

Subject 1998

August 3, 2018

SUMMARY OF TOPICS

The following topics for the Standard for Safety for Software in Programmable Components, UL 1998, are being recirculated:

- 1. Clarification of Scope**
- 2. Clarification of Process Definition and Risk Analysis**
- 5. Addition of Consideration of Programmable Component Errata as a Potential Cause of Microelectronic Hardware Failures**
- 6. Clarification of Requirements for User Cancellation**
- 7. Clarification of Requirements for Unique Identifier**
- 8. Clarification of Applicability of Appendix A**

COMMENTS DUE: September 4, 2018

For your convenience in review, proposed additions to the previously proposed requirements dated (2018-05-04) are shown underlined and proposed deletions are shown ~~lined-out~~.

1. Clarification of Scope

RATIONALE

Responses to comments have been posted within the (subject 1) Proposal Review Work Area dated (2018-05-04).

PROPOSAL

1.1 These requirements apply to non-networked embedded software residing in programmable components performing safety-related functions whose failure is capable of resulting in a risk of fire, electric shock, or injury to persons.

2.27 NON-NETWORKED EMBEDDED SOFTWARE – Embedded software that executes on a single microprocessor/microcontroller or on microprocessors/microcontrollers residing in the same physical enclosure, which does not depend on data received or transmitted outside of the enclosure.

2. Clarification of Process Definition and Risk Analysis

Responses to comments have been posted within the (subject 2) Proposal Review Work Area dated (2018-05-04). No changes have been made to the previously proposed revision. Note that the purpose of a recirculation of comments only is intended solely to provide STP members the opportunity to review

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the comments and responses, and to either reconsider their vote or cast a first-time vote. New comments on the previously proposed revision for this Topic will not be provided with a specific response. Any additionally desired changes should be submitted as a new proposal request via CSDS.

5. Addition of Consideration of Programmable Component Errata as a Potential Cause of Microelectronic Hardware Failures

RATIONALE

Responses to comments have been posted within the (subject 5) Proposal Review Work Area dated (2018-05-04).

PROPOSAL

8.4 When available from the programmable component vendor or other sources (e.g. the user community), the manufacturer shall provide erratum for the precise revision/version of the programmable component that the manufacturer intends to use. For each identified error in the erratum, the following evidence shall be provided:

- a) The error has been fixed, tested, and approved for distribution by the programmable component vendor in a new release that has been incorporated into the manufacturer's version of the programmable component, or
- b) Feature(s) affected by the error have not been used by the manufacturer in the development of safety-related software ~~and do not lead to a risk.~~

15.4 Documentation shall include sufficient information to identify each item that is investigated with the software. For example, identification of software elements shall include the version number, release number, and date. Microelectronic hardware elements shall include the component vendor, part number and revision level of that uniquely identifies the programmable component die ~~, if available.~~

6. Clarification of Requirements for User Cancellation

RATIONALE

Responses to comments have been posted within the (subject 6) Proposal Review Work Area dated (2018-05-04).

PROPOSAL

10.8 If required to do so by the product safety requirements and when determined by the Risk Analysis, the software shall provide for user cancellation of the current operation and return the programmable component to an RA state.

7. Clarification of Requirements for Unique Identifier

RATIONALE

Responses to comments have been posted within the (subject 7) Proposal Review Work Area dated (2018-05-04).