AS 2885.0—2008
(Incorporating Amendment Nos 1 and 2)

AS 2885.0—2008

Pipelines—Gas and liquid petroleum

Part 0: General requirements

This Australian Standard® was prepared by Committee ME-038, Petroleum Pipelines. It was approved on behalf of the Council of Standards Australia on 15 May 2008.
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The following are represented on Committee ME-038:

- APIA Research and Standards Committee
- Australasian Corrosion Association
- Australian Chamber of Commerce and Industry
- Australian Institute of Petroleum
- Australian Pipeline Industry Association
- Bureau of Steel Manufacturers of Australia
- Department of Consumer and Employment Protection, WA
- Department of Mines and Energy, Qld
- Department of Primary Industry, Fisheries and Mines, NT
- Department of Water and Energy, NSW
- Energy Networks Association
- Energy Safe Victoria
- Gas Association of New Zealand
- Primary Industries and Resources, SA
- Welding Technology Institute of Australia

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Australian Standard®

Pipelines—Gas and liquid petroleum

Part 0: General requirements

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PREFACE

This Standard was prepared by the Australian members of Joint Standards Australia/Standards New Zealand Committee ME-038, Petroleum Pipelines. After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard rather than an Australian/New Zealand Standard. It is the general and unifying Standard for a suite of
A1 | Standards covering high pressure petroleum pipelines. The AS 2885 series comprises the following:

AS	
2885	Pipelines—Gas and liquid petroleum
2885.0	Part 0: General requirements (this Standard)
2885.1	Part 1: Design and construction
2885.2	Part 2: Welding
2885.3	Part 3: Operation and maintenance
2885.4	Part 4: Offshore submarine pipeline systems
A1 |	**'Text deleted'**
A1 | AS/NZS	
2885	Pipelines—Gas and liquid petroleum
2885.5	Part 5: Field pressure testing

This Standard incorporates Amendment No. 1 (September 2012) and Amendment No. 2 (September 2015). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

A1 | Amendment No. 1 corrects the minimum temperature of pipelines within the scope of this Standard, and introduces new requirements for approval required as part of the harmonization process of each part of the Standard. It also recognizes that the Standard (AS 2885) may be used for pipelines designed to transport fluids that are predominantly carbon dioxide.

A2 | Where the amendments to this Standard result in conflict with other Parts of AS 2885 that have an earlier publication date, the requirements of this Part take precedence.

Other Standards play a primary and direct role in achieving the purposes of the ME-038 Committee. The other Standards that are currently published by the Committee are the following:

AS 1518	External extruded high-density-polyethylene coating system for pipes
AS 4822	External field joint coatings for steel pipelines
AS/NZS 3862	External fusion bonded epoxy coating for steel pipes

The need for Part 0, *General requirements* (this Standard) arose in 1995 when AS 2885.2, *Welding*, was issued to supersede Section 7 of AS 2885—1987, and thus became the first separate part of what was formerly a single document. AS 2885.1, *Design and construction*, and AS 2885.3, *Operation and maintenance*, were then issued in 1997.

In the use of these parts it became apparent to Committee ME-038 that the function and clarity of the series would be improved by the preparation of an overarching document to deal with the issues common to all of the parts, and to provide a vehicle for editorial clarity and simplicity.

On this basis Subcommittee ME-038-01 undertook the drafting of Part 0 (this Standard).

As each of the parts of AS 2885 series is revised it will recognize, and be made consistent with, Part 0.

AS 2885.4 defines the application of DNV OS-F101 (*Det Norske Veritas*, *Offshore Standard for submarine pipeline systems*) for design, construction and operation of offshore submarine pipelines within AS 2885. DNV OS-F101 is a complete Standard and, except as defined in AS 2885.4, the requirements of Parts 0, 1, 2, 3 and 5 of AS 2885 do not apply.

The terms 'normative' and 'informative' are used in this Standard to define the application of the appendix to which they apply. A 'normative' appendix is an integral part of a Standard, whereas an 'informative' appendix is only for information and guidance.

Committee ME-038 has considered the need for the AS 2885 series of Standards in the face of increasing worldwide use of international Standards. Appendix B to this Standard is an informative appendix setting out the Committee's reasons to justify the retention of the Australian Standard covering the scope set out herein.

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FOREWORD

The AS 2885 series of Standards (the Standard) establishes requirements for the safe design, construction, inspection, testing, operation and maintenance of a land or a submarine pipeline. These requirements are necessary for the protection of the general public, the operating personnel, and the environment, as well as the protection of the pipeline against accidental damage.

