

IEEE Standard Reliability Program for the Development and Production of Electronic Systems and Equipment

Sponsor

**Standards and Definitions Committee
of the
IEEE Reliability Society**

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Abstract: Guidance for providing products that satisfy the customer is given. This standard guides suppliers in planning a program that suits their design philosophy, the product concept, and the resources at their disposal, so that every activity adds value. This standard encourages suppliers and customers to cooperatively integrate their reliability processes. Requirements are written to properly establish the contractual or obligatory relationship between the supplier and customer in a product program.

Keywords: electronics, electronic equipment, electronic systems, MIL-STD 785, reliability, reliability program, reliability program standard

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Introduction

(This introduction is not part of IEEE Std 1332-1998, IEEE Standard Reliability Program for the Development and Production of Electronic Systems and Equipment.)

In May of 1992, the U.S. Army Material Systems Acquisition Activity (AMSAA) and the CALCE Electronic Packaging Research Center (EPRC) at the University of Maryland, briefed the Army Standardization Executive, Darold Griffin on the problems with the current reliability program standards, and recommended that MIL-STD 785 “Reliability Program for Systems and Equipment, Development and Production” be updated. In lieu of revising MIL Std 785, Mr. Griffin proposed the development of a dual-use, non-government reliability program standard. Developing a dual-use (commercial/military) standard is in line with the current Department of Defense (DoD) administration policy. Reducing reliance on military specifications and standards is a priority of Secretary of Defense William J. Perry. In 1993, a process action team (PAT) was chartered by Deputy Under Secretary of Defense (Acquisition Reform) Colleen Preston, to address the transition of defense suppliers and contractors to commercial practices, processes, and products. The DoD PAT placed emphasis on retaining essential military documents and participating with non-government standards bodies to jointly develop and use their standards.

AMSAA and CALCE EPRC began working with the IEEE Reliability Society to develop an IEEE Reliability Program Standard. The IEEE Reliability Society approved the formation of the Reliability Program Standards Development Working Group in August 1992. The working group is a multidisciplinary body consisting of participants from various commercial and government agencies, both domestic and foreign. Written approval for the Project Authorization Request (PAR) from the IEEE New Standards Committee (NesCom) of the Standards Board at IEEE Headquarters was obtained in June 1993. The Reliability Program Standards Development Working Group began developing and formatting the first draft. A top priority for the working group was gathering and maintaining current information on:

- The best electronics reliability technologies and practices;
- Recommendations from industry, government, and academia;
- The dual-use, non-government standards initiative.

Initial recommendations from industry, government, and academia were sought based on a questionnaire published in the April 1994 IEEE Reliability Society Newsletter. The recommendations formed the basis for the document philosophy. In June 1993, members from the working group briefed the Electronic Industries Association (EIA) Reliability and Maintainability Committee on the concepts behind the new reliability program standard and solicited comments. The IEEE Reliability Program Standard Working Group was also briefed at the “New Directions in Military RAM” Symposium in October 1993.

The working group has been interacting with other organizations that focus on reliability and produce non-government standards, including EIA, the Society of Automotive Engineers, the American Society for Quality Control, and the Institute for Environmental Sciences. The working group participated in meetings with these organizations in March and May 1994, to discuss the conversion of military standards to commercial national and international standards. The standardization organizations were supportive of the development of the IEEE Reliability Program Standard, and agreed to participate in the writing of the standard.

The working group also collaborated with the United Kingdom Ministry of Defence and prominent participants in the European and international reliability standards arena, to make the new reliability program standard an effective starting point for updating international standards.