

Australian Standard™

**Acoustics—Measurement of noise from
helicopter operations**

This Australian Standard was prepared by Committee EV/11, Aircraft and Helicopter Noise. It was approved on behalf of the Council of Standards Australia on 30 September 1999 and published on 5 November 1999.

The following interests are represented on Committee EV/11:

Acoustics consulting interests, New Zealand
AirServices Australia
Association of Australian Acoustical Consultants
Association of Consulting Engineers, Australia
Australasian Faculty of Occupational Medicine
Australian Acoustical Society
Australian Air Transport Association
Australian and New Zealand Environment and Conservation Council
Australian Hearing
Australian Mayoral Aviation Council
Building Industry Authority, New Zealand
Community Advisory Committee on Aircraft Noise & Air Quality Management
Department of Defence, Australia
Helicopter Association of Australia
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Local Government Association of N.S.W.
National Environment Noise Service, New Zealand
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**Acoustics—Measurement of noise from
helicopter operations**

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EV/11, Aircraft and Helicopter Noise to supersede AS 2363—1990 *Acoustics—Assessment of noise from helicopter landing sites*. The Standard is the result of a consensus among representatives on the Joint Committee to produce it as an Australian Standard.

The objective of this Standard is to provide methods for the measurement of noise from existing or proposed helicopter landing sites, and helicopter overflights. It provides technical guidance for local planners, government agencies, and operators in calculating the acoustic environment near existing and proposed helicopter landing sites or routes as a result of helicopter operations.

The helicopter is typically operated at low altitudes and, as a result, it frequently comes within the audible range of people. Further, helicopters are becoming more widely used in both urban and suburban areas. Therefore, the sound is generated in close proximity to where people live and work. This closeness accentuates the concern associated with the external sound of the helicopter and its acceptability to the communities in which it operates. It is an underlying philosophy of the procedures and recommendations of this Standard that each helicopter landing site is a unique situation. Thus, the application of any procedure may not necessarily result in a satisfactory solution for every community and operator. In this regard, individual consideration should be given to such factors as ambient noise and the specific nature of the noise sensitive areas which may be affected by helicopter operations.

General requirements (mainly safety-related) for helicopter landing sites are detailed in the Civil Aviation Advisory Publication (CAAP) No. 92—2(0). The approval for a helicopter landing site may not be given without the assessment of the environmental significance of the proposal in accordance with the requirements of the Commonwealth *Environment Protection (Impact of Proposals) Act*. There may also be requirements by the state authorities or local government with respect to development consent, building approval, or approval under the relevant environmental regulatory authority.

It has been assumed that the user of this document will be adequately trained in the science of acoustics and thoroughly experienced in noise measurement and assessment.

The term ‘informative’ has been used in this Standard to define the application of the appendix to which it applies. An ‘informative’ appendix is only for information and guidance.

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STANDARDS AUSTRALIA

Australian Standard

Acoustics—Measurement of noise from helicopter operations

1 SCOPE This Standard provides methods for measurement of the impact of noise from existing or proposed helicopter operations on the surrounding community. It applies to the noise generated by helicopters on the ground, on approach and departure, and en route. This Standard does not provide an evaluation of the noise compatibility of sites considered for helicopter operation as criteria for the assessment of helicopter sites are governed by the environmental authority in each State.

NOTES:

- 1 Operations of helicopters en route come under the Civil Aviation Regulations (CAR) or Civil Aviation Orders (CAO).
- 2 Applications to the appropriate Aviation Authorities to approve a variation from the conditions of CAR and CAO are assessed for environmental effects under the *Environment Protection (Impact of Proposals) Act*.

2 REFERENCED DOCUMENTS The following documents are referred to in this Standard:

AS

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| 1055 | Acoustics—Description and measurement of environmental noise |
| 1055.1 | Part 1: General procedures |
| 1259 | Acoustics—Sound level meters |
| 1259.1 | Part 1: Non-integrating |
| 1259.2 | Part 2: Integrating—Averaging |
| 1633 | Acoustics—Glossary of terms and related symbols |
| 2659 | Guide to the use of sound measuring equipment |
| 2659.1 | Part 1: Portable sound level meters |
| 2659.2 | Part 2: Portable equipment for integration of sound signals |

IEC

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| 60942 | Electroacoustics—Sound calibrators |
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3 DEFINITIONS For the purpose of this Standard, the definitions given in AS 1633 and those below apply.

3.1 En route—the prescribed flight path followed by the helicopter after take off and before commencing landing. This may be described by Environmental Authorities as an overflight when the location under assessment is remote from the helipad(s) used by the subject helicopter(s) for take off and landing.

3.2 Final approach—reduction of height and airspeed to arrive over a predetermined point, but not including contact with the surface.

3.3 Helicopter landing site—the existing or proposed area used for helicopter take off and landing operations.

3.4 Hover—flight at zero ground speed.

3.5 Landing—the lowering of a helicopter to bring it in contact with the surface, including the final approach manoeuvres.

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