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Acoustics — Noise control design procedures for open plant

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National foreword

This British Standard is the UK implementation of ISO 15664:2025. It supersedes BS ISO 15664:2001, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee EH/1/4, Machinery noise.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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This document was prepared by Technical Committee ISO/TC 43, *Acoustics*, Subcommittee SC 1, *Noise*.

This second edition cancels and replaces the first edition (ISO 15664:2001), which has been technically revised.

The main changes are as follows:

— The scope of this document has been updated to reflect that requirements for suppliers of noise-emitting equipment have been defined.

— Supplementary specification to this document as defined in S-717 by the Joint Industry Programme 33 (JIP33) of the International Association of Oil and Gas Producers (IOGP) has been added in a new annex (see Annex A).

— The equipment noise data sheet (see Annex E) has been updated.

— A recommended area noise limit has been included to be used where area noise limits are not defined elsewhere.

— Clause 6 has been updated to reflect changes in acoustic engineering work practises and the use of computational noise modelling tools.

— Annex C from the first edition was deleted and replaced by a new Annex C.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Achieving acceptable environmental and occupational noise conditions requires procedures for the noise control design of open plants. This is a common challenge in oil refineries, chemical plants, gas plants, onshore and offshore oil and gas production facilities, unenclosed powerplants, steelworks, gravel washing plants, cement plants, concrete batch plants, sawmills and other continuous, batch or intermittent operation plants located in the open.

The users of this document should be familiar with the type of plant involved and have sufficient technical expertise and experience in industrial plant noise control design. This document is intended to be flexible to suit the nature and location of the plant being designed, and the technical abilities of the parties involved.

It is specifically intended that the end-user and the contractor agree on the nature and extent of the work to be done, the reporting on the work, and which party carries out what work.

This document is not intended specifically to be a contract document, except for Annex A which is considered suitable for procurement specifications of individual equipment.

A list of standards related to this document is given in the Bibliography.

Acoustics — Noise control design procedures for open plant

1 Scope

This document defines the procedures for noise control of primarily open plants and the requirements on equipment suppliers for reporting and testing of noise.

It is applicable to the following:

— specification of procedures for noise control during engineering of a new plant and modification/extension of existing plants (construction and commissioning noise procedures are outside the scope of this document);

— definition of responsibilities of parties involved, viz. “end-user”, “engineering contractor” and “equipment supplier”;

— description of general procedures to arrive at noise requirements for individual equipment, based on overall noise requirements for the plant.

Input to purchase specifications is presented in Annex A.

A schematic flowchart, reviewing the noise control process, is presented in Annex B and a summary of action items is presented in Annex C.

An example of an equipment noise data sheet is presented in Annex E.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ANSI S12.12, *Method for the determination of sound power levels of noise sources using sound intensity*

ISO 1996-2:2017, *Acoustics — Description, measurement and assessment of environmental noise — Part 2: Determination of sound pressure levels*

ISO 3741, *Acoustics — Determination of sound power levels and sound energy levels of noise sources using sound pressure — Precision methods for reverberation test rooms*

ISO 3743 (all parts), *Acoustics — Determination of sound power levels and sound energy levels of noise sources using sound pressure — Engineering methods for small, movable sources in reverberant fields*

ISO 3744, *Acoustics — Determination of sound power levels and sound energy levels of noise sources using sound pressure — Engineering methods for an essentially free field over a reflecting plane*

ISO 3745, *Acoustics — Determination of sound power levels and sound energy levels of noise sources using sound pressure — Precision methods for anechoic rooms and hemi-anechoic rooms*

ISO 3746, *Acoustics — Determination of sound power levels and sound energy levels of noise sources using sound pressure — Survey method using an enveloping measurement surface over a reflecting plane*

ISO 3747, *Acoustics — Determination of sound power levels and sound energy levels of noise sources using sound pressure — Engineering/survey methods for use in situ in a reverberant environment*

ISO 3864, *Safety colours and safety signs*