

# FORM section 63A

## (Modified Reassessment)

### Application for a Modified Reassessment under section 63A of the Hazardous Substances and New Organisms Act 1996

Name of Substance(s): LPG

Propane

Butane

Applicant: The LPG Association of New Zealand inc

Signed: \_\_\_\_\_

Date: \_\_\_\_\_

Application Checklist	Tick or n/a
Mandatory sections filled out:	
All Attachments enclosed:	
Application signed and dated:	

Office use only	
Date received:	___/___/___
Application Code:	
ERMA NZ Contact:	
Application Version No:	v1.1

## **SECTION ONE – APPLICANT DETAILS**

### **1.1 Name and postal address in New Zealand of the organisation making the application**

**Name:** LPG Association of NZ Inc  
**Address:** PO Box 1776, Wellington 6140  
**Phone:** 04 914 1765  
**Fax:** 04 914 1766

### **1.2 The applicant's location address in New Zealand (if different from above)**

**Address:**

### **1.3 Name of the contact person for the application**

**Name:** Peter Gilbert  
**Position:** Executive Director  
**Phone:** 04 914 1765  
**Fax:** 04 914 1766  
**Email:** peter@lpga.org.nz

## **SECTION TWO – APPLICATION TYPE**

### **2.1 The approvals being reassessed**

LPG (liquefied petroleum gas)	Approval No: HSR001009
Propane	Approval No: HSR001010
Butane	Approval No: HSR000989

### **2.2 Specific aspects of the approval being reassessed**

- a) Location test certification threshold.
- b) Tank wagon parking requirements.
- c) Separation distances for cylinder and tank storage.
- d) Fire extinguisher requirements.
- e) Separation distances for vaporisers.
- f) Stationary container certification.

### **2.3 Grounds for the reassessment**

In their decision dated 5 December 2009, the Environmental Risk Management Authority determined that there was significant new information to indicate that there were grounds, under section 62(2)(a), for the modified reassessment of the approvals for LPG, propane and butane.

### **2.4 Consultation**

The Association represents all the Wholesalers, distributors and all of the major LPG retailers in NZ, as well as LPG equipment suppliers. As such it represents the combined technical expertise of the NZ LPG Industry which is focussed through the Association Technical Committee.

In putting together our arguments we have consulted with the Industry, in New Zealand, the Australian LPG Industry and the joint Australian/New Zealand Standards Committee for AS/NZS 1596. The Association also hired the expertise of MWH in preparing the risk report on 45kg installations and LPG Safety Consultants who prepared the report on tanker parking and vaporisers.

## SECTION THREE – INFORMATION ON THE SUBSTANCES

### 3.1 The unequivocal identification of the substance

#### a. LPG

Chemical Name	Liquified Petroleum Gas
CAS Number	68476-85-7
Molecular Formula	-
Synonyms	LPG L.P.G. Fuels, liquefied petroleum gas Liquid petroleum gas Petroleum gas liquefied Petroleum Gases, liquefied

#### b. Propane

Chemical Name	Propane
CAS Number	74-98-6
Molecular Formula	C3-H8
Synonyms	Propyl hydride Propyldihydride Dimethyl methane n-Propane

#### c. Butane

Chemical Name	Butane
CAS Number	106-97-8
Molecular Formula	C4-H10
Synonyms	n-Butane Butyl hydride Diethyl Methylethylmethane

### 3.2 Information on the chemical, physical and hazardous properties of the substance

#### a. LPG

##### i. Chemical and Physical Properties

Property	Value	Source
Relative Density	0.506-0.583 g/cm <sup>3</sup> at 15 degree C	CONCAWE Bruxelles ERTOIL, S.A. HUELVA Lewis, R.J., Saxs Dangerous Properties of Industrial Materials, Eighth Edition, Van Nostrand Reinhold, New York, 1992. [IUCLID 2000]
Water Solubility	.024 - .061 g/l at 20 degree C	CONCAWE Bruxelles ERTOIL, S.A. HUELVA Crisp, D.J., Cristie A.O. and Ghobashy, A.F.A., Comp. Biochem. Physiol., vol. 62, p. 62, 1967. Verschueren, K., Handbook of Environmental Data on Organic Chemicals, Second Edition, Van Nostrand Reinhold, New York, 1983 [IUCLID 2000]
Boiling Point	-162 - -.5 degree C at 1013 hPa	CONCAWE Bruxelles Lewis, R.J., Sax's Dangerous Properties of Industrial Materials, Eighth Edition, Van Nostrand Reinhold, New York, 1992. [IUCLID 2000]
Melting Point	-183- -20 degree C	CONCAWE Bruxelles Lewis, R.J., Sax's Dangerous Properties of Industrial Materials, Eighth Edition, Van Nostrand Reinhold, New York, 1992. [IUCLID 2000]
Vapour Pressure	600 - 39000 hPa at 20 degree C	CONCAWE Bruxelles ERTOIL, S.A. HUELVA Gallant, R.W., Physical Properties of Hydrocarbons, vol. 1, Gulf Publishing Company, Houston, 1968. [IUCLID 2000]
Log Pow/Kow	<= 2.8	CONCAWE Bruxelles ERTOIL, S.A. HUELVA Log Pow Database, Pomona College, 1993. [IUCLID 2000]

