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SUBJECT 2361

OUTLINE OF INVESTIGATION
FOR
CUSTOM-BUILT KIOSKS

Issue Number: 2

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Summary of Topics

This second issue of the Outline of Investigation for Custom-Built Kiosks, Subject 2361, includes updates to referenced standards.

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INTRODUCTION

1 Scope

1.1 These requirements cover self-contained, custom-built kiosks that provide information, ticket machines, electronic point-of-sale products, customer self-checkout stands, and business application products to be employed in accordance with the National Electrical Code, NFPA 70. Kiosks as covered by these requirements are intended for indoor use only, except that they will be investigated for outdoor use or use in a protective location when so designated by the manufacturer.

1.2 These requirements cover kiosks intended for general use, operating from a voltage of 240 volts or less. This equipment is intended for installation in locations in accordance with the National Electrical Code, ANSI/NFPA 70, where the ambient temperature does not exceed 25°C (77°F) maximum unless specified by the manufacturer.

1.3 This Outline of Investigation does not directly apply, however is capable of being used as a supplement to the Standard for Coin and Currency Changers and Actuators, UL 756, when kiosks are intended for use with coin, credit card, debit card, currency, and token-operated devices.

1.4 These requirements do not cover antitheft protection features.

1.5 These requirements cover cord-connected kiosks, identified as having Configuration I, however are not limited to this type of configuration. See 2.9 for Kiosk Configurations.

1.6 These requirements cover open-type kiosks, identified as having Configuration IV, which are intended to be field installed to form part of the premises building. See 2.9 for Kiosk Configurations.

1.7 These requirements do not cover accounting machines, cash registers, computers, keyboards, key telephone systems, mice, monitors, modems, PABXs, telephone sets, and similar machines. Devices of these types are covered by the Standard for Safety of Information Technology Equipment – Safety – Part 1: General Requirements, UL 60950-1. Custom-built kiosks may, however, contain one or more of these machines.

1.8 A product that contains features, characteristics, components, materials, or systems new or different from those covered by the requirements in this Outline of Investigation, and that involves a risk of fire, electric shock, or injury to persons shall be evaluated using the appropriate additional component and end-product requirements to determine that the level of safety as originally anticipated by the intent of this Outline of Investigation is maintained. A product whose features, characteristics, components, materials, or systems conflict with specific requirements or provisions of this Outline of Investigation shall not be judged to comply with this Outline of Investigation. Where appropriate, revision of requirements shall be proposed and adopted in conformance with the methods employed for development, revision, and implementation of this Outline of Investigation.

2 Glossary

2.1 For the purpose of this Outline of Investigation, the following definitions apply.

2.2 CLASS 2 CIRCUIT – A control circuit supplied from a source having limited voltage (30 Vrms or less) and current capacity, such as from the secondary of a Class 2 transformer, and rated for use with Class 2 remote-control or signaling circuits in accordance with the requirements for Class 1, Class 2 and Class 3 Remote-Control, Signaling and Power-Limited Circuit of the National Electrical Code, ANSI/NFPA 70.

2.3 COVER – An unhinged portion of an enclosure that covers an opening.

2.4 CUSTOM-BUILT KIOSK – A product which gives information or is a point-of-sale product and is not a typical mass production-line product. A typical construction includes, however is not limited to, a wood housing that contains subassemblies and peripherals. See 2.9 for details on Kiosks.

2.5 DOOR – A hinged portion of an enclosure that covers an opening.

2.6 ENCLOSED KIOSK – A kiosk provided with an enclosure at the factory. It is the outer cabinet of a self-contained kiosk.

2.7 EQUIPMENT MOBILITY

a) MOVABLE EQUIPMENT – Equipment is designed with wheels, castors, or other means to facilitate movement by the operator as required to perform its intended use.

b) STATIONARY EQUIPMENT – Equipment that is not movable.

c) EQUIPMENT FOR BUILDING-IN – Equipment intended to be installed in a prepared recess such as in a wall, or similar situation. This type of equipment does not have an enclosure on all sides, as some of the sides will be protected after installation. Also, refer to the definition of "open-type kiosk" and identified as having Configuration IV. See 2.9 for details.

