
None	-	-	2
Don't know	-	-	-
Total	**	**	**

Note: Total may exceed 100% because of multiple response.

**Table 37: Level of use of a flue gas analyser***Q33. In the last 12 months, about how many times did you use a flue gas analyser?*

	Total Sample n=201 %	Self-employed Tradesperson n=145 %	Salary or wage earner n=56 %
1-5 times	11	10	13
6-10 times	3	3	4
11-25 times	4	<b>2**</b>	<b>11**</b>
26-50 times	3	3	2
51-100 times	1	1	2
More than 100 times	-	-	-
Never	78	<b>81*</b>	<b>70*</b>
Don't know	-	-	-
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>

Note: Components may not always add to 100% exactly because of rounding.

**Table 38: Circumstances in which a flue gas analyser is used***Q34. Under what circumstances would you use a flue gas analyser?*

	Sub Sample n=45* %	Self-employed Tradesperson n=28 %	Salary or wage earner n=17 %
After installation of a new gas appliance	36	<b>25*</b>	<b>53*</b>
After repair of a gas appliance	16	14	18
Finding a fault of an appliance	31	<b>39*</b>	<b>18*</b>
Fine-tuning an appliance (includes industrial boilers)	62	61	65
Other	-	-	-
Don't know	2	4	-
<b>Total</b>	<b>**</b>	<b>**</b>	<b>**</b>

Note: Total may exceed 100% because of multiple response.

\*Note: Includes only those gasfitters who mentioned the number of times they used a flue gas analyser in the last 12 months in Q33.

**Table 39: Level of use of smoke tube/pellets or candlewicks***Q35. In the last 12 months, about how many times did you use a smoke tube/pellets or candlewicks?*

	Total Sample n=201 %	Self-employed Tradesperson n=145 %	Salary or wage earner n=56 %
1-5 times	16	14	20
6-10 times	6	6	9
11-25 times	4	4	5
26-50 times	5	6	5
51-100 times	4	6	2
More than 100 times	1	1	2
Never	62	63	57
Don't know	-	1	-
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>

Note: Components may not always add to 100% exactly because of rounding.

**Table 40: Circumstances in which smoke tube/pellets or candlewicks are used***Q36. Under what circumstances would you use a smoke tube/pellets or candlewicks?*

	Sub Sample n=76* %	Self-employed Tradesperson n=52 %	Salary or wage earner n=24 %
After installation of a flue/chimney	34	33	38
After repair of a flue/chimney	22	<b>17*</b>	<b>33*</b>
Checking for fuel spillage from an appliance	58	56	63
Checking air movement to and around existing appliances (ventilation)	37	38	33
Other	3	2	4
Don't know	-	-	-
<b>Total</b>	<b>**</b>	<b>**</b>	<b>**</b>

Note: Total may exceed 100% because of multiple response.

\*Note: Includes only those gasfitters who mentioned the number of times they used a smoke tube/pellets or candlewicks in the last 12 months in Q35.

**Table 41: Level of use of U-gauge or water gauge**

*Q37. In the last 12 months, about how many times did you use a manometer? This is also known as a U-gauge or water gauge.*

	Total Sample n=201 %	Self-employed Tradesperson n=145 %	Salary or wage earner n=56 %
1-5 times	5	6	5
6-10 times	4	5	4
11-25 times	9	10	9
26-50 times	18	<b>21*</b>	<b>11*</b>
51-100 times	13	12	14
More than 100 times	45	43	52
Never	3	2	5
Don't know	1	1	-
Total	100	100	100

Note: Components may not always add to 100% exactly because of rounding.

**Table 42: Circumstances in which a manometer is used***Q38. Under what circumstances would you use a manometer?*

	Sub Sample n=193* %	Self-employed Tradesperson n=140 %	Salary or wage earner n=53 %
After installation of a new appliance to set input pressure	56	56	58
After installation of a new appliance to check for leaks (soundness)	49	51	45
After repair/modification of new gas installation to check for leaks (soundness)	48	48	47
After repair/modification of gas appliance to set/check supply pressure	56	<b>53*</b>	<b>66*</b>
After new gas installation to check for leaks (soundness testing)	42	43	42
Other	2	2	-
Don't know	-	-	-
<b>Total</b>	<b>**</b>	<b>**</b>	<b>**</b>

Note: Total may exceed 100% because of multiple response.

\*Note: Includes only those gasfitters who mentioned the number of times they used a manometer in the last 12 months in Q37.

