

Why Are We Doing All This Safety Stuff?

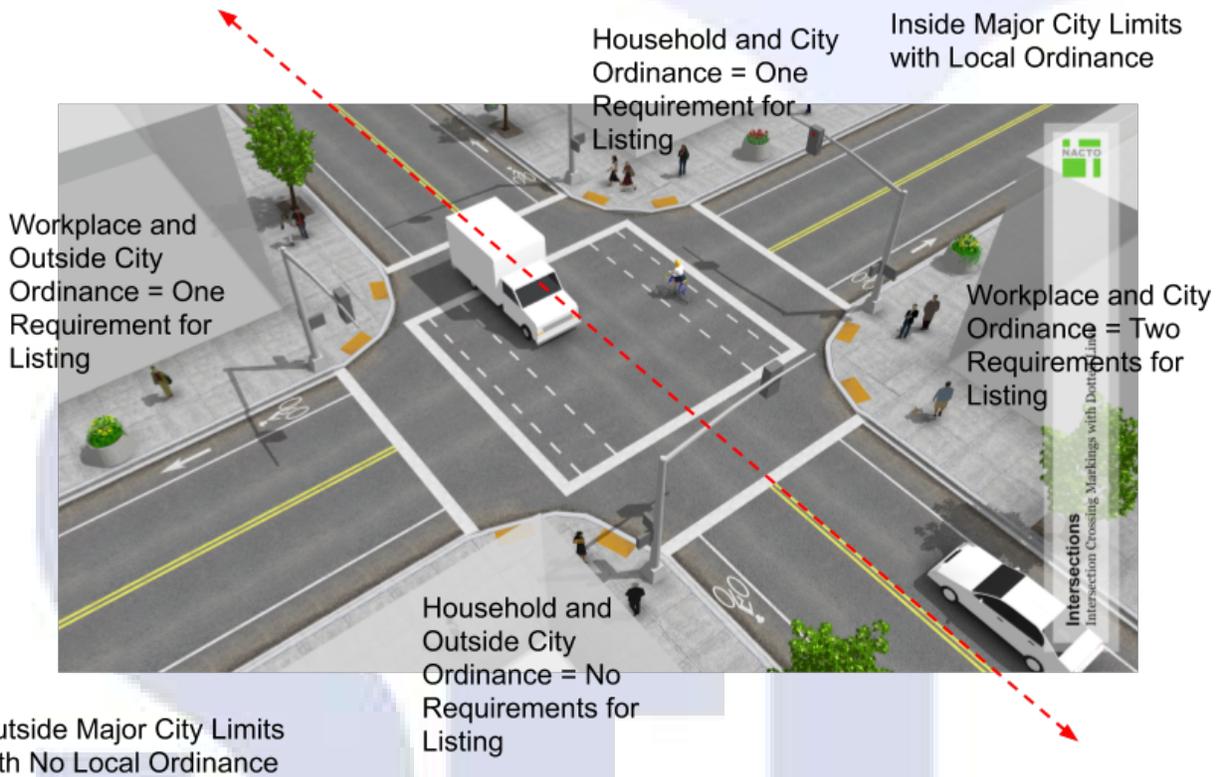
Product safety regulations in the U.S. and Canada

