AS 62282.3.300:2021

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Fuel cell technologies

Part 3.300: Stationary fuel cell power systems — Installation (IEC 62282-3-300:2012 (ED.1.0), MOD)

AS 62282.3.300:2021

This Australian Standard ® was prepared by ME-093, Hydrogen Technologies. It was approved on behalf of the Council of Standards Australia on 09 August 2021.

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Part 3.300: Stationary fuel cell power systems — Installation (IEC 62282-3-300:2012 (ED.1.0), MOD)

First published as AS 62282.3.300:2021.

Preface

This Standard was prepared by the Standards Australia Committee ME-093, Hydrogen Technologies.

The objective of this document is to provide minimum safety requirements for the installation of indoor and outdoor stationary fuel cell power systems in compliance with AS 62282.3.100 and applies to the installation of the following systems —

(a) intended for electrical connection to mains directly or with a readily accessible, manually operable switch or circuit-breaker;

(b) intended for a stand-alone power distribution system;

(c) intended to provide AC or DC power; and

(d) with or without the ability to recover useful heat.

This document is limited to those conditions that may be created by the installation process that can lead to personnel hazards or damage to equipment or property external to the fuel cell power system.

This document does not cover the safety requirements of the stationary fuel cell power system which are covered by AS 62282.3.100.

Additionally, this document does not cover —

(i) Fuel supply and/or fuel storage systems.

(ii) Auxiliary media supply and disposal.

(iii) Switches or circuit-breakers.

(iv) Portable fuel cell power systems.

(v) Propulsion fuel cell power systems.

(vi) APU (auxiliary power units) applications.

This document is an adoption with national modifications, and has been reproduced from, IEC 62282-3-300:2012, *Fuel cell technologies — Part 3-300: Stationary fuel cell power systems — Installation*.

The modifications are additional requirements and are set out in Appendix ZZ, which has been added at the end of the source text.

Appendix ZZ lists the variations to IEC 62282-3-300:2012 for the application of this document in Australia.

As this document has been reproduced from an International document, the following applies:

(A) In the source text “this part of 62282” should read “this document”.

(B) A full point substitutes for a comma when referring to a decimal marker.

Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably. Refer to the online catalogue for information on specific Standards.

The terms “normative” and “informative” are used in Standards to define the application of the appendices or annexes to which they apply. A “normative” appendix or annex is an integral part of a Standard, whereas an “informative” appendix or annex is only for information and guidance.

NOTES

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FUEL CELL TECHNOLOGIES –

Part 3-300: Stationary fuel cell power systems – Installation

FOREWORD

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International Standard IEC 62282-3-300 has been prepared by IEC technical committee 105: Fuel cell technologies.

IEC 62282-3-300 cancels and replaces IEC 62282-3-3, published in 2007, and constitutes a technical revision.

IEC 62282-3-300 includes the following significant technical changes with respect to IEC 62282-3-3:

– addition in the scope to avoid overlapping between IEC 62282-3-100 and IEC 62282-3-300 concerning safety related requirements;
– updating normative references and definitions;
– requirements applicable to the stationary fuel cell removed, so that the target of this standard focuses on "installation risks";

– level of CO reduced for small fuel cell power systems which exhaust directly into a utility shed where they are installed, and where the shed is to ensure safety;
– requirement for using a combustible gas detection system modified;
– reference to the gas valve standard ISO 23551-1 added.

The text of this standard is based on the following documents:

FDIS	Report on voting
105/377/FDIS	105/388/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts of the IEC 62282 series, under the general title *Fuel cell technologies*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

INTRODUCTION

This International Standard covers the installation of stationary fuel cell power systems that are built in compliance with IEC 62282-3-100.

The requirements of this standard are not intended to constrain innovation. Installations employing materials and/or methods differing from those detailed in this standard may be examined and tested according to the intent of the requirements and, if found to be substantially equivalent, may be considered to comply with the standard.

FUEL CELL TECHNOLOGIES –

Part 3-300: Stationary fuel cell power systems – Installation

1 Scope

This part of IEC 62282 provides minimum safety requirements for the installation of indoor and outdoor stationary fuel cell power systems in compliance with IEC 62282-3-100 and applies to the installation of the following systems:

– intended for electrical connection to mains directly or with a readily accessible, manually operable switch or circuit-breaker;
– intended for a stand-alone power distribution system;
– intended to provide AC or DC power;
– with or without the ability to recover useful heat.

This standard is limited to those conditions that may be created by the installation process that can lead to personnel hazards or damage to equipment or property external to the fuel cell power system.

This standard does not cover the safety requirements of the stationary fuel cell power system which are covered by IEC 62282-3-100.

Additionally, this standard does not cover:

– fuel supply and/or fuel storage systems;
– auxiliary media supply and disposal;
– switches or circuit-breakers;
– portable fuel cell power systems;
– propulsion fuel cell power systems;
– APU (auxiliary power units) applications.

A typical stationary fuel cell power system installation is represented in Figure 1.