## Use and ownership of installation standards and codes

Table 43 indicates that a wide range of gas installation codes or standards are used, while Table 44 indicates that similar proportions actually own the stated installation code(s) or standard(s). The most frequently reported responses were:

- The installation of gas burning appliances and equipment, Part 1, 2, 3, NZS5261:1996 (68% use and 58% own).
- Code of Practice for installation of gas burning appliances and equipment, NZS5261:1990 (58% use and 46% own).
- AGA601:1995 – Gas installation code (47% use and 34% own).
- AGA601/AS5601:2000 – Gas installation code (45% use and 36% own; a significantly **higher** proportion of wage and salary earning gasfitters (55%), compared to self-employed gasfitters (41%), use this installation code).

In terms of following **any** of the two New Zealand standards (The installation of gas burning appliances and equipment, Part 1, 2, 3, NZS5261:1996 and The Code of Practice for installation of gas burning appliances and equipment, NZS5261:1990), we found that 18% of gasfitters follow **neither** of these, while the remaining 82% follow **at least one** of these codes or standards in their work.

Regarding preferred codes or standards, the overwhelming majority (89%) are using the one(s) they prefer (Table 45). Just 5% would prefer to use others, and only 2% have no specific preference. These results were also examined by age, and while there were no significant differences between different age groups, there is a slight preference for alternative code(s) and standard(s) among older gasfitters.

Again regarding preferred codes or standards, one quarter (27%) prefer AGA601/AS5601:2000 – Gas installation code. A further 13% prefer AGA601:1995 – Gas installation code, and 13% also prefer The installation of gas burning appliances and equipment, Part 1, 2, 3, NZS5261:1996 (Table 46).

These results were also examined by age, however very small sub-sample sizes precluded identifying any significant differences between different age groups.

Among those who prefer alternative codes or standards, the most frequently mentioned reason was “friendlier/easier to use/more up-to-date” (47%) (Table 47). Other reasons for preferring alternatives were:

- Legally bound (20%).
- More suited to New Zealand conditions (13%).

**Table 43: Use of installation codes***Q42. Which gas installation codes or standards do you follow in your work?*

	Total Sample n=201 %	Self-employed Tradesperson n=145 %	Salary or wage earner n=56 %
AGA601, 1995, -Gas installation code	47	46	52
AGA601/AS5601, 2000 – Gas installation code	45	<b>41*</b>	<b>55*</b>
Code of Practice for installation of gas burning appliances and equipment (NZS5261, 1990)	58	57	59
The installation of gas burning appliances and equipment (Part 1, 2, 3, NZS5261, 1996)	68	68	68
Other	10	9	14
Don't know	7	6	11
Total	**	**	**

Note: Total may exceed 100% because of multiple response.

**Table 44: Ownership of installation codes***Q46. And which gas installation codes or standards do you actually own?*

	Total Sample n=201 %	Self-employed Tradesperson n=145 %	Salary or wage earner n=56 %
AGA601, 1995, - Gas installation code	34	35	32
AGA601/AS5601, 2000 – Gas installation code	36	35	39
Code of Practice for installation of gas burning appliances and equipment (NZS5261, 1990)	46	46	46
The installation of gas burning appliances and equipment (Part 1, 2, 3 NZS5261, 1996)	58	60	54
Other	22	18	32
Don't know	8	8	7
Total	**	**	**

Note: Total may exceed 100% because of multiple response.

**Table 45: Preference for other installation code(s)***Q43. Are you using the ones you prefer to use, or would you prefer to use another?*

	Total Sample n=201 %	Self-employed Tradesperson n=145 %	Salary or wage earner n=56 %
Using one(s) I prefer	89	89	89
Prefer others	5	5	5
Have no choice	2	2	4
Don't know	3	4	2
Total	100	100	100

Note: Components may not always add to 100% exactly because of rounding.

**Table 46: Preferred installation code***Q44. Which would you prefer to use?*

	Sub Sample n=15* %	Self-employed Tradesperson n=10 %	Salary or wage earner n=5 %
AGA601, 1995, - Gas installation code	13	10	20
AGA601/AS5601, 2000 – Gas installation code	27	20	40
Code of Practice for installation of gas burning appliances and equipment (NZS5261, 1990)	-	-	-
The Installation of gas burning appliances and equipment (Part 1, 2, 3, NZS5261, 1996)	13	10	20
Other	40	40	40
Don't know	13	20	-
Total	**	**	**

Note: Total may exceed 100% because of multiple response.

\*Note: Includes only those gasfitters who mentioned "Prefer others" or "Have no choice" to whether they were using preferred gas installation codes in their work (Q43).

**Table 47: Reason other installation code(s) preferred***Q45. Why do you say that?*

	Sub Sample n=15* %	Self-employed Tradesperson n=10 %	Salary or wage earner n=5 %
Friendlier/easier to use/more up-to-date	47	50	40
More suited to New Zealand	13	10	20
Legally bound	20	20	20
Other	20	20	20
Total	**	**	**

Note: Total may exceed 100% because of multiple response.

