

3 Part

Harmony

presented by

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Presented by:
Bill Lauzon, PE



2006-2011
DHS-DQA



2011-present
Lauzon Life Safety
Consulting, LLC
Statewide Consultant



1973-2006
“Facility Engineer”
Tomah – Fargo- Madison
Kenosha - Racine





**Co-Presented by
Heather Lauzon Werner**

**Lakeview Specialty
Hospital**

***Director of the
Environment of Care***



Waterford, Wi



**2012-present
Co-Owner
Lauzon Life Safety
Consulting, LLC
Statewide Consultant**



2016 Lunch & Learn Webinar Topics

(subject to revision)

January

S M T W T F S

Plan Grid

(& other free Aps for Facility
Floor Plans-1/14/16)

February

S M T W T F S

Thermal Distribution

(ideas for energy improvement
in the bldg-2/11/16)

March

S M T W T F S

You are the Inspector

(Focused Inspection-Part II, 6
more topics-3/10/16)

April

S M T W T F S

Legionella Risk

Assessment

(keep the water safe-4/14/16)

May

S M T W T F S

ILSM & Barriers

(construction suggestions to
satisfy TJC & DQA-5/12/16)

June

S M T W T F S

Filter Requirements

(keeping your environment
clean & compliant-6-9-16)

July

S M T W T F S

Joint Commission Basics

(how to prepare for a survey &
maintain your sanity-7-14-16)

August

S M T W T F S

Utility Risk Assessment

(NFPA 99-2012 workshop of
how to evaluate risk-9/11/16)

September

S M T W T F S

Boiler Maintenance

(how to keep large & small
boilers in top shape-9/8/16)

October

S M T W T F S

Pressure Relationships

(know when the air should
blow in & out-10/13/16)

November

S M T W T F S

Testing of Smoke & Fire

Doors (setup your program
or be cited-11/10/16)

December

S M T W T F S

2012 Life Safety Code

(Overview of the important
changes-12/8/16)

\$300-members

\$500-non-members

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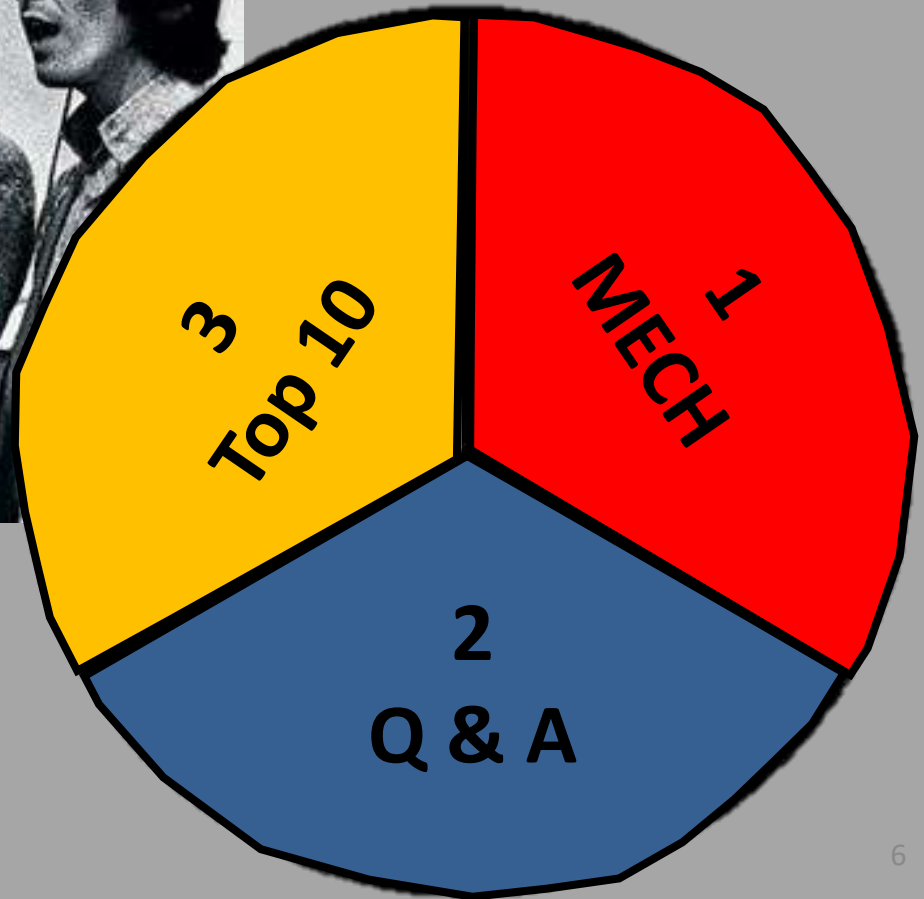
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Dec 8, 2015 Lunch & Learn





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Part 1

MECH



The MECH Program

How it can benefit you

The MECH Mission

- **Started in Michigan over 20 years ago**
- **Identify and recognize highly skilled and knowledgeable healthcare maintenance mechanics.**



What is MECH?