## ii. Hazardous Properties

Hazard Classification	Supporting Data
2.1.1A Flammable Gas	Classification: as in Directive 67/548/EEC Class of danger: extremely flammable R- Phrases: (12) Extremely flammable [IUCALID 2000]
	UN 1075, Class 2.1
	Flammable Limits: LOWER: 1.6%; UPPER: 8.4% (% BY VOLUME) [Peer Reviewed] [National Fire Protection Association. Fire Protection Guide on Hazardous Materials. 9th ed. Boston, MA: National Fire Protection Association, 1986.,p. 325M-19]
	Flash Point: -76 DEG F (CLOSED CUP) [Peer Reviewed] [American Conference of Governmental Industrial Hygienists, Inc. Documentation of the Threshold Limit Values, 4th ed., 1980. Cincinnati, Ohio: American Conference of Governmental Industrial Hygienists, Inc., 1980. 50] [HSDB]

## b. Propane

### i. Chemical and Physical Properties

Property	Value	Source
Relative Density	.0005 kg/m <sup>3</sup> at 15 degree C	LIQUIGAS S.p.A. MILANO [IUCALID 2000]
Water Solubility	6.5 vol% at 20 degree C	LIQUIGAS S.p.A. MILANO [IUCALID 2000]
Boiling Point	-42 degree C at 1013 hPa	BASF AG Ludwigshafen Esso AG, Sicherheitsdatenblatt Propan (09/92) [IUCALID 2000]
Melting Point	-187 degree C	LIQUIGAS S.p.A. MILANO [IUCALID 2000]
Vapour Pressure	7500 hPa at 15 degree C	LIQUIGAS S.p.A. MILANO [IUCALID 2000]
Henry's Law Constant	7.07X10 <sup>-1</sup> atm-cu m/mole at 25 deg C	Mackay D, Shiu WY; J Phys Chem Ref Data 19: 1175-99 (1981) [HSDB]
Log Pow/Kow	= 2.3	Log Pow Database, Pomona College, 1993. [IUCALID 2000]

## ii. Hazardous Properties

Hazard Classification	Supporting Data
2.1.1A Flammable Gas	R-Phrases: (12) Extremely flammable Flammable Limits: LOWER 2.1, UPPER 9.5% BY VOL IN AIR [Peer Reviewed] [National Fire Protection Association. Fire Protection Guide on Hazardous Materials. 9th ed. Boston, MA: National Fire Protection Association, 1986.,p. 325M-81] UN 1978, Class 2.1 Flash Point: -156 deg F (Closed cup) [Peer Reviewed] [U.S. Coast Guard, Department of Transportation. CHRIS - Hazardous Chemical Data. Volume II. Washington, D.C.: U.S. Government Printing Office, 1984-5.] [HSDB]

## c. Butane

### i. Chemical and Physical Properties

Property	Value	Source
Water Solubility	61.4 mg/l at 25 degree C	Huels AG Marl Beratergremium fuer umweltrelevante Altstoffe (BUA): Fluessiggas (Propan, Butan, Isobutan und Gemische), BUA Stoffbericht 144, S. Hirzel Wissenschaftliche Verlagsgesellschaft, Stuttgart 1994 [IUCLID 2000]
Boiling Point	0.50 DEG C	The Merck Index. 10th ed. Rahway, New Jersey: Merck Co., Inc., 1983. 210
Melting Point	-138 degree C	Huels AG Marl Beratergremium fuer umweltrelevante Altstoffe (BUA): Fluessiggas (Propan, Butan, Isobutan und Gemische), BUA Stoffbericht 144, S. Hirzel Wissenschaftliche Verlagsgesellschaft, Stuttgart 1994 [IUCLID 2000]
Vapour Pressure	760 mm Hg at 25 deg C.	Weast, R.C. (ed.) Handbook of Chemistry and Physics. 69th ed. Boca Raton, FL: CRC Press Inc., 1988-1989.,p. D-199 [HSDB]
Henry's Law Constant	9.47X10 <sup>-1</sup> atm-cu m/mole at 25 deg C	Lyman WJ et al; Handbook of Chemical Property Estimation Methods NY: McGraw-Hill p. 4-9, 5-4, 10, 7-4 (1982) (2) Swann RL et al; Res Rev 85: 16-28 (1983) (3) USEPA; EXAMS II Computer Simulation (1987) [HSDB]

Log Pow/Kow	= 2.89	Yalkowsky SH et al; Arizona Data Base of Water Solubility (1987) Hansch C, Leo AJ; Medchem Project Issue No 26. Clarmont CA: Pomona College (1985) Lyman WJ et al; Handbook of Chemical Property Estimation Methods NY: McGraw-Hill pp. 5-4, 5-10 (1982) [HSDB]
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## ii. Hazardous Properties