\*Note: Includes only those gasfitters who mentioned "Prefer others" or "Have no choice" to whether they were using preferred gas installation codes in their work (Q43).

## Demographic profile

### Work characteristics

**Table 48: Type of work done in last 12 months**

*Q2. In the last 12 months, which of these types of work have you done regularly (at least once a month)?*

	Total Sample n=201 %	Self-employed Tradesperson n=145 %	Salary or wage earner n=56 %
New installations	78	<b>82*</b>	<b>68*</b>
Additions to existing installations	75	<b>81**</b>	<b>59**</b>
Alterations to existing installations	68	<b>72*</b>	<b>59*</b>
Repairs of installations	54	53	57
Repair of appliances	49	48	50
Certification of others work	28	28	30
Other inspections	20	<b>17*</b>	<b>27*</b>
Other types of gas fittings work	2	1	5
Don't know	-	-	2
<b>Total</b>	<b>**</b>	<b>**</b>	<b>**</b>

Note: Total may exceed 100% because of multiple response.

**Table 49: Types of work done in the last 12 months**

Q3. Can you tell me how much of your time over the past 12 months you have spent on the following systems? Would that be less than a quarter, less than a half, less than three-quarters, or more than three-quarters?

	Total Sample n=201 %	Self-employed Tradesperson n=145 %	Salary or wage earner n=56 %
<b>a) Domestic systems</b>			
Less than a quarter	44	43	45
Less than a half	6	8	4
Less than three-quarters	14	13	16
More than three-quarters	32	34	27
No time	4	2	9
Total	100	100	100
<b>b) Commercial systems</b>			
Less than a quarter	53	55	46
Less than a half	8	<b>6*</b>	<b>16*</b>
Less than three-quarters	5	5	5
More than three-quarters	2	2	4
No time	31	32	29
Total	100	100	100

**Table 49 (continued): Types of work done in the last 12 months**

	Total Sample n=201 %	Self-employed Tradesperson n=145 %	Salary or wage earner n=56 %
<b>c) Industrial systems</b>			
Less than a quarter	24	23	25
Less than a half	3	1**	9**
Less than three-quarters	2	2	4
More than three-quarters	1	2	-
No time	69	72	63
Total	100	100	100
<b>d) Distribution systems</b>			
Less than a quarter	17	17	18
Less than a half	-	1	-
Less than three-quarters	-	-	2
More than three-quarters	1	1	4
No time	81	82	77
Total	100	100	100

Note: Components may not always add to 100% exactly because of rounding.

## Respondent characteristics

**Table 50: Age**

*Q47. I would now like to ask a few background questions to ensure we have interviewed a good cross-section of gasfitters. Firstly, which of the following age groups do you come into?*

	Total Sample n=201 %	Self-employed Tradesperson n=145 %	Salary or wage earner n=56 %
15-19	-	-	-
20-29	2	2	2
30-39	23	23	25
40-49	40	38	46
50-59	21	23	16
60+	13	14	11
Refused	-	-	-
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>

Note: Components may not always add to 100% exactly because of rounding.

**Table 51 Countries where training received***Q49. In which country were you trained in gasfitting work?*

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	Total Sample n=201 %	Self-employed Tradesperson n=145 %	Salary or wage earner n=56 %
New Zealand	87	87	86
Australia	3	2	5
USA	-	-	-
UK (Scotland, Wales)	11	12	9
Other European countries	1	1	-
Fiji	-	-	-
Other Pacific countries	-	-	-
Asian countries	-	-	-
Other	2	2	2
Refused	-	-	-
Total	100	100	100

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Note: Components may not always add to 100% exactly because of rounding.

## Appendix A: Questionnaire

**ID\_NUMBER:\_\_\_\_\_**

## **ENERGY SAFETY SERVICE – SURVEY OF GASFITTERS**

BRC Marketing & Social Research, PN244201

March 2002

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Good morning/afternoon/evening, my name is [INTERVIEWER NAME] from BRC Marketing & Social Research. Could I please talk to [NAME ON CATI SCREEN]?

**REINTRODUCE AS NECESSARY**

Good morning/afternoon/evening, my name is [INTERVIEWER NAME] from BRC Marketing & Social Research. As described in the letter we recently sent you, we are conducting a survey to explore opinions and attitudes among gasfitters, in relation to gas installations and appliances. The interview should take around 15 minutes.

**IF PERSON NOT AVAILABLE, ASK:**

When would be a good time for me to call back to speak to him/her?

