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**Systems and software engineering —
Life cycle management —**

Part 8:
**Technical reviews and audits on
defense programs**

*Ingénierie des systèmes et du logiciel — Gestion du cycle de vie —
Partie 8: Revues techniques et audits des programmes de défense*



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IEEE Std 15288.2™-2014

IEEE Standard for Technical Reviews and Audits on Defense Programs

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Approved 10 December 2014

IEEE-SA Standards Board

Abstract: The requirements for technical reviews and audits to be performed throughout the acquisition life cycle for the US Department of Defense (DoD) and other defense agencies are established in this standard. This standard provides the definition, description, and intent, as well as the entry/exit/success criteria, for each technical review and audit. It is to be used to establish agreement between acquirers and suppliers on the technical reviews and audits that are needed for the project, as well as the focus and expectations of each.

Keywords: 15288, acquirer-supplier agreement, alternative systems review, critical design review, defense acquisition program, defense acquisition program life cycle, flight readiness review, functional configuration audit, IEEE 15288.2™, integration readiness review, physical configuration audit, preliminary design review, production readiness review, software requirements and architecture review, software specification review, system functional review, system requirements review, system verification review, technical audit, technical review, test readiness review

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Introduction

This introduction is not part of IEEE Std 15288.2-2014, IEEE Standard for Technical Reviews and Audits on Defense Programs.

For effective and efficient application of ISO/IEC/IEEE 15288 on defense programs, additional requirements are needed for the assessment of those programs. ISO/IEC/IEEE 15288 is written in a general manner to address all types of systems and different modes of application. Thus, it does not have requirements specific to the use by defense projects that facilitate effective implementation of an acquirer-supplier agreement, such as use in DoD contracts. This standard responds to the needs of DoD and other defense agencies to have more specific and detailed requirements for technical reviews and audits as part of the assessment of projects during the life cycle.

The requirements and guidance in this standard have been written at the most general level possible so that they might meet not only DoD's needs but also those of other defense agencies, either by direct application or by tailoring for an agency's specific needs.

This standard was developed with input from government and non-government resources. This standard does not supersede or supplant any other law, regulation, directive, contractual provision, or requirement. Accordingly, users of this standard must verify, conform and complete the technical review and audit of any governmental programs to meet the requirements specified by the government at the time of the technical review and audit. The user is instructed to consult the governmental contact or commissioning party for specific instructions and requirements, which may be different from this standard. Users may also have to comply with other applicable laws, regulations, and agency requirements in the undertaking and completion of any such technical reviews and audits, including but not limited to confidentiality, security clearance, access to protected areas, and document management. It is the user's responsibility to determine all applicable laws and requirements.

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IEEE Standard for Technical Reviews and Audits on Defense Programs

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1. Overview

1.1 Scope

This standard establishes the requirements for technical reviews and audits to be performed throughout the acquisition life cycle for the US Department of Defense (DoD) and other defense agencies. This standard provides the definition, description, and intent, as well as the entry, exit and success criteria, for each technical review and audit. It is to be used to establish agreement between acquirers and suppliers on the technical reviews and audits that are needed for the project, as well as the focus and expectations of each technical review and audit.

1.2 Purpose

This standard is intended to elaborate the technical review and audit clause of ISO/IEC/IEEE 15288, System life-cycle processes, for use by the DoD and other defense agencies in acquiring systems (and parts thereof) or services. It amplifies ISO/IEC/IEEE 15288, subclause 6.3.2.3.a, for selection, negotiation, agreement, and performance of the necessary technical reviews and audits, while allowing tailoring flexibility for the variety of acquisition situations/environments when the technical reviews or audits are conducted. While primarily supporting the acquirer-supplier agreement mode, this standard also can be used to support the other modes such as use by organizations, projects, and process assessors.