The AS 2885 series of Standards is intended for pipelines constructed from steel pipe used for the transport of gas or liquid petroleum. the Standard also allows, under special circumstances, pipelines constructed from materials other than steel, and for application to fluids other than hydrocarbon fluids.

The Standard provides an authoritative source of important principles and practical guidelines for use by responsible and competent persons or organizations.

The Standard is not to be regarded as being either an instruction manual for untrained persons or a complete detailed design specification. Although certain sections of this Standard contain specific requirements, they do not replace the need for appropriate experience and competent engineering judgement. Fundamental sound engineering principles should be followed using the principles and practical guidelines of the Standard.

It should be noted that it is not practicable to include, or cover, every aspect of pipeline material, design, construction, welding, inspection, testing, corrosion mitigation, operation, and maintenance in this Standard; however, the Standard provides a basis for engineering assessment where detailed requirements appropriate to a specific item may be absent.

Although safety is the basic consideration, other requirements will also control the engineering design of any pipeline, and these must also be considered. Most pipelines to which this Standard applies will be designed, constructed, tested, and operated under some form of licence or regulation. The Standard does not supersede or take precedence over the requirements of any Statute or Regulation.

A pipeline designed to the Standard is to be constructed only from materials that have been qualified. A wide range of nominated Standards is given and compliance with these Standards qualifies the material. Methods for qualifying other materials are also given.

Specific provision is made for highly volatile hydrocarbons that are liquids at pipeline pressure and are designated high vapour pressure liquids (HVPL).

Environmental matters are of importance in the construction and operation of pipelines and must be considered fully in the design stage. In view of the wide range of conditions that occur and the wide variations in available information, specific requirements cannot be incorporated in the Standard. The extent of the investigations that are necessary in a particular location will depend on the amount and reliability of the environmental information already available, and the sensitivity of the location to environmental damage.

The basis of the design is that a pipeline is required to have sufficient strength to withstand all forces to which it will be subjected during construction, testing, and operation. Before a pipeline is placed in operation, it is to be inspected and tested to prove its integrity by tests to verify its pressure strength and leaktightness.

Where changes in the use of a pipeline or changes in land use invalidate the original design, or where deterioration has occurred, the appropriate steps need to be taken to ensure that continued operation is safe, and that the change is managed through a structured and documented process.

The Licensee is responsible for the engineering design, construction, and maintenance of pipeline integrity during operation.

STANDARDS AUSTRALIA

Australian Standard
Pipelines—Gas and liquid petroleum

Part 0: General requirements

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE OF THIS STANDARD (PART 0)

A1 This Part 0 of the AS 2885 series of Standards provides general requirements and guidance on the scope, purpose, application and other aspects of the AS 2885 series of Standards, which is subsequently referred to as 'the Standard'.

AS 2885.4 defines the application of DNV OS-F101 (Det Norske Veritas, *Offshore Standard for submarine pipeline systems*) for design, construction and operation of offshore submarine pipelines within AS 2885. DNV OS-F101 is a complete Standard and, except as defined in AS 2885.4, the requirements of Parts 0, 1, 2, 3 and 5 of AS 2885 do not apply.

1.2 SCOPE OF THE STANDARD

1.2.1 Inclusions

AS 2885 applies to steel pipelines and associated piping and components that are used to transmit single-phase and multi-phase hydrocarbon fluids, such as natural and manufactured gas, liquefied petroleum gas, natural gasoline, crude oil, natural gas liquids and liquid petroleum products.

A1 AS 2885 also provides for pipelines intended to transport fluids that are predominantly carbon dioxide. AS 2885.1 identifies areas that require specific design attention for carbon dioxide.

NOTE: Specific rules for carbon dioxide fluids will be incorporated in a future revision of AS 2885.1 after completion of sufficient research to underwrite those general rules.

Figure 1.1 shows the scope of pipelines covered by AS 2885.

The Standard also applies to modifications to a pipeline constructed to a previous Standard or previous edition of the Standard.

While AS 2885 applies to all pipelines within its scope, its requirements are based on experience and practices for typical high-pressure hydrocarbon transmission pipelines used in Australia. Certain requirements may not be practical for 'unusual' pipelines, such as those that operate at low pressures, and large diameter thick wall pipes. Where the requirements of this Standard are not capable of being implemented or are determined to be unnecessary for pipeline safety, the fundamental principles of the Standard shall be used to develop alternatives that meet the objective of the Standard.

1.2.2 Inclusions—Special circumstances

The use of the Standard in circumstances listed below is not precluded but is not expressly covered by this Standard:

(a) Pipelines which operate at pressures above ASME Class 1500 (25.5 MPa).

(b) Pipelines that are designed and constructed from fibreglass materials, from corrosion resistant alloys or from other materials.