Hazard Classification	Supporting Data
2.1.1A Flammable Gas	Classification: as in Directive 67/548/EEC Class of danger: extremely flammable R- Phrases: (12) Extremely flammable [IUCRID 2000]
	UN 1011, Class 2.1
	Flammable Limits: LOWER: 1.6%; UPPER: 8.4% (% BY VOLUME) [National Fire Protection Association. Fire Protection Guide on Hazardous Materials. 9th ed. Boston, MA: National Fire Protection Association, 1986.,p. 325M-19]

## 3.3 Identification of the controls on the substances

### A. LPG – Default Controls

#### Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001

Code F1	Reg 7	General test certification requirements for hazardous substance locations
Code F2*	Reg 8	Restrictions on the carriage of flammable substances on passenger service vehicles
Code F3	Reg 55	General limits on flammable substances
Code F4*	Reg 56	Approved handler/security requirements for certain flammable substances
Code F5	Regs 58, 59	Requirements regarding hazardous atmosphere zones for class 2.1.1, 2.1.2 and 3.1 substances
Code F6*	Regs 60 – 70	Requirements to prevent unintended ignition of class 2.1.1, 2.1.2 and 3.1 substances
Code F11	Reg 76	Segregation of incompatible substances
Code F12*	Regs 77	Requirement to establish a hazardous substance locations if flammable substances are present
Code F14*	Reg 81	Test certification requirements for facilities where class 2.1.1, 2.1.2 or 3.1 substances are present
Code F16	Reg 83	Controls on transit depots where flammable substances are

present

**Hazardous Substances (Disposal) Regulations 2001**

Code D2	Reg 6	Disposal requirements for flammable substances
Code D6	Reg 10	Disposal requirements for packages
Code D7	Regs 11, 12	Information requirements for manufacturers, importers and suppliers, and persons in charge
Code D8	Regs 13, 14	Documentation requirements for manufacturers, importers and suppliers, and persons in charge

**Hazardous Substances (Personnel Qualifications) Regulations 2001**

Code AH1*	Regs 4 – 6	Approved Handler requirements (including test certificate and qualification requirements)
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**Hazardous Substances (Emergency Management) Regulations 2001**

Code EM1	Regs 6, 7, 9 – 11	Level 1 information requirements for suppliers and persons in charge
Code EM8	Regs 12-16, 18-20	Level 2 information requirements for suppliers and persons in charge
Code EM9	Reg 17	Additional information requirements for flammable and oxidising substances and organic peroxides
Code EM10	Regs 21 – 24	Fire extinguisher requirements
Code EM11	Regs 25 – 34	Level 3 emergency management requirements: duties of person in charge, emergency response plans
Code EM13	Reg 42	Level 3 emergency management requirements: signage

**Hazardous Substances (Identification) Regulations 2001**

Code I1	Regs 6, 7, 32–35, 36(1) – (7)	Identification requirements, duties of persons in charge, accessibility, comprehensibility, clarity and durability
Code I5	Reg 11	Priority identifiers for flammable substances
Code I9	Reg 18	Secondary identifiers for all hazardous substances
Code I13	Reg 22	Secondary identifiers for flammable substances
Code I19	Regs 29 – 31	Additional information requirements, including situations where substances are in multiple packaging
Code I21	Regs 37-39, 47-50	General documentation requirements
Code I25	Reg 43	Specific documentation requirements for flammable substances
Code I29	Regs 51, 52	Signage requirements

**Hazardous Substances (Compressed Gases) Regulations 2004**

Code CG		The Hazardous Substance (Compressed Gases) Regulations 2004 prescribe a number of controls relating to compressed gases including aerosols and gas cylinders.
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**Hazardous Substances (Tank Wagon and Transportable Containers) Regulations 2004**

### Controls Relating to the adverse effects of unintended ignition

Code Schedule 10 Schedule 10 of Gazette Notice Issue 35 - Hazardous  
GN35A Substances (Dangerous Goods and Scheduled Toxic  
Substances) Transfer Notice 2004 prescribes additional  
requirements relating to controlling the adverse effects of  
unintended ignition of class 2 and 3.1 flammable substances

## Current Modifications to Default Controls for LPG

### Code F2 Regulation 8 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001

This regulation applies to liquefied petroleum gas as if subclause (2) was replaced by:

- (2) A person must not carry or convey liquefied petroleum gas on any passenger service vehicle unless the quantity of liquefied petroleum gas is less than or equal to 20 kg.
- (3) A person in charge of a passenger service vehicle used to carry or convey liquefied petroleum gas must ensure that—
  - (a) no more than 20 kg of liquefied petroleum gas is carried or conveyed on the vehicle at any one time; and
  - (b) the liquefied petroleum gas is in 1 or more containers that are stowed in a separate compartment on the vehicle that complies with subclause (4); and
  - (c) no other hazardous substance is stored in the compartment with the liquefied petroleum gas; and
  - (d) the compartment is labelled with a ‘Class 2 - Flammable Gas’ diamond.
- (4) A compartment that is used to convey liquefied petroleum gas must be—
  - (a) adequately ventilated; and
  - (b) able to be accessed only from outside the vehicle; and
  - (c) made of fire-resistant material; and
  - (d) situated in the vehicle so as to provide maximum protection for the liquefied petroleum gas container in the event of an accident.