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NOTE—The acquirer-supplier mode is not necessarily limited to a government acquirer and corporate prime contractor supplier situation. For example, a service component program executive officer (PEO) might be considered the acquirer, and the applicable government program office/manager the supplier for internal government reviews. Depending on how a given service or other DoD agency operates, the government might be the acquirer and their systems engineering and technical assistance (SETA) contractor might be responsible for the conduct of a subset of the reviews in this standard. Similarly, a defense contractor could be the acquirer and a key subcontractor could be the supplier. In the case of a contractor’s internal research and development (R&D), corporate management could be the acquirer and the company’s R&D organization could be the supplier.¹

1.3 Field of application

This standard addresses the needs of the defense community with respect to the incorporation, implementation, and execution of technical reviews and audits. IEEE Std 15288.1-2014, the standard that implements ISO/IEC/IEEE 15288 for application on defense programs, provides the defense-specific language and terminology to ensure the correct application of acquirer-supplier requirements for technical reviews and audits on a defense program, while this standard provides the implementation details to fulfill those requirements.²

1.4 Organization of this standard

Subclause 1.5 defines what it means for an organization, project, or other users such as process authors and assessors to claim conformance with this standard.

Clause 2 defines normative references, i.e., documents that are indispensable in the application of this standard.

Clause 3 provides definitions of terms peculiar to this standard, as well as acronyms and abbreviations used in this standard.

Clause 4 provides an overview of technical reviews and audits. It defines them, discusses their role in the US DoD acquisition life cycle, and their support of specific ISO/IEC/IEEE 15288 processes. It answers questions such as: “What are technical reviews and audits?” “Why perform them?” “Is there a standard set of them, and if so, what are they?”

Clause 5 specifies the minimum set of required properties for each technical review and audit that form the basis for agreement between defense program acquirers and suppliers.

Clause 6 provides the detailed criteria to be addressed for each technical review and audit contained in Clause 5.

Clause 7 provides, for each technical review and audit contained in Clause 5 of this standard, detailed, best-practice guidance for applying the detailed criteria of the corresponding portion of Clause 6 of this standard to various kinds of defense programs.

Annex A, Annex B, Annex C, and Annex D contain examples of other technical reviews that DoD acquisition programs may find useful, based on the complexity, nature, and domain of the systems that are being developed or acquired by those programs.

Annex E contains a bibliography.

¹ Notes in text, tables, and figures of a standard are given for information only and do not contain requirements needed to implement this standard.

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1.5 Conformance

1.5.1 General

The requirements in this standard are contained in Clause 5 and Clause 6. This standard provides requirements for a number of technical reviews and audits to be conducted throughout the acquisition life cycle of a system. Since particular projects or organizations may not need to use all of the reviews and audits provided by this standard, implementation of this standard may involve selecting a set of reviews and audits suitable to the project or organization. There are two ways that an implementation can be claimed to conform to the requirements of this standard. Any claim of conformance is cited in only one of the two forms below.

NOTE— Evidence of conformance can be as simple as including traceability from the requirements in this standard to the conforming policies, processes, and procedures. This could be provided by various means, including as a separate section in the traceability documentation for the system requirements or in the Systems Engineering Management Plan (SEMP).

1.5.2 Full conformance

A claim of full conformance declares the set of technical reviews and audits for which conformance is claimed. Full conformance is achieved by providing evidence that all of the mandatory requirements of the declared set of reviews and audits have been satisfied.

1.5.3 Tailored conformance

When this standard is used as a basis for establishing a set of technical reviews and audits that do not qualify for full conformance, the reviews and audits in this standard are selected or modified in accordance with the tailoring process defined in 5.1.1.2.

NOTE 1—In this document, the word *shall* is used to indicate a mandatory requirement. The word *should* is used to indicate a recommendation. The word *may* is used to indicate a permissible action. The word *can* is used for statements of possibility and capability.

NOTE 2—When this standard is used to help develop an agreement between an acquirer and a supplier, the contents of Clause 5 and Clause 6 can be selected for incorporation in the agreement with or without modification. In this case, it is more appropriate for the acquirer and supplier to claim compliance with the agreement than conformance with this standard.

NOTE 3—The acquirer request for proposal includes the intended tailoring of the requirements in this standard. However, the supplier may propose additional changes or alternatives during the steps to finalize the agreement.

Conformance to this standard can be claimed by a project or organization independent of a claim of compliance to a specific agreement.

2. Normative references

The following referenced documents are indispensable for the application of this document (i.e., they must be understood and used, so each referenced document is cited in text and its relationship to this document is explained). For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments or corrigenda) applies.

ISO/IEC/IEEE 15288:2015(E), Systems & software engineering—System life cycle processes.³

IEEE Std 15288.1™-2014, IEEE Standard for Application of Systems Engineering on Defense Programs.^{4, 5}

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