

Reply to the attention of:



Mr. Lee Ould
President
Safety Engineering Laboratory
2372-A Qume Drive
San Jose, CA 95131-1843

Dear Mr. Ould:

Thank you for your June 7, 2004 letter to the Occupational Safety and Health Administration (OSHA) regarding the approval requirements for "low voltage" products. You provided us a listing of products that you consider to be "low voltage" and asked us to confirm that OSHA requires these products to be tested and certified, i.e., approved, by a Nationally Recognized Testing Laboratory (NRTL). Before we address your request, we provide the following background information.

OSHA's general requirement for approval of electrical equipment or products is found at 29 CFR 1910.303(a). When read with the definition of "acceptable" under 29 CFR 1910.399, the requirement provides that NRTLs must approve this equipment provided that neither of 2 exceptions applies. These exceptions do not appear to apply to the items you described. In fact, as explained below, it appears that many of those items, including the computer keyboard and mouse, must be NRTL approved.

Paragraph 1910.303(a) uses the term "equipment", which, as defined under 1910.399, is a general term for something used as part of, or in connection with, an electrical installation. Based on this definition, 1910.303(a) requires equipment that is powered from an outlet or from an electrical circuit to be approved. Also, equipment that draws its power from another unit must be approved unless it is approved as part of a larger unit or an installation.

With respect to battery-operated equipment, 1910.303(a) does not require approval of this equipment since it is powered independently of an installation. However, OSHA has another approval requirement under 1910.307(b), which requires battery operated equipment used in a hazardous location to be approved. As a general matter, a hazardous location has flammable or

combustible substances that may be ignited by the use of electrical equipment. This may not apply to you, but we are letting you know just in case any of this equipment was **intended** for use in hazardous locations.

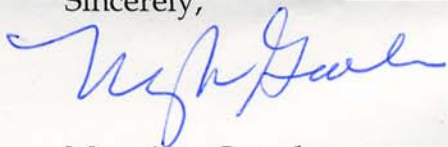
In summary, based on our general understanding of the equipment you listed, with the exception of the battery-operated equipment, it appears that NRTL approval would be required. However, we are not familiar with all of the specific descriptions you have given and are unsure whether the "DC48V" item is battery-operated equipment or connected to a DC power system. Therefore, if our response does not address all the equipment on your list, we suggest that you contact us to describe the item(s) in more detail to permit us to determine if approval is required.

You also asked us to confirm that OSHA has no "voltage threshold under which products do not need to be" approved. In response, we confirm that there is no such threshold for our approval requirements.

Please note that the approval requirements generally apply to private employers throughout the U.S. and its territories through either Federal OSHA standards or the equivalent standards in the 26 States that administer their own OSHA-approved occupational safety and health plans. (While State and local government employers are not covered by Federal OSHA, these requirements do apply to such public sector employers in States with approved plans). California is a State-Plan State and States with approved plans are required to adopt and enforce electrical requirements at least as effective as those described above and in addition must accept certification by OSHA-recognized NRTLs where State and Federal safety requirements are equivalent.

Thank you for your interest in safety and health. If you have any questions or need more information please contact Mrs. Sherrey Nicolas at (202) 693-2110, or by e-mail at nicolas.sherrey@dol.gov.

Sincerely,



MaryAnn Garrahan

Director

Office of Technical Programs and Coordination Activities



United States Department of Labor – OSHA
Attn: MaryAnn Garrahan
200 Constitution Avenue
Room N3655
Washington, DC 20210

June 7th, 2004

Dear Ms. Garrahan,

My name is Lee Ould and I am the president of Safety Engineering Laboratory (SEL) in San Jose, California. Over the last 32 years or so, SEL has successfully secured NRTL Listing – mostly from UL, CSA and TÜV Rheinland – on thousands of products. We typically consult with our high tech clients here in Silicon Valley, conduct the testing for the agencies, secure the Listing approvals, and importantly educate our clients both about the technical requirements of the industry standards, and the legal requirements that underpin why we are doing the NRTL Listings in the first place.

I am noticing that in this educational process, many companies out there are not aware of OSHA's requirement for Listing on products used in the workplace, regardless of the voltage that the electrical equipment operates. I believe some of the misunderstanding stems from the fact that many local ordinances such as San Francisco's, specify a voltage and power under which products do not need to be Listed. In reviewing OSHA's requirements again online recently, particularly Subpart S – Electrical of 29 CFR Part 1910, I do not see a "low voltage exemption", or a voltage threshold under which products do not need to be Listed. I read a very generic "electrical equipment" with no mention of being AC-powering or plugging into the wall at all.

In a telephone conversation today with Ms. Sherrey Nicolas from your office, she verbally confirmed that there is not such a "low voltage exemption", and that my reading of the requirements was essentially correct. I would like to have a written confirmation from OSHA in this regard, as a means to help educate my clientele.

I am noticing that there are a good number of products out there in industry and the workplace, manufactured by prominent manufacturers, that do not have NRTL Listing. They all have a tendency to point to each other's competitive products, without such Listing approvals, as justification for not securing the Listing themselves.

My efforts to educate my clientele, I figure, will be more successful if I had something from OSHA in writing to that effect – that it is not simply my opinion on the matter.

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In particular, I would like to have confirmation that the following products, if used in the workplace, are required to have NRTL Listing, and that there is no exemption due to their only having low voltages, below DC30V for example:



- Calculators with external wall-adapter power supplies (9V output).
- Wireless access points (WAPs, shown at right), with external Listed wall-adapter power supplies (12V outputs).
- Mice, keyboards, etc. used with standard personal computers and receive their power from the PC using industry standard connectors.
- Telecommunication equipment with DC48V inputs.
- Battery-powered equipment, that do not ever plug directly into the wall, such as a calculator with internal batteries, or a Personal Digital Assistant (PDA) like a PalmPilot or HP's IPAQ (these are not my customers, but common products for discussion purposes).
- Biotech products used in a laboratory environment, such as those used to handle samples in well plates, and plug into the wall.
- Semiconductor equipment used in a fab, such as process tools that are powered by the AC mains and are involved in some part of the process of turning the silicon wafer into the final integrated circuit (etching on the front end, inspection on the back end, etc.)



My understanding is that these types of products need to be Listed by an NRTL in order to be used in the workplace, as required by OSHA. A confirming letter to this effect would be appreciated, and useful in my educational efforts. I am attaching a sample letter from the OSHA website, which is similar in terms of the type I would like to have in hand myself for the above products.

Please call if you have any questions, or need anything else.

Best regards,

Lee Ould
President, SEL