M

E

C

H

**MECH is a nationally
recognized certification
program for healthcare
mechanics.**

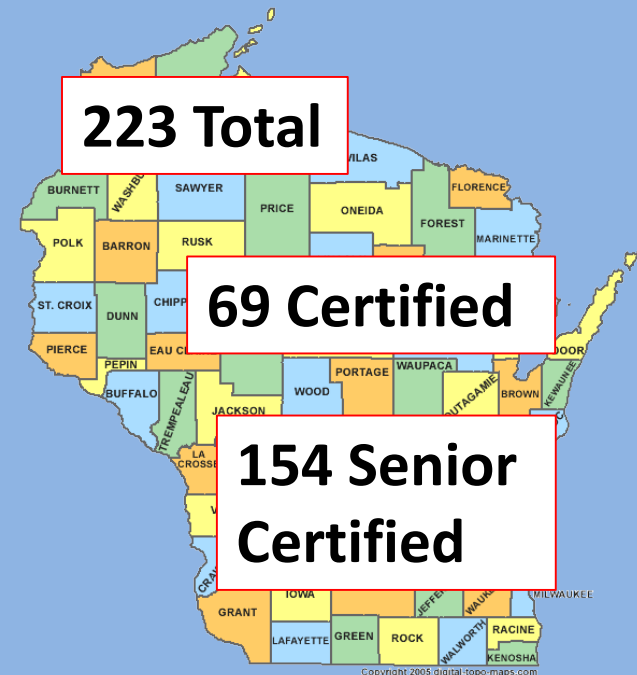
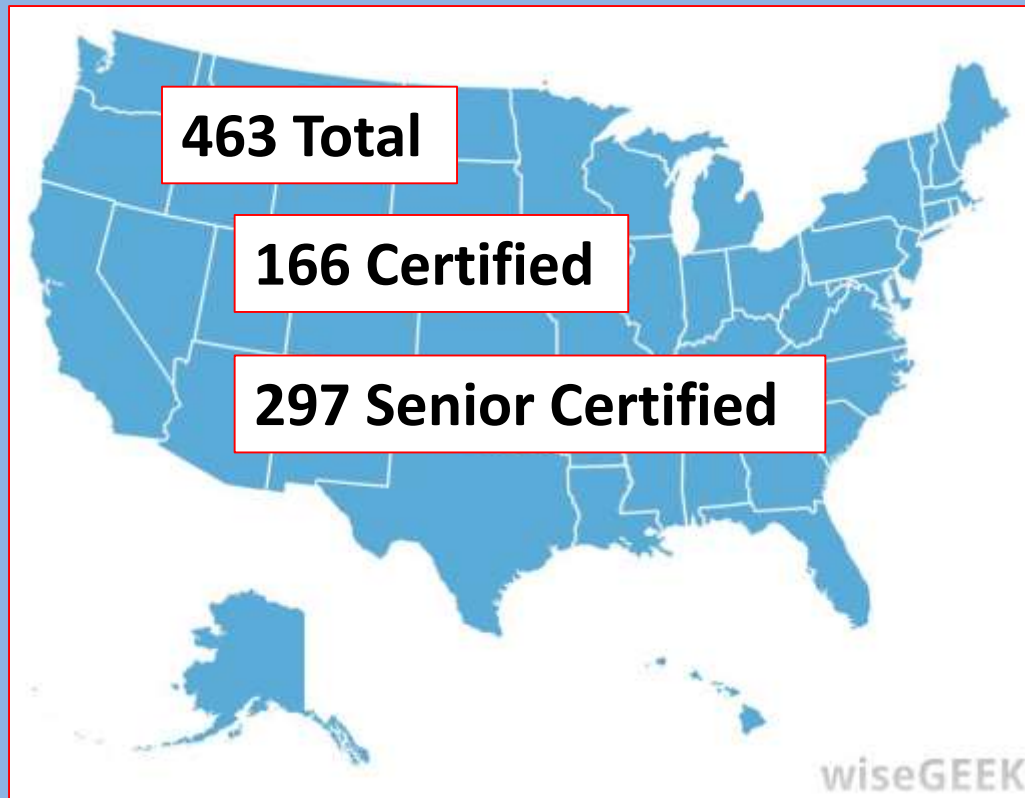
What is MECH?

