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Foreword

Publishing information

This British Standard is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 30 November 2023. It was prepared by Technical Committee MCE/3, *Safeguarding of machinery*. A list of organizations represented on this committee can be obtained on request to the committee manager.

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Commentary, explanation, and general informative material is presented in smaller italic type and does not constitute a normative element.

Where words have alternative spellings, the preferred spelling of the *Shorter Oxford English Dictionary* is used (e.g. "organization" rather than "organisation").

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Introduction

This British Standard provides guidance to those responsible for advising or managing the ongoing maintenance requirements of machinery (including associated work equipment and pressure components) after it is placed into service, so that it remains safe, reliable and in good repair.

The expectation is that machinery once commissioned and placed into service is fully functional. Age and duty are important factors when assessing the maintenance regime for a piece of machinery. Typically, as equipment continues to be operated, it is often assumed that equipment wears out, with its reliability being reduced solely as a result of increased age and cumulation of service. Accordingly, processes need to be in place to identify and monitor the decay, to adjust the inspection and maintenance frequencies, as appropriate, so that the equipment continues to operate in a safe and reliable condition by acting in good time.

Whilst some maintenance regimes focus on determining the age at which machinery is likely to fail, this British Standard also takes into account other relevant factors, such as environmental influences and the human factors relating to how interventions are identified and how the competence of persons undertaking the tasks are identified and reviewed. Further emphasis is given to investigating the root cause of component failures, so that repeat failures can be eliminated and lessons learnt and acted upon.

1 Scope

This British Standard specifies requirements for the approaches to be taken so that machinery remains in a safe, reliable and effective condition throughout its working life.

It applies to powered machinery, including all elements of the machinery (e.g. pipework, hoses and vessels), where deterioration of the equipment performance could expose persons to a significant increase in risk to their health and safety.

NOTE This British Standard can also be applied to manually powered machinery outside the scope of the Supply of Machinery (Safety) Regulations 2008 [1].

This British Standard is relevant to those advising, planning, preparing and supervising the maintenance of machinery. It is intended to supplement specific manufacturer instructions.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes provisions, or limits the application, of this document[1)]. For dated references, only the edition cited applies. For undated references, the latest edition of the reference document (including any amendments) applies.

BS EN 1829-2:2008, *High-pressure water jet machines – Safety requirements – Part 2: Hoses, hose lines and connectors*

BS EN ISO 9712, *Non-destructive testing – Qualification and certification of NDT personnel*

BS EN ISO 13849-1:2023, *Safety of machinery – Safety related parts of control systems – Part 1: General principles for design*

BS EN IEC 60812, *Failure modes and effects analysis (FMEA and FMECA)*

1) Documents that are referred to solely in an informative manner are listed in the Bibliography.