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IEEE Trial-Use Standard for Qualifying Fiber Optic Cables, Connections, and Optical Fiber Splices for Use in Safety Systems in Nuclear Power Generating Stations

IEEE Power & Energy Society

Sponsored by the
Insulated Conductors and Nuclear Power Engineering Committees

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IEEE Trial-Use Standard for Qualifying Fiber Optic Cables, Connections, and Optical Fiber Splices for Use in Safety Systems in Nuclear Power Generating Stations

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Insulated Conductors and Nuclear Power Engineering Committees
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IEEE-SA Standards Board

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Abstract: This standard provides general requirements, directions, and methods for qualifying fiber optic cables, connections, and optical fiber splices for use in safety systems of nuclear power generating stations, including fuel reprocessing stations and other related installations. Cables, optical fibers, and splices within or integral to other devices (e.g., sensors, instruments, panels, etc.) shall be qualified using the requirements in the applicable device standard or IEEE Std 323-2003, as appropriate. However, the requirements of this standard may be applied to the fiber optic cable and interfaces within these devices.
Keywords: Class 1E, connectors, fiber, fiber optic cable, fibers, IEEE 1682, nuclear, optical fiber, safety, splices

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This introduction is not part of IEEE Std 1682-2011, IEEE Trial-Use Standard for Qualifying Fiber Optic Cables, Connections, and Optical Fiber Splices for Use in Safety Systems in Nuclear Power Generating Stations.

This standard provides general requirements, directions, and methods for qualifying Class 1E fiber optic cables, terminations, field splices, connectors, and interfaces for service in nuclear facilities including power generating stations, fuel reprocessing stations, and other related installations.

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1. Overview

1.1 Scope

This standard provides requirements, directions, and methods for qualifying fiber optic cables, connections, and optical fiber splices for use in safety systems of nuclear power generating stations. Cables, connections, optical fibers, and splices within or integral to other devices (e.g., sensors, instruments, panels, etc.) shall be qualified using the requirements in the applicable device standard or IEEE Std 323™-2003, as appropriate. However, this standard's requirements may be applied to the fiber optic cable, connections, and optical fiber splices within these devices.

1.2 Purpose

The principal purpose of this standard is to provide specific directions for the implementation of IEEE Std 323™-2003 for qualification of fiber optic cables, including hybrid cables, connections, and optical fiber splices.