- Recognized by various AHJ's as documentation of having “qualified staff”.
- Performance and Knowledge based
- Test administered by proctors
 - Validity of the certification



The Joint Commission

Who is MECH Certified?



Who is Qualified?



Who is Qualified?

- **Certified** - Two years of experience in healthcare maintenance
- **Senior Certified** – Four or more years of experience in healthcare maintenance
- Your current supervisor's signature



General Maintenance



Electrical



Carpentry



Plumbing

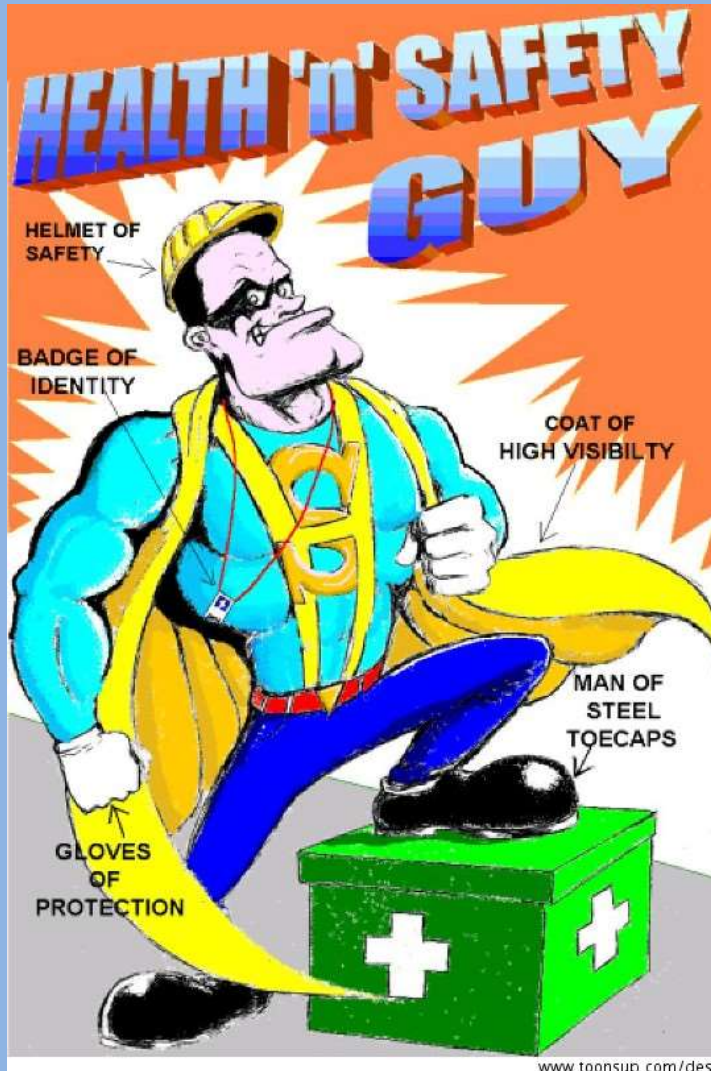


Safety & Support Services



Successful test candidates will have a broad range of skills in all categories.

Why Become Certified?



www.toonsup.com/des



The MECH Advantage



Certified mechanics

- Professional recognition as a Healthcare Mechanic.
- Documentation of increasing skills - Certified to Senior Certified.
- Credentials for resumes when switching jobs or seeking promotion.
- Concrete goals for achieving a higher level of proficiency, both individually and within the trade.

The MECH Advantage



Maintenance supervisors

- Document current knowledge of employees.
- Improve quality standards among your team.
- Identify training needs.
- Retain and reward valuable mechanics.
- Demonstrate value to your facility.

The MECH Advantage



Healthcare facilities

- Verification of employee skill for The Joint Commission accreditation.
- Improved quality of patient care, by equipping in-house staff with broad-based skills.
- Increased productivity and reductions in contracted services
- A method for determining employment levels or pay incentives.
- A hiring system - the MECH Structured Interview.

How to Become Certified



- **Submit application and payment**
- **Find a potential proctor, and have that person contact MECH, or join a pre-arranged test session**
- **Work with your proctor and supervisor to set up a test date. MECH must approve your test date no less than 60 business days in advance.**
- **Prepare for the test with your Test Prep Workbook.**

How to Become Certified

The MECH test:

- Multiple-choice, written exam
- Two-hour time limit
- Covers the following categories of healthcare maintenance work:
 - Plumbing
 - Carpentry
 - Electrical
 - General Maintenance
 - HVAC/R Systems
 - Power Plant/Boiler
 - Safety and Support Services
- If you do not become certified on your first try, don't give up! Apply again as soon as you feel ready.



Staying Certified

MECH Certification or Senior Certification is valid for five years from test date.