### Code F4/AH1 Regulation 56 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001

This regulation applies to liquefied petroleum gas at refuelling outlets as if the item in table 2 of Schedule 3 of the regulations relating to classification 2.1.1.A was replaced by:

2.1.1.A any amount

This regulation applies to liquefied petroleum gas at refuelling outlets as if, in regulation 56(1), the words “subject to subclauses (2), (3), and (4)” were inserted before the words “Class 2, 3, or 4”.

*Explanation: Subject to clauses (2), (3) and (4) below, any amount of liquefied petroleum gas at refuelling outlets needs to be under the personal control of an approved handler or be secured as specified in Regulation 56(1)(b).*

The regulations apply to liquefied petroleum gas at refuelling outlets as if regulation 56(2) was replaced by:

- (2) Liquefied petroleum gas at a refuelling outlet may be handled by a person who is not an approved handler if—
  - (a) the person has been trained in the hazards associated with the substance and its safe use and handling, including steps to be taken in the event of spillage or other emergency;

and

- (b) an approved handler is available to provide assistance, if necessary, to the person at all times while the substance is being handled by the person.
- (3) A person who is not an approved handler may self service refuel a vehicle with liquefied petroleum gas at a refuelling outlet if—
  - (a) the dispensing nozzle of the liquefied petroleum gas stationary container system cannot be operated until it is connected to the vehicle filling point; and
  - (b) the dispensing nozzle cannot be disconnected from the vehicle filling point unless the fill trigger is in the off position; and
  - (c) **the liquefied petroleum gas stationary container system is fitted with an emergency shutdown system that complies with section 9.5.14 of AS/NZS 1596; and**
  - (d) the dispensing unit is clearly identified as such and displays a clear set of filling instructions; and
  - (e) the dispensing hose of the dispensing unit has a self-sealing hose break coupling that complies with section 9.3.3 of AS/NZS 1596; and
  - (f) an approved handler is available to provide assistance, if necessary, to the person at all times while the substance is being handled by the person.
- (4) For the purposes of subclause (3)(c), a system that was installed prior to 1 July 1999 complies with paragraph (a) of section 9.5.14 of AS/NZS 1596 if it can be remotely activated.

**Code F6 Regulation 61 of the Hazardous Substances (Classes 1 to 5 Controls)  
Regulations 2001**

Subclauses (3), (4), and (5) of this regulation [relating to the control of ignition sources] do not apply to a vehicle at the dispensing unit of a refuelling outlet if, when fuel is being delivered to the fuel tank of the vehicle—

- (a) the engine of the vehicle is turned off; and
- (b) **no source of ignition is brought within 3 metres of the fuel tank of the vehicle.**

**Code F12 Regulation 77 of the Hazardous Substances (Classes 1 to 5 Controls)  
Regulations 2001**

This regulation applies to liquefied petroleum gas as if in subclause (2), the words “at least 30 working days” were replaced by “at least 5 working days”.

**Code F14 Regulation 81 of the Hazardous Substances (Classes 1 to 5 Controls)  
Regulations 2001**

This regulation applies to this substance as if, at the end of paragraph (g), the expression “.” was replaced by “; and

- (h) the requirements of Schedule 10 (controls relating to the adverse effects of unintended ignition of class 2 and class 3.1 hazardous substances) of the Hazardous Substances (Dangerous Goods and Scheduled Toxic Substances) Transfer Notice 2004 are complied with.”

## **B. PROPANE – Default Controls**

### **Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001**

Code F1	Reg 7	General test certification requirements for hazardous substance locations
Code F2	Reg 8	Restrictions on the carriage of flammable substances on passenger service vehicles
Code F3	Reg 55	General limits on flammable substances
Code F4	Reg 56	Approved handler/security requirements for certain flammable substances
Code F5	Regs 58, 59	Requirements regarding hazardous atmosphere zones for class 2.1.1, 2.1.2 and 3.1 substances
Code F6	Regs 60 – 70	Requirements to prevent unintended ignition of class 2.1.1, 2.1.2 and 3.1 substances
Code F11	Reg 76	Segregation of incompatible substances
Code F12	Regs 77	Requirement to establish a hazardous substance locations if flammable substances are present
Code F14*	Reg 81	Test certification requirements for facilities where class 2.1.1, 2.1.2 or 3.1 substances are present
Code F16	Reg 83	Controls on transit depots where flammable substances are present

### **Hazardous Substances (Disposal) Regulations 2001**

Code D2	Reg 6	Disposal requirements for flammable substances
Code D6	Reg 10	Disposal requirements for packages
Code D7	Regs 11, 12	Information requirements for manufacturers, importers and suppliers, and persons in charge
Code D8	Regs 13, 14	Documentation requirements for manufacturers, importers and suppliers, and persons in charge

