AS 1596 — 1979
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Australian Standard 1596–1979

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STANDARDS ASSOCIATION OF AUSTRALIA
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THE FOLLOWING GOVERNMENT DEPARTMENTS AND SCIENTIFIC AND INDUSTRIAL organizations were officially represented on the committee entrusted with the preparation of this standard:

Australian Liquefied Petroleum Gas Association

Board of Fire Commissioners of N.S.W.

Confederation of Australian Industry

Department of Industrial Relations and Technology, N.S.W.

Departments of Labour and Industry

Department of Mineral Resources and Development, N.S.W.

Department of Minerals and Energy, Victoria

Gas and Fuel Corporation of Victoria

Insurance Council of Australia

Maritime Services Board of N.S.W.

Metropolitan Fire Brigade Board, Melbourne

Mines Departments.

This standard, prepared by Committee ME/15, Storage and Handling of Liquefied Petroleum Gases, was approved by the Mechanical Engineering Industry Standards Committee on behalf of the Council of the Standards Association of Australia on 20 September 1979, and was published on 1 November 1979.

Amendment No 1
January 1981

STANDARDS ASSOCIATION OF AUSTRALIA

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AMENDMENT No 1
to
AS 1596—1979
SAA LP GAS CODE

SUMMARY: The following section of this standard is covered by this amendment: (New Clause 11.6.3.

Published on 1 February 1981.

Page 37. Clause 11.6.

AMDT No 1 JAN. 1981

Add a new clause as follows:

11.6.3 Dispensing Nozzle. The dispensing nozzle shall be fitted with a quick-acting shut-off valve and a safety catch, to prevent inadvertent or accidental discharge of gas.

If the design of the nozzle is such that more than 15 mL of entrapped liquid is released when the nozzle is disconnected, a vent valve with suitable tubing attached shall be fitted, so as to ensure that the liquid is not released within the container compartment.

AUSTRALIAN STANDARD

RULES FOR THE STORAGE AND HANDLING OF LIQUEFIED PETROLEUM GASES

known as the

SAA LP GAS CODE

AS 1596—1979

First published (as AS CB20) 1965
Revised and issued as AS 1596 1973
Revised 1979

PUBLISHED BY THE STANDARDS ASSOCIATION OF AUSTRALIA
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PREFACE

This standard was prepared by the Association's Committee on the Storage and Handling of Liquefied Petroleum Gases, as the most recent in a series of revisions or amendments made since the original AS CB20 was first published in 1965.

The standard was translated to metric units to become AS 1596 in 1973, but that exercise included no more than a minor degree of updating; there was no attempt at a complete revision of text. Amendment proposals subsequently began to accumulate, to such an extent that it quickly became apparent that a comprehensive review was necessary. Since this would require time if it were to be sufficiently thorough, it was decided to publish an interim revision to incorporate those adjustments which could not be delayed. Thus this is not a general revision; much of the standard has not been reviewed in any way. The alterations of significance are as follows:

- Section 6 has been rewritten, and those requirements for tankers which relate to design and construction have been removed, being now covered in AS 2090. The operating of tankers, i.e. handling, filling, etc remain with this standard, and while in places they have been re-paragraphed or adjusted for clarity, technical changes are few.
- A substantial proportion of the references to other standards were out-of-date and have been corrected.
- Cylinder surface coatings have been transferred from Section 9 to the relevant cylinder manufacturing specification, and this standard now deals only with how to use each type of surface coating.
- A distance from naked flame has been added for cylinder separation distances (Table 9.4.1).
- The use of mobile space heaters in industrial buildings has been clarified.

This standard requires reference to the following Australian standards, and a number of American (ANSI, API and AWWA) and British standards, as indicated in the text.

AS 1020 SAA Stationary Electricity Code
AS 1074 Steel Tubes and Tubulars Threaded or Suitable for Threading with Pipe Threads of Whitworth Form
AS 1135 SAA Non-Ferrous Pressure Piping Code
AS 1200 SAA Boiler Code
AS 1210 SAA Unfired Pressure Vessels Code
AS 1216 Code of Practice for Safe Handling of Dangerous Goods
Part 1 — Classification and Class Labels for Dangerous Goods
AS 1345 Rules for the Indentification of Piping, Conduits and Ducts
AS 1425 SAA Code for the Use of LP Gas in Internal Combustion Engines
AS 1530 Methods for Fire Tests on Building Materials and Structures
AS 1572 Seamless Copper and Copper Alloy Tubes for General Engineering Purposes
AS 1627 Code of Practice for Preparation and Pretreatment of Metal Surfaces Prior to Protective Coating
Part 4—Abrasive Blast Cleaning of Steel Surfaces
Part 5—Pickling Steel Surfaces
AS 1657 SAA Code for Fixed Platforms, Walkways, Stairways and Ladders
AS 1674 SAA Cutting and Welding Safety Code
AS 1678 Emergency Procedure Guides—Transport
AS 1722 Pipe Threads of Whitworth Form
Part 1—Sealing Pipe Threads
AS 1768 Manual on Lightning Protection
AS 1835 Seamless Steel Tubes for Pressure Purposes
AS 1836 Welded Steel Tubes for Pressure Purposes
AS 1843 Foam (Chemical) Type Portable Fire Extinguishers
AS 1844 Foam (Gas container) Type Portable Fire Extinguishers
AS 1845 Foam (Stored pressure) Type Portable Fire Extinguishers
AS 1846 Dry Chemical Type Portable Fire Extinguishers
AS 1851 Rules for the Maintenance of Fire Protection Equipment
Part 1—Fire Extinguishers
AS 1940 SAA Flammable and Combustible Liquids Code
AS 2030 SAA Gas Cylinders Code
AS 2044 Coal-tar Enamel for Steel Pipes
AS 2090 Uninsulated Road Tankers for Compressed Liquefiable Gases
Part 1—General Requirements
Part 2—Tankers for Flammable Gases
AS 2129 Flanges and Bolting for Pipes, Valves and Fittings
AS 3000 SAA Wiring Rules
AS B281 Safety Devices for Gas Cylinders
AS CB15 SAA Pipe Welding Code
AS CB18 SAA Pressure Piping Code
Part 1—Ferrous Piping
AS E38 Portable Warning Signs for Motor Vehicles
AS K185 Colours for Specific Purposes