- **Recertification Requirements**
- **Minimum of 6 hours of group or individual classroom-style training each year.**
- **At least a month before your certification expires, submit recertification forms and required payment.**
- **The MECH Recertification Panel - Review documentation, and extend certification another five years if approved**

Staying Certified

Training that qualifies for recertification:

- Training of a technical nature that upgrades the certificate holder's knowledge and skill
- Vendor-sponsored training, if offered in a classroom or hands-on setting
- Online training, if presented in a method similar to classroom-style training
- Seminars or conferences presented by your state or regional healthcare engineering society
- Classes at least 50 minutes per session
- Training you lead or present to others



Staying Certified

Training that does not qualify for recertification:



- **CMMS (computerized maintenance management system) training**
- **Safety, security or awareness classes**
- **Training of under 50 minutes duration**
- **Unclear training titles provided without content description**
- **Self-directed learning**
- **Duplicate or recurring training sessions**
- **Training presented by a vendor or equipment manufacturer without face-to-face.**

Using MECH to your Advantage

Additional Tools Available from MECH



- **Structured Interview Manual**
- **Supervisor's Implementation Guide**
- **STEP Test**

Structured Interview Manual

- **Develop consistent hiring practices**
- **Easily identify and hire skilled mechanics**



Contains:

- **Job descriptions for three levels of healthcare maintenance work.**
- **Instructions to conduct comprehensive, consistent interviews.**
- **Effective interview questions specifically for healthcare mechanics.**
- **Evaluation matrix to score each potential candidate.**
- **Basic entry level test with answer key and scoring sheets.**

Supervisor's Implementation Guide

- **Build a better maintenance team**
- **Provides information and tools to get the most value out of the MECH program**

Contains:

- **Information about Certification Test and STEP Evaluation Test, including on-site test proctor procedures.**
- **Training guides and sample two-year programs to prepare maintenance mechanics for certification.**
- **Suggested study resources.**
- **Test-taking techniques and strategies for combating test anxiety.**
- **A complete practice test with answer sheet and scoring key**



STEP Test

Screening Tool for the Evaluation of Personnel (STEP)

- Evaluate mechanics without conferring certification
- A trustworthy third-party verification of your employee's skills



Use the STEP Test to:

- Screen potential new hires.
- Evaluate mechanics who don't yet qualify for certification.
- Determine the need for additional training.
- Evaluate the effectiveness of training.
- Evaluate potential employees who are not currently eligible for MECH Certification.

Next steps



- The MECH program is managed from the MECH Certification National Office.
- Apply and pay for certifications directly to MECH
- www.mech-certification.org





3 Part Harmony

Dec 8, 2015 Lunch & Learn

Part 2

Q & A

QUESTIONS

- 1. Wireless Nurse Call – Plan Reviews**
- 2. Charging Devices & Power Strips**
- 3. Power Strips**
- 4. CBRF – Plan Reviews**
- 5. Corridor Equipment Parking**
- 6. Damper Removal**
- 7. Fire Wall vs Fire Barrier**
- 8. Fire Drills – Unannounced**
- 9. Fire Drills - 3rd Shift**
- 10. Fire Drills - ILSM**

QUESTIONS

- 11. Damper Testing – Qualifications**
- 12. Fire Alarm – Volume**
- 13. Door Locking – Memory Care**
- 14. Small Storage Rooms – Closers**
- 15. Occupancy – Occasional Inpatient Use**
- 16. Generator Load Banking**
- 17. Transfer Switch Exercising**
- 18. Electrical Panel Locking**
- 19. Electric Strike Installation**
- 20. Sleep Room Speakers & Strobes**

Question #1 – Wireless Nurse Call PR

What requirements does DQA have for a “wireless” nurse call system?



Answer:

DHS 124.34(8) has a minimal statement regarding reliability. In nursing homes, DHS 132.84(4) has details on “Resident & Staff Communications”.

Answer #1 – Wireless Nurse Call PR

DHS 124.34(8) – Hospital Code

(8) PATIENT CAL SYSTEM. A reliable call mechanism shall be provided in locations where patients may be left unattended, including patient rooms, toilet and bathing areas and designated high risk treatment areas from which individuals may need to summon assistance.

“performance”

“Reliable”

1. Department Approved (i.e. must submit plans)
2. Independent Testing Lab (i.e. UL Listed, or other)
 - Typically UL 1069
 - Wireless typically “added-on” to prior hardwired base system
3. Functioning at all Time (i.e. on emergency power)

See FGI 2.1-8.3.7 for detailed guidelines

Answer #1 – Wireless Nurse Call PR

DHS 132.84(4) – Nursing Home Code

(4) RESIDENT AND STAFF COMMUNICATION.

