IEEE 572
SC 2 FINAL DRAFT PRESENTATION

Ft. Lauderdale Florida

10-04-05

AGENDA

- Working Group Roster
- Scope of the Revision
- PAR Direction
- Revision Objectives
- Revision Over View
- Discussion
- Comment
- SC Recommendations

Working Group Membership

Ramesh	Boddulrs	San Onefre Nuclear Generating Station (SONGS)
Choon-Hoon	Chung	Korea Power Engineering Company Inc (KOPEC)
Yasutaka	Eguchi	Mitsubishi Heavy Industries, LTD
Gary	Elam	EGS
William	Hadovski	Westinghouse
John	Hardy	Wyle Laboratories
Doug	Merriman	ITT VEAM
Fredrick	Roy	Scientech EGS
Steve	Sandberg	Rockbestos Surprenant Cable Corporation
Jane	Tawfik	OPG
Ing. Marek	Tengler	Stevenson and Associates
Dr. Marco	Van Uffelen	SCK~CEN
Carl	Weber	Pacific Gas & Electric

IEEE 572 SCOPE (1985)

- This standard provides general requirements, direction, and methods for qualifying Class 1E connection assemblies for service in nuclear power generating stations. These include connectors, termination's, and environmental seals **in combination with related cables or wires as assemblies**. This standard does not apply to containment electric penetrations, fire stops, in-line splices, or components for service within the reactor vessel.

IEEE 572 2004 PAR GOAL

- The goal of this revision is to make the standard more useful to the industry. This will be accomplished by providing universal guidance on how to deal with electrical and electronic connections within equipment currently used in safety applications.

IEEE 572 2004 PAR OBJECTIVES

- Update Current Qualification methodologies and technologies.
- Address digital technology effects on connector qualification
- Address EMI/RFI environmental factors on qualification
- Consistency with IEEE 323 2004

IEEE 572/REVISON'S KEY GOALS

- The key objective of this revision is to
  - Update the standards to current qualification methodology and technologies.
  - Address the effects of digital technology on connector qualification
  - Address EMI/RFI environmental factors
  - Insure consistency with IEEE 323
  - Address different types of commonly used connections

IEEE 572/REVISON'S KEY GOALS

Update the standards to current qualification methodology and technologies

- Updated references
- Added selected definitions
- Added Condition Based monitoring as a method of extending qualified life.

IEEE 572/REVISON'S KEY GOALS

Address the effects of digital technology on connector qualification

- Working Group consensus that specific references to digital technology would not be different then those requirements already detailed.
- Added reference to Mil Standard 461D

IEEE 572/REVISON'S KEY GOALS

Address EMI/RFI environmental factors

- The consensus of the Working Group is that EMI/RFI specific performance factors and requirements can only be addressed when the connections are part of an overall system. Emissions and susceptibility are only factors when considered in conjunction with operating interfacing equipment.
- Paragraph on EMI/RFI added to provide general guidance.

IEEE 572/REVISON'S KEY GOALS

Consistency with IEEE 323 2004

- Section 1 scope revised to be consistent with IEEE 323
- Section 2 Purpose revised to reflect the latest revision of 323.
- Added definitions to be consistent with IEEE 323
    - Harsh Environment
    - Mild Environment
    - Significant aging mechanism
- Overall 572 closely aligns with 323

IEEE 572/REVISON'S KEY GOALS

Address different types of commonly used connections

- Working group research determined significant number and variation of types of connectors used in safety applications
- Impractical to provide specific guidance in each case.
- Section 6.2 revised to provide generic type test procedure.

IEEE 572 REVISION
572 OVERVIEW

- Sections
  - 1 Scope
  - 2 Purpose and References
    - Purpose not in 323
    - Relates 572 to 323
  - 3 Definitions
  - 4 Introduction
    - 323 Section 4 title is Principle of equipment qualification.
    - 323 and 572 Section 4 contain equivalent info

IEEE 572 REVISION
572 OVERVIEW

- Sections (Cont.)
  - 5 Principles of Connection Assembly Qualification

    (Connector specific equivalent to 323 Section 5)
    - 5.1 Qualification by Type Testing
    - 5.2 Qualification by Operating Experience
    - 5.3 Qualification by Analysis
    - 5.4 Ongoing Qualification
    - 5.5 Combined Qualification

IEEE 572 REVISION
572 OVERVIEW

- Sections (Cont.)
  - 6 Qualification Procedures and Methods

  (Connector specific equivalent to 323 Section 6)
    - 6.1 Qualification Specification
    - 6.2 Connection Assemblies Type Test Procedure

IEEE 572 REVISION
572 OVERVIEW

- Sections (Cont)
  - 7 Modifications
    - Not in 323
  - 8 Documentation
    - 8.1 General
    - 8.2 Documentation File
    - 8.3 Type-Testing Results
    - 8.4 Test Report
    - 8.5 Operating Experience Data
    - 8.6 Analysis

IEEE 572 REVISION
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- Sections (Cont)
  - Figure 1
    - Flow Chart of Type Test Procedure
  - Appendixes
    - Appendix A Suggested Margins
    - Appendix B Suggested Functional Test Method

FLOW CHART OF TYPE TEST PROCEDURE

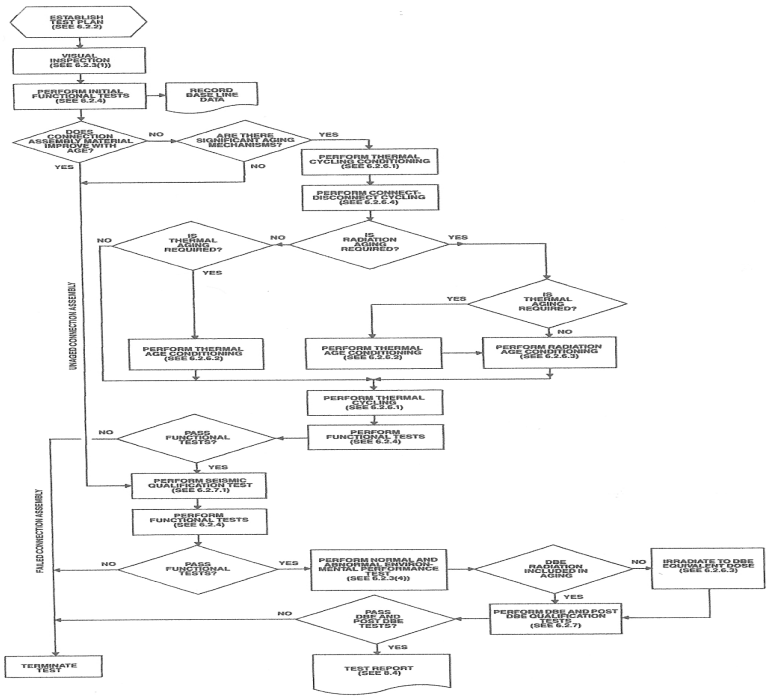

Fig 1
Flowchart of Type-Test Procedure

IEEE 572 REVISION

- SC 2 Comments
- SC 2 Recommendations