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791

Recommended Practice and Procedures for Unlabeled Electrical Equipment Evaluation

2021

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NFPA® 791

Recommended Practice and Procedures for

Unlabeled Electrical Equipment Evaluation

2021 Edition

This edition of NFPA 791, *Recommended Practice and Procedures for Unlabeled Electrical Equipment Evaluation,* was prepared by the Technical Committee on Electrical Equipment Evaluation and released by the Correlating Committee on National Electrical Code®. It was issued by the Standards Council on March 15, 2020, with an effective date of April 4, 2020, and supersedes all previous editions.

This edition of NFPA 791 was approved as an American National Standard on April 4, 2020.

Origin and Development of NFPA 791

The Technical Committee on Electrical Equipment Evaluation was organized in 2008 by NFPA in recognition of the need for requirements for the qualifications and competency of third parties performing field evaluations on electrical products and assemblies and to guide the process for field evaluations.

One means to demonstrate conformance of products to an applicable product safety standard is through certification. Historically, certification was accomplished through a laboratory investigation of a prototype or initial sample to determine compliance with the standard, with a system of ongoing follow-up inspections conducted to continue certification. The result was a "Certification," "Listing," "Recognition," or "Classification" of the product defined by various standards, including *NFPA 70®*, *National Electrical Code®*. These processes were formalized in several international standards, including ISO/IEC Guide 65, *General Requirements for Bodies Operating Product Certification Systems*, and ISO/IEC Standard 17020, *General Criteria for the Operation of Various Types of Bodies Performing Inspection*.

As the marketplace evolved, more and more products needed to be evaluated differently from the above system because they were already installed at the installation site. Another condition that did not fit the normal process and required some other process of evaluation was that some products needed to be evaluated but were not produced in quantities that fit the traditional certification model economically. The alternative process to meet the needs for evaluation of unique, modified, or other equipment beyond the manufacturing process became known as a "field evaluation." The process used for field evaluations, by the nature of the work, is a blend of ISO/IEC Guide 65 and ISO/IEC Standard 17020.

In 2008, a task group identified the need to create two documents covering the performance of field evaluations of electrical equipment and used the following document as the basis for development: *Recommended Competency Guidelines for Third Party Field Evaluation Bodies*, which was developed by the American Council for Electrical Safety (ACES), a division of the American Council of Independent Laboratories (ACIL) (first edition, November 17, 2005). The ACES document provided guidelines regarding the competency of firms that perform field evaluations. NFPA 791 and its companion document, NFPA 790, *Standard for Competency of Third-Party Evaluation Bodies*, provide their users with the ability to qualify who can complete field evaluations and how field evaluations specifically for electrical products are to be completed.

No changes were made to the 2014 edition of NFPA 791 other than updating the reference of *NFPA 70®, National Electrical Code®*, from the 2011 edition to the 2014 edition.

There were only a few changes in the 2018 edition of NFPA 791. The edition date for *NFPA 70®*, *National Electrical Code®*, was updated in Chapter 2, and the reaffirmed date for ASQ Z1.4, *Sampling Procedures and Tables for Inspection by Attributes*, in Annex C was included. Edits were made to 1.1.1 and 1.2.4 to correctly refer to applicable nationally recognized standard(s) and to clarify the purpose of the document. Edits were made in Sections 5.8 and 5.11 relative to overcurrent protection and marking for fuses and replacement elements.

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The 2021 edition has been updated to clarify that nationally recognized standards are those specific to the equipment under evaluation and that certification efforts by third parties are referred to as programs. Also, the terms *product* and *units or assemblies* have been replaced with *equipment* throughout the recommended practice to assist the AHJ when making approval decisions.

In Chapter 3, the definition of *critical components* has been revised to clarify that electrical components or assemblies are also used in control circuits and that safe performance is not only desired in a system or circuit but also in the equipment itself. Energy storage equipment has been added to the definition of *electrical equipment* to be recognized as equipment that can be field evaluated.

Revisions in Chapter 4 include a new recommendation to provide installation, operation, and maintenance manuals for evaluations. The terms *evaluator* and *evaluating body* were determined to be insufficiently specific and have been replaced with *field evaluation body (FEB)*.

Other revisions in Chapter 4 include: a review of the service history and construction changes to used equipment to determine their impact on the compliance of equipment; a recommendation that the FEB select nationally recognized standards for use in evaluating the subject equipment; a recommendation that all applicable safety standards should be applied to field evaluations; and the removal of communication in writing from the recommendation that the electrical AHJ should be notified when an evaluation is initiated and about to commence.

Other revisions in the 2021 edition include: the section in Chapter 5 on components has been revised to clarify the recommendation to component suitability only; the Equipment Identification and Nameplate section in Chapter 7 has been updated to remove redundant text and clarify recommendations; and the reference to *NFPA 70* has been updated to the 2020 edition.

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Committee Scope: This Committee shall have primary responsibility for documents on minimizing the risk of electricity as a source of electric shock and as a potential ignition source of fires and explosions. It shall also be responsible for text to minimize the propagation of fire and explosions due to electrical installations.

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