

P1467

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Type of Project: New IEEE Standard

PAR Request Date: 04-Sep-2016

PAR Approval Date: 07-Dec-2016

PAR Expiration Date: 31-Dec-2020

Status: PAR for a New IEEE Standard

1.1 Project Number: P1467

1.2 Type of Document: Standard

1.3 Life Cycle: Full Use

2.1 Title: Standard for Reliability Growth

3.1 Working Group: Reliability Growth Working Group (RS/SC/RG WG)

Contact Information for Working Group Chair

Name: Zhaojun Li

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Contact Information for Working Group Vice-Chair

None

3.2 Sponsoring Society and Committee: IEEE Reliability Society/IEEE Reliability (RS/SC)

Contact Information for Sponsor Chair

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Contact Information for Standards Representative

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4.1 Type of Ballot: Individual

4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot: 10/2019

4.3 Projected Completion Date for Submittal to RevCom

Note: Usual minimum time between initial sponsor ballot and submission to Revcom is 6 months.: 10/2020

5.1 Approximate number of people expected to be actively involved in the development of this project: 20

5.2 Scope: This standard specifies requirements and gives guidelines for the exposure and removal of weaknesses in hardware and software items for the purpose of reliability growth. It applies when the product specification calls for a reliability growth program of equipment (electronic, electromechanical and mechanical hardware as well as software) or when it is known that the design is unlikely to meet the requirements without improvement. A statement of the basic concepts is followed by descriptions of the management, planning, testing (laboratory or field), failure analysis, and corrective techniques required. Mathematical modeling to estimate reliability growth is described.

5.3 Is the completion of this standard dependent upon the completion of another standard: No

5.4 Purpose: The standard is useful to all industries that drive to improve their designs for reliability and require a method to measure the reliability improvements over time through the removal of design weaknesses and design life limiting factors in hardware and software items that inhibit reliability growth. This standard applies when the product specification calls for a reliability growth program of equipment (electronic, electromechanical and mechanical hardware as well as software) or when it is known that the design is unlikely to meet the reliability expectations of the customer and reliability requirements cannot be achieved without improvements.

5.5 Need for the Project: Recent emphasis has been placed on Reliability Growth by the DoD. The international community has an existing standard IEC 61014 that could be leveraged for IEEE use in the future. IEEE approached IEC to jointly develop IEC 61014 without creating a new and redundant standard, but IEC choose not to participate after many years of attempting to work together.

5.6 Stakeholders for the Standard: Producers and Users of Systems that would benefit from Reliability Growth Programs and Methodologies.

Intellectual Property

6.1.a. Is the Sponsor aware of any copyright permissions needed for this project?: No

6.1.b. Is the Sponsor aware of possible registration activity related to this project?: No

7.1 Are there other standards or projects with a similar scope?: Yes

If Yes please explain: Military standards such as MIL-HDBK-189 and MIL-STD-781 describe similar scope. IEC 61014 describes similar scope for international standards.

and answer the following

Sponsor Organization: IEC

Project/Standard Number: 61014

Project/Standard Date: 12-Dec-2016

Project/Standard Title: Standard for Programmes for Reliability Growth

7.2 Joint Development

Is it the intent to develop this document jointly with another organization?: No

8.1 Additional Explanatory Notes: This standard has been attempted several times in the past as a solely IEEE standard and as a joint standard working with IEC working group. IEC has expressed no recent interest to work jointly on this standard after years of trying to develop a joint standard.

7.1: MIL-HDBK-189 is Reliability Growth Management

MIL-STD-781 is Reliability Testing for Engineering Development, Qualification, and Production