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard Rules for the STORAGE AND HANDLING OF LIQUEFIED PETROLEUM GASES

SECTION 1. SCOPE AND GENERAL

1.1 SCOPE. These Rules (hereinafter referred to as 'this Code') apply to the design, construction, and location of installations for the storage of liquefied petroleum gas (hereafter referred to as 'LP Gas'), and to the conveyance of LP Gas by road and rail tankers. They provide for the storage of the finished product in the refinery storage area, and thereafter for the conveyance by road and rail tankers, and distribution and storage of this product in bulk and in cylinders. Refrigerated* storage of LP Gas and storage in disposable containers, prestressed concrete containers or underground caverns, are not within the scope of this Code.

Notwithstanding the provisions of this Code, the requirements of relevant Statutory Authorities shall, in all cases, be fully observed.

NOTE: For refinery storage areas, the Statutory Authority may approve the API Code 2510 or the IP Code Part 9 or other codes.

1.2 NEW DESIGN AND MATERIAL. Any design which contemplates departures from ordinary practices or the employment of any new or unusual methods of construction or the use of any new material, shall clearly indicate such fact. If it is desired to use materials other than those specified herein or methods of construction and processes not in conformity with this Code, details shall be submitted to the SAA Committee on Storage and Handling of LP Gases, for determination as to their suitability.

1.3 DEFINITIONS. For the purpose of this Code the following definitions apply:

1.3.1 Approved or approval—approved by or approval of the Statutory Authority.

1.3.2 Authorized person—a person specifically appointed by an LP Gas distributor to perform the duties of that position.

1.3.3 Non-return valve—a valve which permits flow in one direction only.

1.3.4 Combustible liquid—a Class C or a Class D liquid as defined in AS 1940, i.e. one having a flashpoint over 61°C.

1.3.5 Cylinder—a welded or brazed steel vessel, other than a tank, complying with AS 2030 but not exceeding 500 L water capacity and used for the storage and transfer of LP Gas.

1.3.6 Excess flow valve—a valve normally in the open position which closes automatically in the direction of flow for which it is designed, when a pre-determined limit is exceeded, this limit being certified by the manufacturer.

1.3.7 Filling ratio—the ratio of the mass of LP Gas in a tank or cylinder to the mass of water the tank or cylinder will hold at 15°C.

1.3.8 Flammable liquid—a Class A or a Class B liquid as defined in AS 1940, or a Class 1 liquid as defined in AS 1216, Part 1, i.e. one having a flashpoint of 61°C or less.

1.3.9 Gas distributor — a person, persons, or company which receives LP Gas in bulk for distribution to the general public or to agents, who in turn sell the LP Gas to the general public.

1.3.10 Liquefied petroleum gas (LP Gas) — a material which is composed predominantly of any of the following hydrocarbons or mixtures of all or any of them: propane (C_3H_8), propylene (C_3H_6), butanes (C_4H_{10}) or butylenes (C_4H_8).

1.3.11 Low pressure—a pressure not exceeding 7 kPa water gauge.

1.3.12 Protected works.

(i) A building in which any person dwells, or in which persons are accustomed to assemble for purpose of public concourse, public religious worship, public entertainment or amusement, education or discussion or public offices.

(ii) Dock, wharf or timber yard, or that part of a harbour, port or river where it is customary for ships to berth, moor or lie.

(iii) Storages for flammable liquids, or storages for highly combustible materials, excepting buildings used specifically for storage and handling of LP Gas.

(iv) Stores, warehouses and buildings in which persons are employed for the purpose of any trade or business, excepting buildings used specifically for storage and handling of LP Gas.

(v) Any other place which the relevant Statutory Authority deems to be protected works.

1.3.13 Pressure—gauge pressure.

1.3.14 Public place — any place other than private property, open to the public and including a street or road.

* For information on refrigerated storage of LP Gas, reference should be made to API Code 620 (including Appendix R) and to NFPA Standard No 59, LP Gases at Utility Gas Plants, to APO Code 2510 for Refineries, and to IP Code for LP Gas, Part 9.