### **Hazardous Substances (Personnel Qualifications) Regulations 2001**

Code AH1	Regs 4 – 6	Approved Handler requirements (including test certificate and qualification requirements)
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### **Hazardous Substances (Emergency Management) Regulations 2001**

Code EM1	Regs 6, 7, 9 – 11	Level 1 information requirements for suppliers and persons in charge
Code EM8	Regs 12-16, 18-20	Level 2 information requirements for suppliers and persons in charge
Code EM9	Reg 17	Additional information requirements for flammable and oxidising substances and organic peroxides
Code EM10	Regs 21 – 24	Fire extinguisher requirements
Code EM11	Regs 25 – 34	Level 3 emergency management requirements: duties of person in charge, emergency response plans
Code EM13	Reg 42	Level 3 emergency management requirements: signage

### **Hazardous Substances (Identification) Regulations 2001**

Code I1	Regs 6, 7, 32–35, 36(1) – (7)	Identification requirements, duties of persons in charge, accessibility, comprehensibility, clarity and durability
Code I5	Reg 11	Priority identifiers for flammable substances
Code I9	Reg 18	Secondary identifiers for all hazardous substances
Code I13	Reg 22	Secondary identifiers for flammable substances
Code I19	Regs 29 – 31	Additional information requirements, including situations where substances are in multiple packaging
Code I21	Regs 37-39, 47-50	General documentation requirements
Code I25	Reg 43	Specific documentation requirements for flammable substances
Code I29	Regs 51, 52	Signage requirements

### **Hazardous Substances (Compressed Gases) Regulations 2004**

Code CG	The Hazardous Substance (Compressed Gases) Regulations 2004 prescribe a number of controls relating to compressed gases including aerosols and gas cylinders.
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### **Hazardous Substances (Tank Wagon and Transportable Containers) Regulations 2004**

#### **Controls Relating to the adverse effects of unintended ignition**

Code GN35A	Schedule 10	Schedule 10 of Gazette Notice Issue 35 - Hazardous Substances (Dangerous Goods and Scheduled Toxic Substances) Transfer Notice 2004 prescribes additional requirements relating to controlling the adverse effects of unintended ignition of class 2 and 3.1 flammable substances
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## Current Modifications to Default Controls for Propane

<b>Code F14</b>	<b>Regulation 81 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001</b> This regulation applies to this substance as if, at the end of paragraph (g), the expression “.” was replaced by “; and (h) the requirements of Schedule 10 (controls relating to the adverse effects of unintended ignition of class 2 and class 3.1 hazardous substances) of the Hazardous Substances (Dangerous Goods and Scheduled Toxic Substances) Transfer Notice 2004 are complied with.”
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## C BUTANE – Default Controls

### **Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001**

Code F1	Reg 7	General test certification requirements for hazardous substance locations
Code F2	Reg 8	Restrictions on the carriage of flammable substances on passenger service vehicles
Code F3	Reg 55	General limits on flammable substances
Code F4	Reg 56	Approved handler/security requirements for certain flammable substances
Code F5	Regs 58, 59	Requirements regarding hazardous atmosphere zones for class 2.1.1, 2.1.2 and 3.1 substances
Code F6	Regs 60 – 70	Requirements to prevent unintended ignition of class 2.1.1, 2.1.2 and 3.1 substances
Code F11	Reg 76	Segregation of incompatible substances
Code F12	Regs 77	Requirement to establish a hazardous substance locations if flammable substances are present
Code F14*	Reg 81	Test certification requirements for facilities where class 2.1.1, 2.1.2 or 3.1 substances are present
Code F16	Reg 83	Controls on transit depots where flammable substances are present

### **Hazardous Substances (Disposal) Regulations 2001**

Code D2	Reg 6	Disposal requirements for flammable substances
Code D6	Reg 10	Disposal requirements for packages
Code D7	Regs 11, 12	Information requirements for manufacturers, importers and suppliers, and persons in charge
Code D8	Regs 13, 14	Documentation requirements for manufacturers, importers and suppliers, and persons in charge

### **Hazardous Substances (Personnel Qualifications) Regulations 2001**

Code AH1	Regs 4 – 6	Approved Handler requirements (including test certificate and qualification requirements)
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### **Hazardous Substances (Emergency Management) Regulations 2001**

Code EM1	Regs 6, 7, 9 – 11	Level 1 information requirements for suppliers and persons in charge
Code EM8	Regs 12-16, 18-20	Level 2 information requirements for suppliers and persons in charge
Code EM9	Reg 17	Additional information requirements for flammable and oxidising substances and organic peroxides
Code EM10	Regs 21 – 24	Fire extinguisher requirements
Code EM11	Regs 25 – 34	Level 3 emergency management requirements: duties of person in charge, emergency response plans
Code EM13	Reg 42	Level 3 emergency management requirements: signage

### **Hazardous Substances (Identification) Regulations 2001**

Code I1	Regs 6, 7, 32–35, 36(1) – (7)	Identification requirements, duties of persons in charge, accessibility, comprehensibility, clarity and durability
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Code I25	Reg 43	Specific documentation requirements for flammable substances
Code I29	Regs 51, 52	Signage requirements