**MAKE APPOINTMENT, REINTRODUCE YOURSELF AS NECESSARY.**

**IF NOT APPROPRIATE TIME:** When would be a more convenient time?

**MAKE APPOINTMENT.**

**IF LETTER NOT RECEIVED, ASK:**

If it's OK with you do you mind if we continue with the interview now?

**IF NO:** When would be a more convenient time?

**MAKE APPOINTMENT.**

START TIME: \_\_\_\_\_

**BACKGROUND INFORMATION ONLY IF NEEDED:**

- This is genuine research. We are not selling anything.
- Information provided is strictly confidential. We report summary results about groups; and do not identify which individuals have said what.
- Your name was selected at random from registers of licensed gasfitters.
- To avoid compromising survey results, I can't tell you who the client is until the end of our interview, just as I can't identify you or your answers to the client.

As part of our ongoing quality improvement process, my Supervisor may listen to this call.

1 First of all, can I just confirm that you are currently doing work as a Gasfitter, including some domestic work, and hold a current practising license?

Yes ..... 1  
 No ..... 2 **TERMINATE**

**TERMINATION STATEMENT:** Thank you. For this survey we need to speak to registered Gasfitters, currently working. If you have any questions, please ring the Project Manager, Pete McMillen, on our toll-free number: 0800 500 168. (Wellington respondents 499 3088).

2 In the last 12 months, which of these types of work have you done regularly (at least once a month)? **READ. CODE MANY**

New installations ..... 1,  
 Additions to existing installations ..... 2,  
 Alterations to existing installations ..... 3,  
 Repairs of installations ..... 4,  
 Repair of appliances ..... 5,  
 Certification of others work..... 6,  
 Other inspections ..... 7,  
 Other types of gas fittings work (**SPECIFY**) ..... 8,  
 \_\_\_\_\_  
 \_\_\_\_\_  
 Don't know..... 9

3 Can you tell me how much of your time over the past 12 months you have spent on the following systems? **PROMPT.** Would that be less than a quarter, less than a half, less than three-quarters, or more than three-quarters? **READ. CODE ONE PER ROW.**

	<b>Less than a quarter</b>	<b>Less than a half</b>	<b>Less than three-quarters</b>	<b>More than three-quarters</b>	<b>No time</b>
a) Domestic systems	1	2	3	4	5
b) Commercial systems	1	2	3	4	5
c) Industrial systems	1	2	3	4	5
d) Distribution systems	1	2	3	4	5

4 About how many Certificates of Compliance you have issued for your own work and for others. In total, over the last 12 months, would you have issued...? **READ**

None ..... 1  
 1 - 5 ..... 2  
 6 - 10 ..... 3  
 11 - 25 ..... 4  
 26 - 50 ..... 5  
 51 - 100 ..... 6  
 More than 100 ..... 7  
 Don't know ..... 8

5 Thinking about non-portable gas appliances (such as fixed hot water appliances or heaters) that people have in their homes, how many do you think are safe? Would you say...**READ**

- Up to 5% ..... 1
- 6 to 10% ..... 2
- 11 to 20% ..... 3
- 21 to 40% ..... 4
- 41 to 80% ..... 5
- More than 80% ..... 6
- Don't know ..... 7

6 What about gas installations in homes, how many do you think are safe? Would you say...**READ**

- Up to 5% ..... 1
- 6 to 10% ..... 2
- 11 to 20% ..... 3
- 21 to 40% ..... 4
- 41 to 80% ..... 5
- More than 80% ..... 6
- Don't know ..... 7

7 And how about portable LPG appliances (such as LPG heaters and BBQ's) in homes, how many do you think are safe? Would you say...**READ**

- Up to 5% ..... 1
- 6 to 10% ..... 2
- 11 to 20% ..... 3
- 21 to 40% ..... 4
- 41 to 80% ..... 5
- More than 80% ..... 6
- Don't know ..... 7

8 Do you think that...**READ?**

	<b>Yes</b>	<b>No</b>	<b>Don't know</b>
a) Household gas installation should be checked regularly	1	2	3
b) Household gas appliances should be checked regularly	1	2	3
c) Household portable gas appliances should be checked regularly	1	2	3

9 **IF 1 IN Q8A, ASK Q9, ELSE GO Q10.** Now, thinking generally about all household gas installations, whether old or new. How often do you think household gas installations should be checked? Would that be...**READ**

- At least every 1 to 2 years ..... 1
- At least every 5 years ..... 2
- At least every 10 years ..... 3
- Less often than every 10 years ..... 4
- Don't know ..... 5

10 **IF 1 IN Q8B ASK Q10, ELSE GO Q11.** And, thinking generally about all household gas appliances, whether old or new. How often do you think household gas appliances should be checked? Would that be... **READ**

- At least every 1 to 2 years..... 1
- At least every 5 years..... 2
- At least every 10 years..... 3
- Less often than every 10 years..... 4
- Don't know..... 5