2.8 INSULATING MATERIAL – A non-conductive material.

2.9 KIOSK – These requirements apply to kiosks categorized as custom-built kiosks, and are provided with an arrangement of interconnected or individual assemblies and subassemblies. A kiosk system is defined as being of one of the following configurations:

a) CONFIGURATION I – Cord connected with an enclosure: A system of previously evaluated assemblies and subassemblies that are identified as having unrestricted use and employs a power supply cord connected to a branch-circuit supply. Typically contains, however is not limited to, a monitor/touch screen, CPU unit, printer, and relocatable power tap. This system is not intended to be permanently wired and has no provisions for the routing and termination of wiring.

b) CONFIGURATION II – Field wiring (hard wired) with an enclosure: This type of kiosk requires further evaluation. A system of previously evaluated assemblies and subassemblies that are identified as having unrestricted use connected to the branch-circuit supply by field wiring terminals (permanently hard wired). Typically contains, however is not limited to a monitor/touch screen, CPU unit, printer and terminal block.

c) CONFIGURATION III – A system that contains previously unevaluated assemblies and subassemblies that require further evaluation of these assemblies.

d) CONFIGURATION IV – Cord connected without an enclosure: A system of previously evaluated assemblies and subassemblies that are identified as having unrestricted use employs a power supply cord connected to a branch-circuit supply only when "attached" (or "affixed") to the building structure without requiring the use of a tool for its removal. This system, since provided with assemblies that already have an electrical and fire enclosure, is not required to have a complete housing since the intent is to be placed in a building structure that completes the enclosure. This configuration is identified as an open-type kiosk. See 2.10 for open-type kiosks and 2.7(c) for equipment for building-in.

Configuration designations used in this Outline of Investigation only serve as a reference to determine appropriate requirements.

2.10 OPEN-TYPE KIOSK – A kiosk that has an incomplete or partial enclosures is identified as an open-type kiosk. This type of equipment is installed in a building where the kiosk is protected after installation or is identified as having a Configuration I construction requiring a complete housing. See 2.7(c).

2.11 OPERATOR OR USER SERVICING – Any form of servicing that is to be performed by personnel other than qualified service personnel. Some examples are:

- a) The attachment of accessories;
- b) Replacement of lamps that are accessible without the use of tools;
- c) Making routine operating adjustments required to adapt the kiosk for its different intended functions; or
- d) Routine cleaning, removal of coins, price changing, replenishing the product supply (printer paper, adding tickets, and greeting cards), making minor adjustments, and other services performed by the route man who regularly opens a kiosk for such purposes.

2.12 OPERATOR ACCESS AREA – An area to which under normal operating conditions, one of the following applies:

- a) Access is capable of being gained without the use of a tool;
- b) The means of access is deliberately provided to the operator; or
- c) The operator is instructed or insinuated to enter regardless of whether or not a tool is required to gain access.

2.13 SELF-CONTAINED KIOSK – A kiosk that is complete in its constructions.

2.14 SERVICE ACCESS AREA – An area, other than an operator access area, where it is required for service personnel to have access even with the equipment switched on. Service functions as defined by these requirements include, however are not limited to, changing printer paper, adding tickets, and greeting cards.

2.15 UNEVALUATED COMPONENT – A component or device for which compliance with an applicable standard has not been determined.

3 Components

3.1 Except as indicated in Appendix A, a component of a product covered by this Outline of Investigation shall comply with the requirements for that component. See Appendix A for a list of standards covering components used in the products covered by this Outline of Investigation.

3.2 A component is not required to comply with a specific requirement that:

- a) Involves a feature or characteristic which is not applicable in the use of the component within the end product covered by this Outline; or
- b) Is superseded by a requirement in this Outline of Investigation.

3.3 A component shall be used in accordance with its rating established for the intended conditions of use (for example, electrical ratings, temperature limits, etc.).

3.4 Specific components are identified as being incomplete in construction features or restricted in performance capabilities. Such components are intended for use only under limited conditions, such as certain temperatures not exceeding specified limits, and shall be used only under those specific conditions for which they have been investigated.

3.5 Unevaluated nonelectrical and nonhydraulic devices mounted in a kiosk, such as those operating on air pressure are capable of being used. The term hydraulic shall be interpreted as any pressurized liquid, and only inert substances shall enter or exit the kiosk.

3.6 Class 2 Power Units include transformers and power supplies marked "Class 2" with outputs marked "Class 2". Unevaluated electrical devices totally within the circuit connected to the secondary of a Class 2 low-voltage device are capable of being used. See Section 18, Class 2 Circuits, for Class 2 applications.

3.7 Information Technology Equipment such as a printer, monitor, or computer shall comply with the requirements in the Standard for Safety of Information Technology Equipment – Safety – Part 1: General Requirements, UL 60950-1.

3.8 An electrical load shall comply with the following:

- a) An electrically-operated valve shall comply with the Standard for Electrically Operated Valves, UL 429;
- b) A time-indicating or time-recording device, including an hourmeter, or a synchronous motor shall comply with the Standard for Time-Indicating and -Recording Appliances, UL 863;
- c) An electrically operated counter shall comply with the Standard for Time-Indicating and -Recording Appliances, UL 863; or
- d) An audible signal appliance, including a horn, bell, or buzzer, shall comply with the Standard for Audible Signal Appliances, UL 464;