### **Hazardous Substances (Compressed Gases) Regulations 2004**

Code CG	The Hazardous Substance (Compressed Gases) Regulations 2004 prescribe a number of controls relating to compressed gases including aerosols and gas cylinders.
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### **Hazardous Substances (Tank Wagon and Transportable Containers) Regulations 2004**

#### **Controls Relating to the adverse effects of unintended ignition**

Code GN35A	Schedule 10	Schedule 10 of Gazette Notice Issue 35 - Hazardous Substances (Dangerous Goods and Scheduled Toxic Substances) Transfer Notice 2004 prescribes additional requirements relating to controlling the adverse effects of unintended ignition of class 2 and 3.1 flammable substances
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### Current Modifications to Default Controls for Butane

<b>Code F14</b>	<b>Regulation 81 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001</b>
	This regulation applies to this substance as if, at the end of paragraph (g), the expression “.” was replaced by “; and (h) the requirements of Schedule 10 (controls relating to the adverse effects of unintended ignition of class 2 and class 3.1 hazardous substances) of the Hazardous Substances (Dangerous Goods and Scheduled Toxic Substances) Transfer Notice 2004 are complied with.”

### 3.4 The proposal to modify the approval of the substances

- a) The Association proposes that the location certificate trigger limit be increased from 100kg to 300kg. The Association believes that the report by MWH, dated December 2005 (Appendix 1), includes significant new information about the risks of LPG storage and that this information should be considered when assessing the appropriateness of the existing location test certificate limit and signage requirements for these substances.
- b) The Association proposes that the default requirement of spray cages over all tankers carrying LPG which are parked for longer than 1 hour be removed and replaced by a risk assessment using section 12 of AS/NZS 1596 for each storage premises. The Association commissioned a risk assessment of tanker parking (Appendix 2) and believes this information constitutes significant new information which should be considered when assessing the appropriateness of existing controls on tankers carrying LPG.
- c) The Association proposes that the separation distances for cylinder and tank storage of LPG from AS/NZS 1596 replace those in the current gazette notices. AS/NZS has recently been reviewed and represents world practice. The Association believes that the revised AS/NZS 1596 contains significant new information that should be considered when assessing the appropriateness of existing separation distances for cylinder and tank storage of LPG as well as other matter of LPG management. A comparison of the different requirements between the revised AS/NZ 1596 and the existing HSNO controls is provided in Appendix 3.
- d) Regulation 21 of the Hazardous Substances (Emergency Management) Regulations deals with the provision of fire extinguishers. When first published in 2001 this regulation was limited to places of work. In 2003 an amendment removed this limitation and now any place, including a domestic property, has to have a fire extinguisher of a particularly standard where more than 50 kgs of LPG is held.

This change was not canvassed with the industry and the Association are of the opinion that the amendment was not justified at the time it was made. In addition, the Association consider that the original concept, that the need for a fire extinguisher should be confined to the workplace, is adequate.

The Association believes that grounds exist to exempt domestic LPG facilities from this control based on significant new information about the size of domestic LPG installations, an examination of incident data, consideration of the risk posed to a domestic user tackling an LPG fire and the burden of cost to the domestic consumer. The number of domestic installations has grown dramatically over the last 10 years. We now estimate there are over 65,000 domestic consumers supplied from twin 45 kg cylinders. We believe this should also be considered a significant change in use for the purposes of

establishing grounds. Under the control, all of these domestic installations should have a fire extinguisher close to the LPG cylinders. The Control is unenforceable as the vast majority are under the current 100kg trigger for a location certificate and are therefore not checked for compliance with this control, the existence of which is completely unknown to the consumer. To the knowledge of this Association and from the records of accidents held by Energy Safety there has been no incidents relating to fire on or around twin 45kg installations, so there is no incident information to support this new control.

Furthermore the cost of a fire extinguisher would be in the order of \$30 for a 2kg dry powder option. Whilst it may be a good idea to encourage householders to have a fire extinguisher in the kitchen, we believe it is unfair to insist they have one just because they have more than 50kg of LPG on their site. This insistence can act as a deterrent to choosing LPG both on financial and safety concerns grounds. Safety advice to consumers regarding fires involving LPG cylinders is quite clear; they should try and turn off the LPG supply if an LPG leak is involved and if this is a practical and safe option, or just simply call the Fire Service. They are not advised to fight the fire.

- e) Under HSNO Gazette Notice 35 Schedule 8 Clause 55 (4) the separation distance for vaporisers has to be based on the aggregate capacity of the vaporisers. The revised edition of AS/NZS 1596 states that aggregation is not required and each vaporiser has to comply with the relevant separation distances based on their individual capacity. In addition the Association has produced a report on Multiple Direct Fired Vaporiser Installations (Appendix 4). The Association believes that the information provided by the revision of AS/NZ 1596 and the report is significant new information that should be considered as grounds for reassessing the aggregation requirements.
- f) The Association proposes that the current requirement for a Stationary Container Certificate be revisited and the only requirements not already covered by the PECPR Regulations (fire fighting equipment and separation distances for vaporisers and dispensers) be transferred to the Location Certification requirements. While there is no new significant information relating to the effects of this substance which would influence the requirement for a Stationary Container Certificate, the Association believes that experience applying the stationary container system rules has identified that very little inspection work has to be done and therefore the proposed modification will not increase the risks of the substance and would lead to more cost effective management of the substance (by removing the requirement for a separate Stationary Container Certificate) and this increased cost-effectiveness should be considered as grounds to reassess the requirement.