11 **IF 1 IN Q8C ASK Q11, ELSE GO Q12.** Thinking generally about all household portable gas appliances, whether old or new. How often do you think household portable gas appliances should be checked? Would that be... **READ**

- At least every 1 to 2 years..... 1
- At least every 5 years..... 2
- At least every 10 years..... 3
- Less often than every 10 years..... 4
- Don't know..... 5

12 Do you think that gas safety checks should be made compulsory? **DO NOT READ.**

- Yes..... 1
- No..... 2
- Don't know..... 3

13 Thinking about the type of gas appliances that are permanently connected, how many of the new ones on the market do you think.... **READ. PROMPT.** Would that be Only a few, Some, Most or All?

	Only a few	Some	Most	All	DK
a. Meet the legal <u>safety</u> requirements	1	2	3	4	5
b. Meet the legal requirements for <u>marking and installation instructions</u>	1	2	3	4	5

14 What about portable or mobile new gas appliances (including appliance fuel from 9 kg cylinder or similar), how many of the new ones on the market do you think.... **READ. PROMPT.** Would that be Only a few, Some, Most or All?

	Only a few	Some	Most	All	DK
a. Meet the legal <u>safety</u> requirements	1	2	3	4	5
b. Are marked with technical information (i.e. writing on the unit itself) that meets legal requirements	1	2	3	4	5

15 How about second-hand gas appliances, how many of the ones on the market do you think.... **READ. PROMPT.** Would that be Only a few, Some, Most or All?

	Only a few	Some	Most	All	DK
a. Meet the legal <u>safety</u> requirements	1	2	3	4	5

- 16 These questions are about any serious gas accidents. By this, I mean ones where someone is killed, or someone is injured enough to need medical treatment, or to be off work for a few days, or where there is serious damage to a property. If you were there, you might contact the emergency services. What other organisation would you contact?. **DO NOT READ.**  
**CODE FIRST MENTIONED IN COLUMN A.**
- 17 Any others? **DO NOT READ.** **CODE ALL OTHERS MENTIONED IN COLUMN B.**
- 18 Of those you mentioned, which have you contacted before about an accident?  
**DO NOT READ. CODE ALL MENTIONED IN COLUMN C.**

	<b>A</b> First mentioned <b>CODE ONE</b>	<b>B</b> Others mentioned <b>CODE MANY</b>	<b>C</b> Used before <b>CODE MANY</b>
ACC	1	1,	1,
Building Industry Authority	2	2,	2,
Office of the Chief Gas Engineer (energy inspection)	3	3,	3,
Plumbers, Gasfitters & Drainlayers' Board (PGBD)	4	4,	4,
Energy Safety Service (ESS)/Consumer Affairs (Ministry of)	5	5,	5,
Economic Development (Ministry of, Ministry of Commerce)	6	6,	6,
Labour (Department of)/OSH	7	7,	7,
Property/appliance owner	8	8,	8,
Gas supply authority	9	9,	9,
Other 1 ( <b>SPECIFY</b> )	10	///	10,
Other 2 ( <b>SPECIFY</b> )	///	11,	11,
<i>Don't know</i>	12 → <b>Q21</b>	///	///
<i>None</i>	13 → <b>Q21</b>	13,	13, → <b>Q21</b>

- 19 Of the organisations you have contacted about an accident, do you agree or disagree that it was easy to get in touch with them? **PROMPT:** Is that strongly agree/disagree or just agree/disagree?

Strongly disagree ..... 1  
 Disagree ..... 2  
 Neither agree nor disagree..... 3  
 Agree ..... 4  
 Strongly agree ..... 5  
*Don't know*..... 6

] **GO Q21**

- 20 For what reasons wasn't it easy to get in touch with them? **PROMPT:** Which specific organisations were difficult to get in touch with? **PROBE FULLY AND RECORD IN DETAIL.**

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- 21 If you came across a situation where a gas appliance, installation or fitting was dangerous to people or property, what organisation would you report it to? **DO NOT READ**  
**CODE FIRST MENTIONED IN COLUMN A.**
- 22 Any others? **DO NOT READ. CODE ALL OTHERS MENTIONED IN COLUMN B.**
- 23 Of those you mentioned, which have you contacted before about a dangerous situation? **DO NOT READ. CODE IN COLUMN C.**

