FAQ's: Technical

What is a standard? Standards play a vital part in the design, production, and distribution of products destined for both national and international commerce. Sound technical standards benefit the user and manufacturer by improving safety, bringing about economies in product, eliminating misunderstandings between manufacturer and purchaser, and assisting the purchaser in selecting and obtaining the proper product for his particular need.

Where can I get a list of electrical industry standards? NEMA standards are listed alphabetically and by product, and are found on the website. Or, call Global Engineering at 1-800-854-7179, or 1-303-397-7956 (outside the U.S.) to request a free catalog. Global's website, at http://www.ihs.global.com, lists many other electrical industry standards.

Where can I find a list of automatic transfer switch vendors and manufacturers and a list of all related standards? NEMA's search engine allows selection of specific products and related information, including standards, manufacturers, application guides, news, and more.

Is the NEMA certification the same as the UL certification? Compliance with NEMA standards is voluntary. NEMA neither tests products nor certifies whether a product complies with a given NEMA standard. Conformity assessment relating to NEMA standards is an issue to be resolved between the manufacturer and the customer/marketplace. A manufacturer's self-declaration may suffice or independent third-party verification may be required depending on the situation.

I'm trying to find electrical symbols that are used as a standard that everyone understands. I recommend that you contact IEEE (Institute for Electrical and Electronics Engineers). IEEE is the custodian of the electrical and electronics symbols. One of their publications in which you might be interested is Wiring and Layout Diagrams Used in Architecture and Building.

Where can we find a publication that will give us the correct US symbols recognized by NEMA & IEEE? You may want to contact IEEE (Institute for Electrical and Electronics Engineers). IEEE is the custodian of the electrical and electronics symbols. One of their publications in which you might be interested is Wiring and Layout Diagrams Used in Architecture and Building. This will not likely be a freebie, but you might search for this and other related documents in your department's library. If you have to pay for the document, check first to see if someone in your department is an IEEE member, who can obtain it for you a lot cheaper. IEEE's address is www.ieee.org.

Is there an avenue for asking NEMA to investigate NEMA rated products which are not up to standard? NEMA is not an enforcement agency; NEMA Standards are voluntary standards. If a product is labeled or advertised as complying with a NEMA Standard then the manufacturer is self-certifying that the product meets the standard. If you are having difficulty with a particular product, we recommend you contact the manufacturer to resolve the problem.

I would like to check if I have the correct identifier for a standard. I have been informed that ANSI Z35.5, Biological hazard symbol, has been replaced by NEMA publication Z535.5, Accident prevention tags (for temporary hazards). Is this correct and are biological hazards included in Z535.5? The correct designation for the standard is ANSI Z535.5 "Product Safety Signs and Labels." NEMA is the Secretariat for the Z535 Committee, but does not own the copyright. Biological hazards are not included in any of the five standards in the Z535 series. The biological hazard symbol was developed by the U.S. Occupational Safety and Health Authority (OSHA). Federal and state requirements supercede the requirements of ANSI standards and are therefore not included.

Where can I find out the differences in standards for electrical products between the states? As background for my response, I will differentiate between standards, or what we call product standards, and codes, particularly electrical installation codes. Manufacturers build products to various standards, which define minimal levels of safety, minimal performance levels, and interfaces. Generally speaking, product standards are independent of the state in which a given product may be sold. Otherwise, if for instance each state had its own standard for an electrical product, then manufacturers might have to have up to fifty different products, one for each state in which the product would be sold. Obviously this would be very difficult for the manufacturer and would have a dramatic effect on the cost of the product. So typically there is one standard (or set of standards) for each product. Electrical installation codes define requirements for how an electrical can be installed within the jurisdiction of that code. Installation codes can and do also impact on product standards. In the US, the best known electrical is probably the

National Electrical Code. While the word "national" is included in the title, this code has no influence in installation practices in a given area unless it is adopted in that area. The area may be a state, a county, or a city. Many areas adopt the NEC directly, and it then becomes the installation code for that local. Other areas adopt the NEC with modifications. Finally, some areas, such as Chicago, have developed their own electrical codes. It is the electrical installation codes that vary from state to state or local to local. Unfortunately, I am not aware of any one source you could go to and find the various electrical codes that have been adopted across the US. You may want to contact the International Association of Electrical Inspectors and find out if they have this type of information. It is the electrical inspectors who would enforce the electrical code adopted in a given area. In summary, product standards typically do not differ from state to state. In fact, the trend today is to try to harmonize standards from country so one product design would be acceptable in many countries. Electrical installation codes do differ from area to area in the US.

I need to find some reference to the documents (BOM and Assembly Drawing) in the record-keeping system for engineering documents. NEMA standards don't generally contain "assembly drawings." They may include dimensional instructions that are accompanied by tables so users will understand which dimensions are standardized.