### **3.5 Commercial sensitivity**

Not applicable.

## **SECTION FOUR: RISKS, COSTS AND BENEFITS**

### **4.1 Identification of all the effects associated with the reassessment proposal (section 63A(6)(a))**

The effects of unintended release of LPG are well understood and controlled by Regulations, Standards and codes of practice. The release and unintended ignition of LPG results in fire and explosion.

### **4.2 Assessment of the risks associated with the reassessment proposal**

#### **Location test certification threshold.**

The risks of increasing the threshold are that those issues covered by the location certificate will not be adhered to for installations between 100kg and 300kg of LPG storage. These requirements are that the cylinders have to be 2 metres away from an area of high intensity land use (such as a house/building) or have the walls of the building behind the cylinders and to 2 metres either side of the cylinder be fire resistant or have a fire resistant covering and that there is no opening into the building below the top of the cylinder and within 2 metres of any cylinder.

To manage this risk the Association is preparing two proposals: a multi-cylinder code of practice for cylinder installations of more than 2 X 45kg cylinders, for use by gasfitters and the LPG Industry and a compliance/check sheet for installations up to 300kg.

The Multi cylinder COP will cover all aspects of the installation and location of multi cylinder installations. This code which will include the relevant HSNO requirements will be issued free of charge to the gasfitting industry as well as LPG suppliers. Compliance with this code will ensure continued compliance with HSNO requirements.

To further reinforce compliance the Association is preparing a compliance check sheet for use by delivery drivers/LPG company personnel. The check sheet will cover all aspects of HSNO compliance. To cover existing installations and for ongoing compliance LPG delivery drivers will be issued with simple check sheets for checking HSNO compliance for separation distances and openings into buildings as well as hazardous area separation and requirements in AS/NZS 1596.

A modified version of the check sheet will be used for new installations which will include a sign off of compliance by a representative of the LPG supply company. A copy will be kept with the LPG supplier.

The Association believes that the use of these two initiatives will ensure that all new and existing installations are compliant not only with HSNO requirements, but also hazardous area compliance and best practice under AS/NZS 1596.

This application also includes a risk assessment of LPG cylinder operations in NZ. The report concludes that the risk associated with these operations are extremely low and in fact the largest area of risk is the delivery of the cylinders rather than the location of the cylinders.

### **Tank wagon parking**

The essence of our proposal on this issue is to replace a blanket requirement for spray cages over all parked tank wagons with a risk assessment for each site. This is the risk based approach which takes account of all risk parameters. The Association proposes that an agreed risk assessment pro forma be developed with ERMA to ensure the process is thorough.

### **Separation distances for cylinder and tank storage**

Our proposal is that where there are differences between the separation distances between the HSNO Regulations and AS/NZS 1596, that the requirements of the Standard be adopted. This recognises the international best practice approach of the joint Standard rather than the set in concrete historical separation distances carried over from the Dangerous Goods Regulations, which have now been married to new concepts introduced by HSNO such as areas of high/low intensity land use.

We believe the adoption of the AS/NZS 1596 separation distances will result in no increase in risk. They have been used for a considerable time in Australia and are derived from international Standards.

### **Fire extinguisher requirements**

We believe that this requirement for fire extinguishers for all installations storing 50kg of LPG and above for non work places is unworkable and potentially increases risk for householders. Householders are not trained to use fire extinguishers on LPG fires and could therefore result in increased risk. It is also for the large number of installations between 50kg and 100kg of storage completely unenforceable.

### **Separation distances for vaporisers**

Accepting the Association proposal not to aggregate the throughput rate of vaporisers when deciding on separation distances will not increase the risk. As detailed in the risk assessment (appendix 4) risk will not be increased by taking this approach which is used in AS/NZS 1596.

### **Stationary container certification**

Our proposal to remove the requirement for a separate stationary container certificate and transfer those items not covered by the PECPR certification to the location certificate, will not increase risk, only reduce complexity and cost.

## **4.3 Assessment of the costs associated with the reassessment proposal.**

### **Location test certification threshold**

There will be no extra costs for our proposal.

### **Tank wagon parking**

There will be no extra costs for our proposal.

### **Separation distances for cylinder and tank storage**

There will be no extra costs for our proposal.

### **Fire extinguisher requirements**

There will be no extra costs for our proposal.

### **Separation distances for vaporisers**

There will be no extra costs for our proposal.

### **Stationary container certification.**

There will be no extra costs for our proposal.