	<b>A</b> First mentioned <b>CODE ONE</b>	<b>B</b> Others mentioned <b>CODE MANY</b>	<b>C</b> Ever contacted <b>CODE MANY</b>
ACC	1	1,	1,
Building Industry Authority	2	2,	2,
Office of the Chief Gas Engineer	3	3,	3,
Plumbers, Gasfitters & Drainlayers' Board (PGBD)	4	4,	4,
Energy Safety Service (ESS)/Consumer Affairs (Ministry of)	5	5,	5,
Economic Development (Ministry of, Ministry of Commerce)	6	6,	6,
Labour (Department of)/OSH	7	7,	7,
Property/appliance owner	8	8,	8,
Gas supply authority	9	9,	9,
Other 1 ( <b>SPECIFY</b> )	10	///	10,
Other 2 ( <b>SPECIFY</b> )	///	11,	11,
<i>Don't know</i>	12 → Q26	///	///
<i>None</i>	///	13,	13, → Q26

- 24 Of the organisations you have contacted about a dangerous situation, do you agree or disagree that it was easy to get in touch with them? **PROMPT:** Is that strongly agree/disagree or just agree/disagree?

Strongly disagree ..... 1  
 Disagree ..... 2  
 Neither agree nor disagree..... 3  
 Agree ..... 4  
 Strongly agree ..... 5  
 Don't know..... 6

} **GO Q26**

- 25 For what reasons wasn't it easy to get in touch with them? **PROMPT:** Which specific organisations were difficult to get in touch with? **PROBE FULLY AND RECORD IN DETAIL.**

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26 For which of the following types of work do you think a Certificate of Compliance should be issued? **READ. CODE MANY. PROBE:** Any others?

- New gas installation ..... 1,
- Alteration, extension or addition of existing installation ..... 2,
- Replacement of existing installation..... 3,
- Repair of existing installation ..... 4,
- Repairs to gas appliances (without prior accident, i.e. "normal maintenance") ..... 5,
- New LPG installation supply from one 9kg cylinder ..... 6,
- New LPG installation supply from two 9kg cylinder ..... 7,
- New LPG installation in a caravan ..... 8,
- Other (**SPECIFY**)..... 9,

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*Don't know*..... 10

27 In the last 12 months, how much of the work you were responsible for was the type that required a Certificate of Compliance to be issued? Would that be... **READ.**

- None ..... 1
- Less than a quarter ..... 2
- More than a quarter but less than half ..... 3
- More than half but less than three quarters ..... 4
- More than three quarters but less than all installations ..... 5
- All installations..... 6
- Don't know*..... 7

28 Now thinking about other gasfitters, approximately what proportion of them do you think do not issue Certificates of Compliance for work they should have? **READ AND CODE ONE ONLY.**

- None ..... 1 **Go Q30**
- Up to 5% ..... 2
- 6 to 10%..... 3
- 11 to 20%..... 4
- 21 to 40%..... 5
- 41 to 80%..... 6
- More than 80%..... 7
- Don't know* ..... 8

29 Again thinking about other gasfitters, approximately what proportion of their work do you think they do not issue Certificates of Compliance for, when they should? Would that be...? **READ AND CODE ONE ONLY.**

- Up to 5% ..... 1
- 6 to 10%..... 2
- 11 to 20%..... 3
- 21 to 40%..... 4
- 41 to 80%..... 5
- More than 80%..... 6
- Don't know* ..... 7

30 The next questions are about accidental gas leaks while working. About how many times in the last 12 months have you had an accidental gas leak, which may have been hazardous to you or to property? **DO NOT READ.**

- Never ..... 1 **GO Q33**
- 1 or 2 times ..... 2
- 3 or 4 times ..... 3
- 5 to 9 times ..... 4
- 10 to 19 times ..... 5
- 20 to 29 times ..... 6
- 30 to 49 times ..... 7
- 50 or more times ..... 8
- Don't know* ..... 9 **GO Q33**

31 In the last 12 months, which of these things caused the accidental gas leak? **READ. CODE MANY.**

- Equipment failure ..... 1,
  - Not testing the line before working on it..... 2,
  - Not turning off the gas supply before starting work ..... 3,
  - Not following a safe work practice..... 4,
  - Not receiving adequate training or not familiar with the work ..... 5,
  - Unintentionally making a gas system live ..... 6,
  - Other (**SPECIFY**) ..... 7,
- \_\_\_\_\_
- \_\_\_\_\_
- Don't know*..... 9

32 Can you tell me any ideas about how other people could avoid a similar accident? **PROBE FULLY AND RECORD IN DETAIL.**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

33 In the last 12 months, about how many times did you use a flue gas analyser?

- 1 – 5 times ..... 1
- 6 - 10 times ..... 2
- 11 - 25 times ..... 3
- 26 - 50 times ..... 4
- 51 - 100 times ..... 5
- More than 100 times ..... 6
- Never* ..... 7 **GO Q35**
- Don't know* ..... 8 **]**

