Installation of Lightning Protection Systems; and API RP 2003, *Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents*, for information on protection against static electricity and lightning hazards in hazardous (classified) locations.

Informational Note No. 3: See NFPA 30, *Flammable and Combustible Liquids Code*; and ANSI/API RP 500, *Recommended Practice for Classification of Locations for Electrical Installations at Petroleum Facilities Classified as Class I, Division 1 and Division 2*, for information on ventilation.

Informational Note No. 4: See ANSI/API RP 14F, *Recommended Practice for Design, Installation, and Maintenance of Electrical Systems for Fixed and Floating Offshore Petroleum Facilities for Unclassified and Class I, Division 1, and Division 2 Locations*, for information on electrical systems for hazardous (classified) locations on offshore oil- and gas-producing platforms, drilling rigs, and workover rigs.

Informational Note No. 5: See ANSI/UL 121203, *Portable/Personal Electronic Products Suitable for Use in Class I, Division 2, Class I, Zone 2, Class II, Division 2, Class III, Division 1, Class III, Division 2, Zone 21 and Zone 22 Hazardous (Classified) Locations*, for information on portable or transportable equipment having self-contained power supplies, such as battery-operated equipment, which could potentially become an ignition source in hazardous (classified) locations.

Informational Note No. 6: See IEC/IEEE 60079-30-2, *Explosive atmospheres — Part 30-2: Electrical resistance trace heating — Application guide for design, installation and maintenance*, for information on electrical resistance trace heating for hazardous (classified) locations.

Informational Note No. 7: See IEEE 844.2/CSA C293.2, *IEEE/CSA Standard for Skin Effect Trace Heating of Pipelines, Vessels, Equipment, and Structures — Application Guide for Design, Installation, Testing, Commissioning, and Maintenance*, for information on electric skin effect trace heating for hazardous (classified) locations.

Informational Note No. 8: See IEEE 844.4/CSA C293.4, *IEEE/CSA Standard for Impedance Heating of Pipelines and Equipment — Application Guide for Design, Installation, Testing, Commissioning, and Maintenance*, for information on electric impedance heating for hazardous (classified) locations.

The standards referenced in Articles 500 through 517 are essential for proper application of the articles. In addition to those documents and others listed in each article's Informational Notes, the following NFPA codes, standards, and recommended practices contain valuable information on hazardous locations in specific applications, occupancies, or industries:

NFPA 30A, *Code for Motor Fuel Dispensing Facilities and Repair Garages*

NFPA 51, *Standard for the Design and Installation of Oxygen–Fuel Gas Systems for Welding, Cutting, and Allied Processes*

NFPA 52, *Vehicular Natural Gas Fuel Systems Code*

NFPA 54, *National Fuel Gas Code*

NFPA 59A, *Standard for the Production, Storage, and Handling of Liquefied Natural Gas (LNG)*

NFPA 61, *Standard for the Prevention of Fires and Dust Explosions in Agricultural and Food Processing Facilities*

NFPA 85, *Boiler and Combustion Systems Hazards Code*

NFPA 99, *Health Care Facilities Code*

NFPA 407, *Standard for Aircraft Fuel Servicing*

NFPA 409, *Standard on Aircraft Hangars*

NFPA 495, *Explosive Materials Code*

NFPA 654, *Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids*

NFPA 655, *Standard for Prevention of Sulfur Fires and Explosions*

500.5 Classifications of Locations.

Δ **(A) General.**

N **(1) Hazardous (Classified) Locations.** Locations shall be classified depending on the properties of the flammable gas, flammable liquid–produced vapor, combustible liquid–produced vapors, combustible dusts, or fibers/flyings that could be present, and the likelihood that a flammable or combustible concentration or quantity is present. Each room, section, or area shall be considered individually in determining its classification.

Informational Note: Through the exercise of ingenuity in the layout of electrical installations for hazardous (classified) locations, it is frequently possible to locate much of the equipment in a reduced level of classification or in an unclassified location to reduce the amount of special equipment required.

N **(2) Refrigerant Machinery Rooms Using Ammonia.** Refrigerant machinery rooms that contain ammonia refrigeration systems and are equipped with adequate mechanical ventilation that operates continuously or is initiated by a detection system at a concentration not exceeding 150 ppm shall be permitted to be classified as "unclassified" locations.

Informational Note: See ANSI/IIAR 2, *Standard for Design of Safe Closed-Circuit Ammonia Refrigeration Systems*, for information on classification and ventilation of areas involving closed-circuit ammonia refrigeration systems.

Determining the appropriate classification for an area requires an understanding of the following factors: (1) the type and amount of material present; (2) the potential for that presence under normal and abnormal conditions; and (3) the entire process that the material will or might undergo in given circumstances.

The *NEC* does not classify specific Class I, II, and III locations. Other standards and recommended practices of NFPA technical committees and other organizations such as American Petroleum Institute (API) with expertise in working with flammable and combustible materials can be used to classify locations.

Classification requires consideration of the specific equipment and process and depends on the materials and physical equipment and location (for example, possible leaks at flanges and machinery seals). Care must be taken when classifying an