(a) Except as provided in pars. (b) and (c), the nursing home shall have a department-approved resident and staff communication system comprised of components listed by an independent testing laboratory to permit each resident to activate the call from resident rooms, toilet area, bathing areas, and activity areas. Nurse calls shall be visible from corridor or access aisles within each resident living area and an audible sounder shall annunciate upon failure of staff response. The communication signal emanating from the toilet, bath and shower areas shall be that of a distinctive emergency call. The activation device shall be reachable by the residents from each toilet, bath or shower location.

Note: Underwriter's Laboratory (UL) is an example of an independent testing laboratory.

(b) Nursing homes in existence November 1, 2004, may continue using a nurse call system that registers calls from each resident bed, resident toilet room and each tub and shower area. For nursing homes in existence November 1, 2004, in period B and C nursing homes, the resident staff signal may register in the corridor and at the staff work station.

(c) In all nursing homes in existence November 1, 2004, the nursing home may retain use of non-source signal canceling equipment until any remodeling is undertaken within the smoke compartment where the equipment is located.

(d) Communication systems shall be functioning at all times.

5 Key Points

Answer #1 – Wireless Nurse Call PR

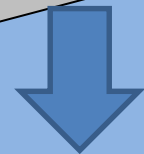
DHS 132.84(4) “Resident & Staff Communications”

5 Key Points

1. Department Approved (i.e. must submit plans)
2. Independent Testing Lab (i.e. UL Listed, or other)
3. Visible from Corridor (i.e. traditional wired system)
4. Audible Sounder (i.e. back-up answering)
5. Functioning at all Time (i.e. on emergency power)

**RELIABILITY IS THE
PRIMARY REQUIREMENT**

Back ground
info on 2-5



Answer #1 – Wireless Nurse Call PR

Nationally Recognized Testing Laboratories

(NRTL's)

About a dozen that are federally recognized (few deal with nurse calls)

DQA typically uses UL website for much info on nurse call requirements (i.e. – Use of a UL Listed sys improves the likelihood of DQA acceptance)



UL 1069 - Hospital & Nrsg Homes
UL 1069 v7 – (same, with wireless amendments)
UL 2065 – Assisted Living

Answer #1 – Wireless Nurse Call PR

Staff Notification Methods

1. Corridor Call Lights – Reliable, seen by all
2. Audible Sounders – Reminds residents that staff have been called; encourages residents to wait for help (if not, some have gotten out of bed & fallen)
3. Portable Pendants & Pagers – Great for calling staff; However, subject to loss, damage & slow response
4. Hybrid System – Combo of Corridor Lights, Sounders & Portable Devices (i.e. Improved reliability)

Answer #1 – Wireless Nurse Call PR

DQA has an “in-house” document for Plan Reviewers to follow

- **Not in general public release**
- **Distributed only on a project-by-project basis**
- **Intended for internal plan review guidance**

DHS 132 NURSE CALL SYSTEM
Plan Review Summary

1. System must satisfy all requirements DHS 132.84 (4). The code provides a nurse call system to be reliable, safe, and performance tested.
- DHS 132.84 (4) Resident and Staff Communication: The nursing home shall have a department-approved resident and staff communication system comprised of components listed by an independent testing laboratory to permit each resident to activate the call from resident room, toilet area, bathing areas, and activity areas. Nurse calls shall be visible from corridor from corridor or access aisles within each resident living area and an audible sounder shall annunciate upon failure of staff response. The communication signal emanating from the toilet, bath and shower areas shall be that of a distinctive emergency call. The activation device shall be reachable by the residents from each toilet, bath or shower location.
2. Design plans must be submitted to the Department and approved prior to installation. Plan approval instructions, and contacts are available at: http://www.dhs.wisconsin.gov/it_devices.htm
3. The Design submittal must include layout drawings, specifications, and a list of components. All systems are acceptable if they satisfy all requirements.
4. Wireless systems typically require a FCC license. The system must be tested prior to installation. Variance must be obtained from the Department.
5. The system must be tested prior to resident use, with certification of operation provided to the department.
6. Facility staff are trained and knowledgeable on the system's features and have access to an operation manual.
7. The facility is responsible for maintaining the system and must implement a maintenance program with documented testing, per manufacturer recommendations.
8. The facility must have an emergency plan to respond to failure of any portion of the nurse call system and to provide no delay of resident communication during implementation or start-up.

Let's look at it section by section

Answer #1 – Wireless Nurse Call PR

DHS 132 NURSE CALL SYSTEM **Plan Review Summary**

1. System must satisfy the requirements DHS 132.84 (4). The code requires a nurse call system to be reliable, safe, and performance tested.