34 Under what circumstances would you use a flue gas analyser? **DO NOT READ. CODE MANY.**

- After installation of a new gas appliance..... 1,
  - After repair of a gas appliance ..... 2,
  - Finding a fault of an appliance ..... 3,
  - Fine-tuning an appliance (includes industrial boilers)..... 4,
  - Other (**SPECIFY**) ..... 5,
- 
- Don't know*..... 6

35 In the last 12months, about how many times did you use a smoke tube/pellets or candle wicks?

- 1 – 5 times ..... 1
- 6 - 10 times ..... 2
- 11 - 25 times ..... 3
- 26 - 50 times ..... 4
- 51 - 100 times ..... 5
- More than 100 times ..... 6
- Never* ..... 7 ] **GO Q37**
- Don't know* ..... 8 ]

36 Under what circumstances would you use a smoke tube/pellets or candle wicks? **DO NOT READ. CODE MANY.**

- After installation of a flue/chimney ..... 1,
  - After repair of a flue/chimney ..... 2,
  - Checking for fuel spillage from an appliance ..... 3,
  - Checking air movement to and around existing appliances (ventilation) ..... 4,
  - Other (**SPECIFY**) ..... 5,
- 
- Don't know*..... 6

37 In the last 12months, about how many times did you use a manometer? **IF NECESSARY:** This is also known as a U-gauge or water gauge.

- 1 – 5 times ..... 1
- 6 - 10 times ..... 2
- 11 - 25 times ..... 3
- 26 - 50 times ..... 4
- 51 - 100 times ..... 5
- More than 100 times ..... 6
- Never* ..... 7 ] **GO Q39**
- Don't know* ..... 8 ]

38 Under what circumstances would you use a manometer? **DO NOT READ. CODE MANY.**

- After installation of a new appliance to set input pressure..... 1,
  - After installation of a new appliance to check for leaks  
(soundness)..... 2,
  - After repair/modification or new gas installation to check  
for leaks (soundness) ..... 3,
  - After repair/modification of gas appliance to set/check  
supply pressure ..... 4,
  - After new gas installation to check for leaks (soundness  
testing) ..... 5,
  - Other (**SPECIFY**) ..... 6,
- 
- Don't know*..... 7

39 Can you tell me which of the following equipment you personally own? **READ. CODE MANY.**

- A flue gas (carbon monoxide/dioxide) analyser ..... 1,
- Smoke tube ..... 2,
- Manometer ..... 3,
- None* ..... 4
- Don't know*..... 5

40 When you are certifying the installation of a new appliance or fitting, if you were not sure whether it conformed to regulations, what would you do? **DO NOT READ. CODE MANY.**

- Do nothing ..... 1,
  - Get more information from colleagues ..... 2,
  - Get more information from gas suppliers ..... 3,
  - Get more information from manufacturer ..... 4,
  - Get more information from Energy Safety Service ..... 5,
  - Get more information from Plumbers, Gasfitters &  
Drainlayers' Board (PGDB) ..... 6,
  - Other (**SPECIFY**) ..... 7,
- 
- 
- Don't know*..... 8

41 If you thought a new appliance or fitting might be unsafe, what would you usually do? **DO NOT READ. CODE MANY.**

- Do nothing ..... 1,
  - Get more information from colleagues ..... 2,
  - Get more information from gas suppliers ..... 3,
  - Get more information from appliance manufacturer ..... 4,
  - Get more information from suppliers ..... 5,
  - Notify the Energy Safety Service ..... 6,
  - Notify/get more information from the Plumbers, Gasfitters &  
Drainlayers' Board (PGDB) ..... 7,
  - Other (**SPECIFY**) ..... 8,
- 
- Don't know*..... 9

42 Which gas installation codes or standards do you follow in your work? **READ AND CODE MANY.**

- AGA601, 1995, - Gas installation code ..... 1,
- AGA601/AS5601, 2000 – Gas installation code ..... 2,
- Code of Practice for installation of gas burning appliances and equipment (NZS5261, 1990)..... 3,
- The Installation of gas burning appliances and equipment (Part 1, 2, 3, NZS5261, 1996) ..... 4,
- Other (**SPECIFY**) ..... 5,

\_\_\_\_\_

\_\_\_\_\_

*Don't know*..... 6

43 Are you using the ones you prefer to use, or would you prefer to use another?

- Using one(s) I prefer ..... 1 → Go Q46
- Prefer others..... 2
- Have no choice..... 3
- Don't know..... 4 → Go Q46

44 Which would you prefer to use?

- AGA601, 1995, - Gas installation code ..... 1,
- AGA601/AS5601, 2000 – Gas installation code ..... 2,
- Code of Practice for installation of gas burning appliances and equipment (NZS5261, 1990)..... 3,
- The Installation of gas burning appliances and equipment (Part 1, 2, 3, NZS5261, 1996) ..... 4,
- Other (**SPECIFY**) ..... 5,

