

ARTICLE 90

INTRODUCTION TO THE *NATIONAL ELECTRICAL CODE*

Introduction to Article 90—Introduction to the *National Electrical Code*

Article 90 opens by saying the *National Electrical Code (NEC/Code)* is not intended as a design specification or instruction manual. It has one purpose only, and that is the “practical safeguarding of persons and property from hazards arising from the use of electricity.” That does not necessarily mean the installation will be efficient, convenient, or able to accommodate future expansion; just safe. The necessity of carefully studying the *Code* rules cannot be overemphasized, and the step-by-step explanatory design of a textbook such as this is to help in that undertaking. Understanding where to find the requirements in the *NEC* that apply to the installation is invaluable. Rules in several different articles often apply to even a simple installation. You are not going to remember every section of every article of the *Code* but, hopefully, you will come away with knowing where to look after studying this textbook.

Article 90 then goes on to describe the scope and arrangement of the *NEC*. The balance of it provides the reader with information essential to understanding the *Code* rules.

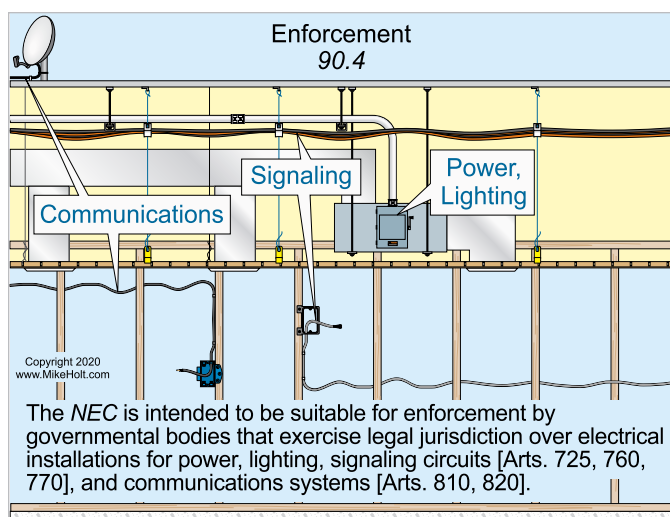
Most electrical installations require you to understand the first four chapters of the *NEC* (which apply generally) and have a working knowledge of the Chapter 9 tables. That understanding begins with this article. Chapters 5, 6, and 7 make up a large portion of the *Code* book, but they apply to special occupancies, special equipment, or special conditions. They build on, modify, or amend the rules in the first four chapters. Chapter 8 contains the requirements for communications systems, such as radio and television equipment, satellite receivers, antenna systems, twisted pair conductors, and coaxial cable wiring. Communications systems are not subject to the general requirements of Chapters 1 through 4, or the special requirements of Chapters 5 through 7, unless there is a specific reference to a rule in the previous chapters.

90.4 Enforcement



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The *NEC* is intended to be suitable for enforcement by governmental bodies that exercise legal jurisdiction over electrical installations for power, lighting, signaling circuits, and communications systems such as: ►Figure 90–15



►Figure 90–15

Signaling circuits include:

- ▶ Article 725. Remote-Control, Signaling, and Power-Limited Circuits
- ▶ Article 760. Fire Alarm Systems
- ▶ Article 770. Optical Fiber Cables

Communications systems which include:

- ▶ Article 810. Radio and Television Equipment (Satellite Antenna)
- ▶ Article 820. Community Antenna Television and Radio Distribution Systems (Coaxial Cable)

Author's Comment:

- ▶ Once adopted (in part, wholly, or amended), the *National Electrical Code* becomes statutory law for the adopting jurisdiction and is thereby considered a legal document.

Enforcement. The enforcement of the *NEC* is the responsibility of the authority having jurisdiction, who is responsible for interpreting requirements, approving equipment and materials, waiving *Code* requirements, and ensuring equipment is installed in accordance with listing instructions. ▶Figure 90–16



▶Figure 90–16

Author's Comment:

- ▶ “Authority Having Jurisdiction” is defined in Article 100 as the organization, office, or individual responsible for approving equipment, materials, an installation, or a procedure. See 90.4 and 90.7 for more information.

Author's Comment:

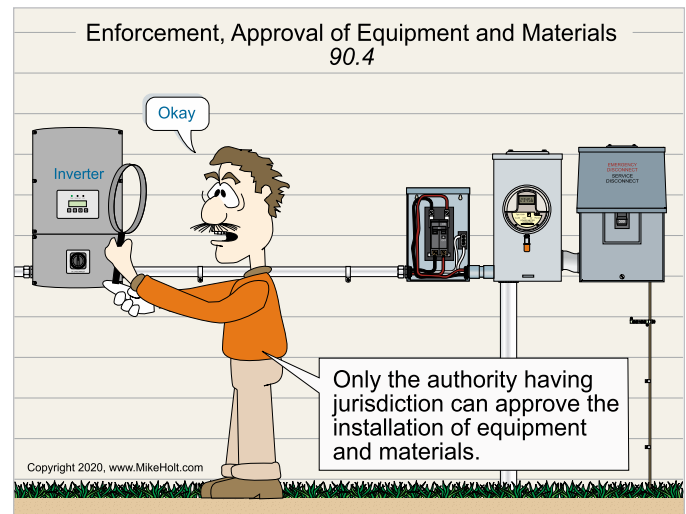
- ▶ “Approved” is defined in Article 100 as acceptable to the authority having jurisdiction; usually the electrical inspector.

Interpretation. The authority having jurisdiction is responsible for interpreting the *NEC*.

Author's Comment:

- ▶ The authority having jurisdiction’s decisions must be based on a specific *Code* requirement. If an installation is rejected, the AHJ is legally responsible for informing the installer of the specific *NEC* rule that was violated.
- ▶ The art of getting along with the AHJ consists of doing good work and knowing what the *Code* says (as opposed to what you think it says). It is also useful to know how to choose your battles when the inevitable disagreement does occur.

Approval of Equipment and Materials. Only the authority having jurisdiction has the authority to approve the installation of equipment and materials. ▶Figure 90–17



▶Figure 90–17

Author's Comment:

- ▶ Typically, the AHJ will approve equipment listed by a product testing organization such as Underwriters Laboratories, Inc. (UL). The *NEC* does not require all equipment to be listed, but many state and local authorities having jurisdictions do. See 90.7, 110.2, and 110.3 and the definitions for “Approved,” “Identified,” “Labeled,” and “Listed” in Article 100.

- ▶ According to the *Code*, the authority having jurisdiction determines the approval of equipment. This means he or she can reject an installation of listed equipment and can approve the use of unlisted equipment. Given our highly litigious society, approval of unlisted equipment is becoming increasingly difficult to obtain.

Approval of Alternate Means. By special permission, the authority having jurisdiction may approve alternate methods where it is assured equivalent safety can be achieved and maintained.

Author's Comment:

- ▶ "Special Permission" is defined in Article 100 as the written consent of the AHJ.

Waiver of Product Requirements. If the *Code* requires products, constructions, or materials that are not yet available at the time the *NEC* is adopted, the authority having jurisdiction can allow products that were acceptable in the previous *Code* to continue to be used.

Author's Comment:

- ▶ Sometimes it takes years for testing laboratories to establish product standards for new *NEC* product requirements; then it takes time before manufacturers can design, manufacture, and distribute those products to the marketplace.