- **Local Ordinances** - "Listing" by a Nationally Recognized Test Laboratory (NRTL) is required by local ordinances in many counties and most major cities, such as the attached from San Francisco, and the entire state of Oregon. Approximately 15 NRTLs are approved by OSHA to evaluate and authorize the Listing Marks on products. Without NRTLs and a national system, a manufacturer would have to submit to each independent local authority for approval to potentially disparate requirements. Canada has similar requirements at the provincial level. There can be exceptions for low voltage products but the voltage level and VA limits can vary by city. The letter below from the City of Los Angeles shows that even displaying a product for sale without a Listing is not acceptable. The presence of the Mark on the product is required to satisfy the electrical inspector's purposes, as he/she enforces the local laws.
- **National Electrical Code (NEC)** - Complying with a UL safety standard is a means to show compliance with the applicable requirements of the NEC (aka NFPA 70), which primarily covers how the product interfaces with the building's AC mains. The Canadian Electrical Code is similar for Canada. The NEC is provided with the following Article 110.3(B):
 - "Instructions and Use. Listed or labeled equipment shall be installed and used in accordance with any instructions included in the listing or labeling."The NEC is adopted as law by many of the jurisdictions countrywide that do not want to completely write their own unique requirements, and with the above Article, NRTL Listing is effectively required for any product that is intended to be plugged into the AC mains and installed without restriction or condition.
- **Federal Law** - Required by OSHA in the workplace for the widely encompassing "utilization equipment" under 29 CFR 1910 Subchapter S. SEL submitted a formal written request to OSHA about exceptions, and unlike local ordinances, there are no exceptions for low voltage products, such as a keyboard, nor those products with external Listed power adapters. SEL can make its letter to OSHA and OSHA's letter in return available to you; the executive summary is that any product that receives an external source of power is required to be NRTL Listed. In this system, it is the employer that is legally obligated to provide Listed products for its employees, and rather than an electrical inspector or a customs agent monitoring what is installed, this mostly falls on the manufacturer and employer in the form of a lawsuit and fines after a worker is injured on the job, after the fact.
- **Customer Requirements** - Oftentimes, when a customer agrees to buy or resell a product, UL Listing is required per the contract. A "customer" may include a large OEM customer, that resells the product, a distributor/retailer such as a Home Depot or Sears that is trying to comply with the local ordinance, or the public at large. This can be due to following that company's general policy or due to the concern for liability.

- Product Liability – In the event of a product liability case, companies would like a competent, independent third party, such as UL, to assert that the construction met established industry standards for a minimal level of safety and was manufactured under a controlled process that includes factory inspection by an authorized agency inspector. Investors at companies can be interested in such assurance of meeting established norms, particularly for newer technologies.
- Insurance – Sometimes insurance premiums can become cost prohibitive, if a company does not produce Listed units, under the above controls.

Why the Confusion?

Requirements for Listing Can Vary by Which Corner You are Standing on!



“IS UL LISTING REQUIRED?”

The simple answer is “no”, to which many immediately latch on, hearing what they want to hear, but that is because any one of the 15 NRTL’s Listing is required, not necessarily just UL’s. UL may be selected over its competitive NRTLs for marketing reasons, but that is not to say that the UL Listing is done for marketing reasons; it is done because NRTL Listing is required. For a large one-off system, there can be an inspection done by the electrical office that is responsible for that location, so really we could answer that NRTL Listing is not required. But for any products that are intended to be installed freely across the cities and counties, and legally installed in the workplace, NRTL is effectively required.



SAN FRANCISCO CITY ORDINANCE:

G. Regulation for Sale or Installation of Equipment Energized by Electricity.

90-71. Requirement that All Electrical Products be Approved. No person, firm, corporation or entity shall sell, offer for sale, advertise or display for sale, dispose of by way of gift, loan, rental, lease, or premium, use or install for use any electrical product, appliance, equipment, material or device (hereinafter generally referred to as "electrical product") which is operated or energized in whole or in part by electricity, unless such electric product is approved by the Superintendent as having complied with applicable requirements set forth in the Electrical Code, and as being currently listed by an approved testing laboratory described herein.

Exception: The following electrical products may be excluded from this section, provided that the specific purpose of the electrical product is not designed for use as a life safety device, and provided there is no evidence of potential hazard:

- a. Any electrical product which does not utilize in excess of 30 volts.**
- b. Any electrical product which generates, transmits, transforms or utilizes less than 50 volt-amperes.**

90-74. Minimum Safety Standards as Condition for Approval.

(a) Superintendent's Authority to Approve. Approval shall be granted by the Superintendent provided that the electrical product complies with applicable requirements of this Code, and such product is currently listed and labelled by an approved testing laboratory as described herein.

CITY OF LOS ANGELES ELECTRICAL CODE:

SEC. 93.0402. SALE, INSTALLATION AND USE. No person shall sell, offer for sale, advertise, or display for sale, dispose of by way of gift, loan, rental, lease or premium, or install or use any "equipment," as defined in Article 100 of the C.E.C., unless that equipment has been approved by the Department.