DHS 132.84 (4) Resident and Staff Communication: The nursing home shall have a department-approved resident and staff communication system comprised of components listed by an independent testing laboratory to permit each resident to activate the call from resident rooms, toilet area, bathing areas, and activity areas. Nurse calls shall be visible from corridor from corridor or access aisles within each resident living area and an audible sounder shall annunciate upon failure of staff response. The communication signal emanating from the toilet, bath and shower areas shall be that of a distinctive emergency call. The activation device shall be reachable by the residents from each toilet, bath or shower location.



The Code

Answer #1 – Wireless Nurse Call PR

DHS 132 NURSE CALL SYSTEM Plan Review Summary

2. Plan submittal & approval by DQA (must use Regist Arch/ Prof Engr)

3. Submittal documents

2. Design plans must submitted to the Department and approved prior to installation. Plan application, instructions, and contacts are available at: http://www.dhs.wisconsin.gov/rl_dsl/PlanReview/index.htm
3. The Design submittal must include layout drawings, specifications, and listing information. Hardwired systems are acceptable if they satisfy all requirements.
4. Wireless systems typically require a Petition for Variance due to a lack of an appropriate listing, see form and instructions at: http://www.dhs.wisconsin.gov/rl_dsl/PlanReview/index.htm. The Petition for Variance must be approved prior to installation.

4. Wireless → Variance (more later)

Answer #1 Wireless Nurse Call PR

Address EVERY issue on the List

132 NURSE CALL SYSTEM Plan Review Summary

Submittal requirements



5. The system must demonstrate that it is reliable, safe, and performance tested. Submittal information that assists a prompt review include:
- Location and type of all call devices/transmitters, pull stations, receivers, central stations, staff duty stations, power supplies, dome lights, audible sounders, and other components that satisfy the codes. Documents indicate which devices are hardwired or transportable.
 - The performance intent of the code is to ensure that appropriate staff receive the message that help is needed and an alternate notification method if additional staff assistance is required.
 - Documents how multiple calls are displayed in normal and emergency mode, how visual and audible notice is given, and how calls are escalated to additional staff.
 - Document how the power supply is protected from tampering or staff alterations. The system must be powered by the essential electrical (emergency) system. Cords may need to be mechanically secured so they are not inadvertently unplugged.
 - Reliability & security features of the central station software and ability for future upgrades.
 - If wireless, the frequency must provide minimal susceptibility to interruption or interference. The system must have immunity from infrared signals and electromagnetic sources, and be compatible with medical telemetry devices used within the facility.
 - Explain if and how the system will interface with the facility fire alarm system.
 - Delineate who will install the system and their qualifications satisfy manufacturer and listing requirements.
 - Technical literature that substantiates the core components are listed by an independent testing laboratory. The system and its components must be listed by an independent testing laboratory to establish minimum reliability, safety, and performance. Examples include: UL 1069 Version 7 for wireless. (Note that CE, ISO, FCC are not independent testing labs).

Answer #1 – Wireless Nurse Call PR

DHS 132 NURSE CALL SYSTEM Plan Review Summary

Testing

Training

6. The system must be tested prior to resident use, with certification of operation provided to the department.
7. Facility staff are trained and knowledgeable on the system's features and have access to an operation manual.
8. The facility is responsible for maintaining the system and must implement a maintenance program with documented testing, per manufacturer recommendations.
9. The facility must have an emergency plan to respond to failure of any portion of the nurse call system and to provide no delay of resident communication during implementation or start-up.

Maintained

Failure Plan

Answer #1 – Wireless Nurse Call PR

4. Wireless systems typically require a Petition for Variance due to a lack of an appropriate listing, see form and instructions at: http://www.dhs.wisconsin.gov/rl_dsl/PlanReview/index.htm. The Petition for Variance must be approved prior to installation.

DEPARTMENT OF HEALTH SERVICES
Division of Quality Assurance
F-62537 (12/2014)

STATE OF WISCONSIN
Page 1 of 3

PETITION FOR BUILDING CODE VARIANCE

INSTRUCTIONS

- Completion of this form is required by SPS 303 to request a variance from a building code or for approval of alternative design, which is not in strict conformance with the letter of the code but meets the intent of the code. (This form is the equivalent to Department of Safety and Professional Service Form F-62537.)
- A variance is not a waiver from the code. The petitioner must provide an equivalency which meets the intent of the code. Pictures, sketches, and plans may be required to support the request. If the proposed equivalency does not adequately safeguard the health, safety, and welfare of building occupants, frequenters, firefighters, etc., the variance will be denied. Failure to provide adequate information may delay the petition.
- A petition for variance does not take the place of a required plan review submittal.
- **NOTE:** A separate petition is required for each building and each code issue petitioned.

