Nurse Call Systems & Emergency Call Systems

Overview of ANSI/UL 1069 and ANSI/UL 2560
Overview

• National Consensus Standards
  ▪ American National Standards Institute (ANSI)
• Nurse Call Systems
• Emergency Call Systems
  ▪ Overview of new UL2560 Standard
• Differences between UL1069 and UL2560
• Applicability of Standards
Nurse Call Systems & UL1069
Consensus Standards

- **UL1069** complies with all relevant articles of NFPA70 National Electrical Code and NFPA99 Health Care Facilities Code

- **NFPA101** (Life Safety Code) 18.1.1.1.2/3 defines Healthcare facilities to be “…where the occupants sleep there, but are not reasonably able to evacuate themselves in an emergency”
  - As such, these facilities have 24-hour staff on duty
Nurse Call Systems

• **UL1069** Hospital Signaling and Nurse Call Equipment
  - Created in 1977 by UL and Nurse Call industry
  - 7th edition (October 2007) clarifications/additions focused on three areas:
    - Wireless nurse call devices
    - Definition and verification of core system elements
    - Definition of oxygen-enriched testing for pendant controls
Wireless Nurse Call Devices

- Wireless initiating devices, as part of the fundamental system, have clear limitations:
  1) The intent of wireless devices is to extend the coverage of a hard-wired system, however, only initiating devices can be wireless
  2) The fundamental notification devices MUST be wired
  3) Wireless devices utilize a “shared” radio frequency (RF) space
     - Not guaranteed to be available or work in all real world environments
     - UL1069 adds requirements to assure best possible reliability
Wireless Nurse Call Devices

- Wireless initiating devices, as part of the fundamental system, have clear limitations:
  4) Devices are supervised. Loss of contact with receiver for more than 90 seconds (including interference, loss of battery power, damage, etc.) = a supervisory alarm
  - This requirement is based on testing the LARGEST possible system
  - Note: On systems listed prior to Ed 7, the supervision time may be 24 hours

- Extensive testing required to assure devices will work in predictable interference scenarios
  - Systems must have designs that “hop” or move frequencies to work around potential interferences
Nurse Call Systems

Fundamental System Requirements

- UL1069 defines the fundamental nurse call system devices:
  - Patient Station
  - Bath Station
  - Emergency Station
  - Corridor Light
  - Console
  - Power and Control

A system without corridor lights cannot be UL 1069 listed
Nurse Call Systems

Oxygen-Enriched Environments

- UL1069-listed systems fully comply with NFPA99 for safety of pendant devices (call cords and pillow speakers) in oxygen-enriched environments
Emergency Call Systems & UL 2560
Emergency Call Systems

UL2560 Emergency Call Systems for Assisted Living and Independent Living Facilities

- 1\textsuperscript{st} edition published September, 2011
- Addresses minimum performance of emergency call (e-call) systems in senior living communities
Emergency Call Systems

UL2560 Requirements

- **Placement**
  - Permanently fixed e-call station must be located in every resident bathroom
  - Additional optional stations at resident beds, elsewhere in living areas and common areas are allowed

- **Pendants**
  - Pendants are optional, but if included, must comply with the standard
  - Assigning pendants to residents does **not** remove requirements for at least one fixed e-call station in each resident bathroom
Emergency Call Systems

UL2560 Requirements

- Call Indicator
  - E-call stations and pendants must include call assurance indication

- Central Notification Station
  - There must be at least one notification station to receive all calls
  - Must be at a fixed location
  - Additional optional portable notification stations are allowed
Emergency Call Systems

UL2560 Requirements

- **Origination Reporting**
  - The origin of a resident call must be reported at a notification station
  - The origin must be specific
    - e.g. “Apt 117” or “3rd Floor Men’s Room”

- **Cancellation**
  - Call (from fixed station or pendant) must be canceled at the source of the call
  - Exception: If the system can separate *non-emergency* resident calls from *emergency* resident calls and there is voice communication between the e-call station and notification station
    - Non-emergency calls can be canceled from notification station after voice contact with resident has been made
Emergency Call Systems

Other UL2560 Requirements

- Connection Testing
- System Testing
- Back-up Power
- Low Battery Alarm
- Interference Testing

To obtain a copy of UL2560:

http://ulstandardsinfonet.ul.com/catalog/stdscatframe.html
Comparison of the Standards
## Standards Comparison

<table>
<thead>
<tr>
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<th>UL1069</th>
<th>UL2560</th>
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<tbody>
<tr>
<td>Required Call Notification</td>
<td>Wired - Console and corridor lights</td>
<td>Wired/Wireless – Console only</td>
</tr>
<tr>
<td>Supervision of Wireless Initiating Devices</td>
<td>Every 90 seconds</td>
<td>Every 24 hours</td>
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<tr>
<td>Mobility</td>
<td>Assumes patient is not mobile</td>
<td>Assumes resident is mobile</td>
</tr>
<tr>
<td>Nursing Staff 24/7</td>
<td>Required</td>
<td>Not required</td>
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Applicability of the Standards
Applicability of Standards

When UL 1069 Applies

- Systems covered by the standard are intended to be installed in either General or Critical Care areas in accordance with:
  - National Electrical Code (NFPA70)
  - Health Care Facilities Code (NFPA99)
  - Life Safety Code (NFPA101- Chapter 18)
Applicability of Standards

When UL2560 Applies

- Systems covered by standard are intended to be installed in:
  - Assisted and independent living facilities
    - 24/7 staffing is not required
    - Residents can reasonably be assumed to evacuate themselves in an emergency
Importance of Listing
Importance of Listing

• When nurse call systems are listed to UL1069 and emergency call systems to UL2560, you can count on:
  ▪ Product safety for all users
  ▪ System reliability
  ▪ Corporate integrity to design to the highest standards now and as new requirements are implemented
  ▪ Peace of mind for staff, patients, residents, and relatives
Questions?

Thank You!