## **4.4 Assessment of the benefits associated with the reassessment proposal**

### **Location test certification threshold**

Increasing the threshold to 300kg will result in savings for over 3,700 consumers. At an annual cost for a location certificate of between \$100 and \$400 it will save consumers around \$925,000 using an average cost of \$250 per certificate.

### **Tank wagon parking**

There could be potentially significant reduced costs for the Industry if after a risk assessment it is concluded that a spray cage/s will not be required for particular sites. Currently there are many parking facilities that do not have a spray cage facility and which have been operating for a number of years under the dangerous Goods regime. Introducing a blanket requirement for every site would involve significant costs to the Industry. Moving to a risk assessment for all sites could result in potential savings on those sites that have no need for a spray cage.

### **Separation distances for cylinder and tank storage**

There may be no identifiable cost savings from changing to the separation distances in AS/NZS 1596 but this will add simplicity to the regime. Currently AS/NZS 1596 is used by the Industry for all of the myriad of issues not covered by HSNO and if this were to include separation distances, implementation of the Regulations would be far more straightforward.

### **Fire extinguisher requirements**

If and this is a large if, all domestic consumers who have more than 50kg of LPG stored on their premises were to purchase a fire extinguisher then the costs would be significant and therefore the savings would be significant for removing this requirement.

### **Separation distances for vaporisers**

There can be significant savings for installing two vaporisers if the installation falls within the current requirement of having to increase separation distances for two vaporisers. Currently as this requirement was interpreted differently throughout the country under the DG regime, we have installations which comply with the requirement to aggregate vaporizers rating and many which do not. Potentially to require those installations to be altered to comply would be a significant cost to the industry without any measurable increase in safety.

### **Stationary container certification**

Stationary container certificates costs in the order of \$300 each. If these were withdrawn the savings would be in the order of \$ 300,000 annually.

## **4.5 Assessment of any particular risks, costs and benefits which arise from the relationship of Māori and their culture and traditions with their taonga, or which are, for other reasons, of particular relevance to Māori**

The Association does not believe there are any particular risks, costs or benefits arising in relation to Maori and their culture and traditions.

## **SECTION FIVE – INTERNATIONAL CONSIDERATIONS**

### **5.1 The best international practices and standards for the safe management of the substance (section 63A(6)(b))**

#### **Location test certification threshold**

There is only one jurisdiction in the world that requires licensing for LPG installations for quantities remotely approaching our 100kg threshold. Only South Australia which requires installations over 250kg be certified with a one off fee, come anywhere close. All other Australian States are around 750 kg or have no requirements. The US and the UK do not require any form of certification until tones of LPG are involved.

#### **Tank wagon parking**

No other jurisdiction requires a blanket requirement for spray cages over parked tank wagons. All require a risk assessment approach.

#### **Separation distances for cylinder and tank storage**

The separation distances in AS/NZS 1596 are used throughout Australia and are based on international Standards and have been refined over many years in conjunction with Australian Regulators.

#### **Fire extinguisher requirements**

We are not aware of any other jurisdiction requiring this for domestic installations.

#### **Separation distances for vaporisers**

We are requesting that the requirements of AS/NZS 1596 be used for this issue.

#### **Stationary container certification**

We are not aware of any other jurisdiction requiring this type of certification for stationary containers.

### **5.2 International obligations and treaties**

The Association is not aware of any specific international obligations or treaties associated with these substances.

## **SECTION SIX – MISCELLANEOUS**

- 6.1 A glossary of scientific and technical terms used in the application**
  
- 6.2 Other information considered relevant to this application not already included**

### **See attached appendices:**

- MWH risk assessment for 45kg cylinder operations.
- LPG Safety Consultants risk assessment for parked LPG road tankers.
- Comparison of separations distances between AS/NZS596 and the HSNO requirements.
- LPG Safety Consultants risk assessment for LPG vaporisers.

## **SECTION SEVEN – SUMMARY OF PUBLIC INFORMATION**

### **7.1 Name of the substance for the public register**

LPG (liquified petroleum gas)

Propane

Butane

### **7.2 Purpose of the application for the public register**

To reassess certain aspects of the approvals for LPG, Propane and Butane.

### **7.3 Executive summary**

The LPG Association of NZ Inc (“the Association”) is applying for the modified reassessment of LPG, Propane and Butane.

The Association seeks the following:

- (a) to increase location test certification thresholds from 100 kg to 300 kg;
- (b) to remove the requirement for spray cages over all tank wagons containing LPG that are parked for longer than 1 hour;
- (c) to replace the existing separation distances for cylinder and tank storage with those stated in AS/NZ 1596;
- (d) to remove the fire extinguisher requirements for the storage of > 50 kg of LPG in domestic settings;
- (e) to remove the aggregation requirement for separation distances for vaporisers; and
- (f) to remove the stationary container certification requirements for LPG and transfer any requirements not covered by PECPR Regulations to the location certification requirements.

Based on their risk assessment, the Association believes that these modifications will not significantly increase the risks associated with the approval of the substances and will provide a number of significant benefits. The Association also notes that many of the suggested modifications are in line with international best practice.