Form F-62537

Petition Checklist

The Division is unable to process variance petitions that are not properly completed. Check the following items for completeness before submitting the petition:

- ☐ Petitioner's name (typed or printed)
- ☐ Petitioner's signature
- ☐ The Petition for Building Code Variance must be signed by the owner of the building or system unless a Power of Attorney is submitted.
- ☐ Notary Public signature with affixed seal
- ☐ Analysis to establish equivalency, including any pictures, illustrations, or sketches of the existing and proposed conditions to clearly convey your proposal to the reviewer
- ☐ Proper fee
- ☐ Any required position statements by fire chief or municipal official

Answer #1 – Wireless Nurse Call PR

PETITION FOR BUILDING CODE VARIANCE

DQA OFFICE USE ONLY	Review Type <input type="checkbox"/> Standard (30 Day) <input type="checkbox"/> Priority (10 Day)	Date Submitted	Total Amount Submitted
	Check No.	Check Date	Check Author

I. Facility Information

Name – Facility or Building XYZ Care Center			Facility Lic. / Provider No.	
Address	Name – City, Village, or Township	Check one. <input type="checkbox"/> C <input type="checkbox"/> V <input checked="" type="checkbox"/> T	County	Zip Code

II. Owner Information

Name – Owner		Name – Company		
Address		City	State WI	Zip Code 54901
Name – Contact Person Isaiah Tate	Telephone No. 920-236-1070	Fax No. --	Email Address	

III. Designer Information

Name – Designer		Name – Designer Firm		
Address		City	State	Zip Code
Name – Contact Person	Telephone No.	Fax No.	Email Address	

IV. Plan Review Status

<input type="checkbox"/> Plan submitted with petition – Plan Project No.: _____ <input type="checkbox"/> Plan will be submitted after petition determination. <input type="checkbox"/> Requesting revision <input checked="" type="checkbox"/> Other – Specify: _____	Plan Previously Reviewed By (Enclose a copy of the review letter.) <input type="checkbox"/> State <input type="checkbox"/> Municipality <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Held <input type="checkbox"/> Denied Code Petitioned <input checked="" type="checkbox"/> Building <input type="checkbox"/> HVAC <input type="checkbox"/> Plumbing <input type="checkbox"/> Electrical
<input checked="" type="checkbox"/> Identify the code section and the specific condition or issue being petitioned for variance. (Attach additional sheets, if necessary.) DHS132.84(4) Patient & Staff Communication (see attached, item A)	
<input checked="" type="checkbox"/> Explain why compliance with the code cannot be attained without the variance. (Attach additional sheets, if necessary.) System uses more efficient wireless technology to notify staff of resident needs vs. old-time corridor call lights	
<input checked="" type="checkbox"/> Explain the proposal to provide equivalent degree of health, safety, or welfare as addressed by the code section petitioned. (Attach...) Resident requests for assistance go directly to staff mobile phone, resulting in faster response & less ambient noise	
<input checked="" type="checkbox"/> List attachments to be considered (model code sections, test reports, research articles, expert opinion, previously approved variances, pictures, plans, etc.). See attached	

Answer #1 – Wireless Nurse Call PR

IV. Plan Review Status	
<input type="checkbox"/> Plan submitted with petition – Plan Project No.: _____	Plan Previously Reviewed By <i>(Enclose a copy of the review letter.)</i>
<input type="checkbox"/> Plan will be submitted after petition determination.	<input type="checkbox"/> State <input type="checkbox"/> Municipality <input type="checkbox"/> Approved <input type="checkbox"/> Held <input type="checkbox"/> Denied
<input type="checkbox"/> Requesting revision	Code Petitioned
<input type="checkbox"/> Other – Specify: _____	<input type="checkbox"/> Building <input type="checkbox"/> HVAC <input type="checkbox"/> Plumbing <input type="checkbox"/> Electrical
<input checked="" type="checkbox"/> Identify the code section and the specific condition or issue being petitioned for variance. <i>(Attach additional sheets, if necessary.)</i>	
DHS132.84(4) Patient & Staff Communicaiton (see attached, item A)	
<input checked="" type="checkbox"/> Explain why compliance with the code cannot be attained without the variance. <i>(Attach additional sheets, if necessary.)</i>	
System uses more efficient wireless tecnology to notify staff of resident needs vs. old-time corridor call lights	
<input checked="" type="checkbox"/> Explain the proposal to provide equivalent degree of health, safety, or welfare as addressed by the code section petitioned. <i>(Attach...)</i>	
Resident requests for assistance go directly to staff moble phone, resulting in faster response & less ambient noise	

Example Completion

Answer #1 – Wireless Nurse Call PR

DQA FOLLOW-UP QUESTIONS

Typically asked to guard against:

- 1. Failure experience of “wireless” sys**
- 2. Wireless signal interferences**
- 3. Incomplete Submittals**
- 4. Proposed systems not Listed (i.e. walkie talkie type)**

Answer #1 – Wireless Nurse Call PF

DQA FOLLOW-UP QUESTIONS

Electrical Questions



1) Reliable Power Source / Type:

Document how the power supply is protected from tampering or staff alterations. The system must be powered by the essential electrical (emergency) system. Cords may need to be mechanically secured so they are not inadvertently unplugged.

a) What source will power the system and its components?