\_\_\_\_\_

\_\_\_\_\_

*Don't know*..... 6

45 Why do you say that?

\_\_\_\_\_

\_\_\_\_\_

46 And which gas installation codes or standards do you actually own? **READ AND CODE MANY.**

- AGA601, 1995, - Gas installation code ..... 1,
- AGA601/AS5601, 2000 – Gas installation code ..... 2,
- Code of Practice for installation of gas burning appliances and equipment (NZS5261, 1990)..... 3,
- The Installation of gas burning appliances and equipment (Part 1, 2, 3, NZS5261, 1996)..... 4,
- Other (**SPECIFY**) ..... 5,

\_\_\_\_\_

\_\_\_\_\_

*Don't know*..... 6

**DEMOGRAPHICS**

47 I would now like to ask a few background questions to ensure we have interviewed a good cross-section of gasfitters.

Firstly, which of the following age groups do you come into? **READ AND CODE ONE ONLY.**

- 15–19 ..... 1
- 20–29 ..... 2
- 30–39 ..... 3
- 40–49 ..... 4
- 50–59 ..... 5
- 60+ ..... 6
- Refused*..... 7

48 At present, are you a...? **READ AND CODE ONE ONLY.**

- Self-employed tradesperson ..... 1
- Salary or wage earner (working for others)..... 2

49 In which country were you trained in gas work...

- New Zealand ..... 1,
- Australia ..... 2,
- USA..... 3,
- UK (Scotland, Wales) ..... 4,
- Other European countries..... 5,
- Fiji ..... 6,
- Other Pacific countries..... 7,
- Asian countries ..... 8,
- Other (**SPECIFY**) ..... 9,

\_\_\_\_\_

*Refused*..... 10,

50 Those are all the questions I have. Do you have any other comments you'd like to make about the subject of this interview?

*No additional comments* ..... 1

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51 May I please have your first name in case my supervisor needs to check on the quality of this interview?

RESPONDENT FIRST NAME: \_\_\_\_\_

Thank you very much for your help. If you have enquiries about this survey, please ring the project manager, Pete McMillen, on our toll-free number: 0800 500 168. (Wellington respondents 499-3088).

STOP TIME: \_\_\_\_\_

DURATION: \_\_\_\_\_ minutes USE "STOP TIME" ABOVE & "START TIME" ON FRONT PAGE

DATE: \_\_\_/\_\_\_/02

INTERVIEWER INITIALS: \_\_\_\_\_ PRINT NEATLY SO THAT DATA ENTRY CAN READ EASILY.

INTERVIEWER NUMBER: \_\_\_\_\_ PRINT NEATLY SO THAT DATA ENTRY CAN READ EASILY.

PHONE NUMBER:(0\_\_\_\_) \_\_\_\_\_

ID NUMBER: \_\_\_\_\_ Yes ID Number matches front Page

**(CHECK BOX IF ID NUMBER ABOVE IS IDENTICAL TO ID NUMBER ON FRONT PAGE)**

**HAVE YOU REMEMBERED TO CODE CATEGORIES ON FRONT PAGE?** Yes

"I certify that this is a true and accurate record of the interview conducted by me in full accordance with the Market Research Code of Practice."

INTERVIEWER SIGNATURE: \_\_\_\_\_

SUPERVISOR CHECK INITIALS: \_\_ **PRINT NEATLY SO THAT DATA ENTRY CAN READ EASILY**

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26 March 2002

## **Appendix B: Introductory letter**

28 June 2002

«forenames» «surname»  
«address\_1»  
«add2»  
«add3»  
«ADD4» «pcode»

Dear «forenames» «surname»

**SURVEY OF GASFITTERS IN RELATION TO DOMESTIC INSTALLATIONS &  
APPLIANCES**

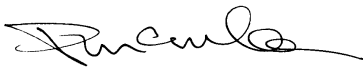
A government agency has commissioned BRC Marketing & Social Research, an independent research company, to conduct a survey among Craftsman Gasfitters on their opinions and attitudes to safety in relation to domestic gas installations and appliances.

Your name has been randomly selected from the government agency's database, as representative of the people in your trade. We would like to invite you to participate in a short survey.

One of our interviewers may be in touch in the next week or so by telephone. The survey will only take about 15 minutes, at a time most convenient to you.

If you have any questions at all about our survey, please contact either myself or Mati Fryer on free-phone 0800 500 168 (or 499 3088 in the Wellington area).

Yours sincerely



Pete McMillen  
Senior Project Manager  
BRC Marketing & Social Research

Ref: «IDNO»