EXCEPTION: Equipment listed by an approved laboratory, provided the label, symbol or other identifying mark of the approved laboratory is affixed to the equipment and further provided that the equipment is installed and used in conformance with its listing and this Code.



CITY OF LOS ANGELES:

**CITY OF LOS ANGELES
CALIFORNIA**

R. J. WILLIAMS
GENERAL MANAGER AND
SUPERINTENDENT OF BUILDING

March 31, 1970



M. YORTY
MAYOR

DEPARTMENT OF
BUILDING AND SAFETY
REPLY TO: ELECTRICAL TESTING LABORATORY
2319 DORRIS PLACE
LOS ANGELES, CALIF. 90031
TELEPHONE 222-7131

The electrical equipment listed below has been found on display at the _____ on _____.

No evidence of listing by Underwriters' Laboratories or approval by the City of Los Angeles Electrical Testing Laboratory can be found for this equipment.

Los Angeles City Ordinance No. 106,100 requires that all electrical equipment be approved before it may be sold, or used in the City of Los Angeles.

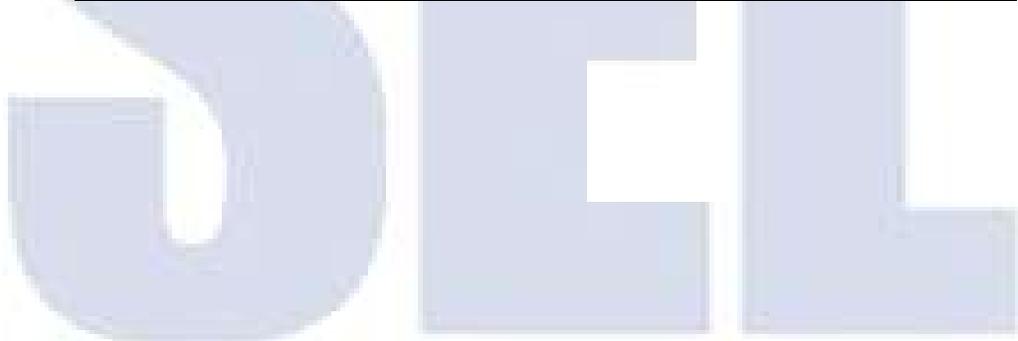
Approval will be required if this equipment is offered for sale in the City of Los Angeles.

Copies of the Laboratory Rules and Application Blanks are enclosed for your convenience.

R. J. WILLIAMS
Superintendent of Building

Fred C. Edwards PES
Senior Electrical Tester

XB&S L-22 10.67





Product Safety Regulations in the European Union

- CE Mark and Importing Requirements - With uniform European importing laws under the New Approach Directives, CE Marking and harmonized product safety standards, called European Norms such as EN60950, the European Union has supra-national laws that create uniform national requirements across the EU to ensure products introduced to the market “do not cause harm to persons, property or domestic animals”. This is the opposite end of the spectrum from the local-level ordinances in the U.S.
- Customer Requirements and Liability Concerns – As described above, except the additional considerations that the entity on European soil is liable for the products placed on the market, and not the manufacturer on the other side of the Atlantic. That entity such as a distributor or representative can have input about how certifications are done, what standards are applied, and who is involved in attesting to compliance. If they want to reduce the likelihood of being fined for non-compliance, they can require the involvement of credible safety experts of their choosing or a Notified Body of the European Union. As an example of a lesser understood “customer”, the German workers union requires equipment used by its workers to be GS Marked, not just CE Marked, which takes into account other factors such as ergonomic aspects of keyboards and monitors.

Helpful Links:

- <http://www.osha.gov/dts/otpca/nrtl/index.html#nrtls>: Shows the list of NRTLs that are accredited by OSHA.
- http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9878: Shows the OSHA guidelines for products in the workplace.
- <https://www.nfpa.org/codes-and-standards/all-codes-and-standards/codes-and-standards/free-access?mode=view>: for Oregon Electrical Specialty Code
- www.SELdirect.com For information about SEL’s capabilities.