1. Generator / EES? To which nurse call component (s)?
2. UPS? To which nurse call component (s)?
3. Battery? To which nurse call component (s)?

b) What type of equipment will deliver this power?

1. Hard wired?
2. Cord connectors?
3. Battery?

c) IF cord connected, how will reliability be maintained to minimize a cord from being inadvertently disconnected?

Answer #1 – Wireless Nurse Call PR

DQA FOLLOW-UP QUESTIONS

2) UL Listing Substantiation:

Received the helpful statement from Designer: "Product specified is listed under UL1069 Version 7 for wireless nurse call systems & UL2560".

Unfortunately, the specific manufacturer and confirmation of an independent testing lab listing is not possible due to the following designer statement: "Will submit manufacturer's sales and technical literature when available."

Question: Confirm whether or not one of the nurse call manufacturers listed on the current UL directory will be installed

Answer #1 – Wireless Nurse Call PR

DQA FOLLOW-UP QUESTIONS

3) UL Listing Type:

Designer indicated: “Product specified is listed under UL1069 Version 7 for wireless nurse call systems & UL2560.

Designer indicated that indicates facility XYZ is a “Skilled Nursing Facility”
State building code and federal certification code classify this facility as a “health care facility”

Question: Does facility XYZ and designer understand that UL2560 by description is intended for “Assisted Living and Independent Living” facilities?

Question: Does this project involve an assisted living and/or independent living occupancy as defined by a state or federal code?

Answer #1 – Wireless Nurse Call

DQA FOLLOW-UP QUESTIONS

Install Questions

4) Nurse call phasing

Question: Is an existing fully functional nurse call system currently in place?

Question: Will this existing system remain fully functional, and not be removed until after the new nurse call system be installed?

5) NEC Abandoned Wiring Removal

NEC 800 requires abandoned communication wire to be removed. Minimum fire codes for years have identified how abandoned wires in concealed non-sprinkler protected spaces pose as a hazard.

Question: Will the old / wired nurse call system being replaced by the new nurse call system project - include removal of all abandoned wire per NEC 800?

Answer #1 – Wireless Nurse Call

SUBMITTAL RECOMMENDATION

**SUBMITTALS SHOULD
BE VERY DETAILED**

**Address EVERY issue
on the DQA PR List**

DHS 132 NURSE CALL SYSTEM Plan Review Summary

1. System must satisfy the requirements DHS 132.84 (4). The code requires a nurse call system to be reliable, safe, and performance tested.

DHS 132.84 (4) Resident and Staff Communication: The nursing home shall have a department-approved resident and staff communication system comprised of components listed by an independent testing laboratory to permit each resident to activate the call from resident rooms, toilet area, bathing areas, and activity areas. Nurse calls shall be visible from corridor or access areas within each resident living area and an audible sounder shall announce upon failure of staff response. The communication signal emanating from the toilet, bath and shower areas shall be that of a distinctive emergency call. The activation device shall be reachable by the residents from each toilet, bath or shower location.
2. Design plans must submitted to the Department and approved prior to installation. Plan application, instructions, and contacts are available at: http://www.dhs.wisconsin.gov/it_dsl/PlanReview/index.htm
3. The Design submittal must include layout drawings, specifications, and listing information. Hardwired systems are acceptable if they satisfy all requirements.
4. Wireless systems typically require a Petition for Variance due to a lack of an appropriate listing; see form and instructions at: http://www.dhs.wisconsin.gov/it_dsl/PlanReview/index.htm. The Petition for Variance must be approved prior to installation.
5. The system must demonstrate that it is reliable, safe, and performance tested. Submittal information that assists a prompt review include:
 - Location and type of all call devices/transmitters, pull stations, receivers, central stations, staff duty stations, power supplies, dome lights, audible sounders, and other components that satisfy the codes. Documents indicate which devices are hardwired or transportable.
 - The performance intent of the code is to ensure that appropriate staff receive the message that help is needed and an alternate notification method if additional staff assistance is required.
 - Documents how multiple calls are displayed in normal and emergency mode, how visual and audible notice is given, and how calls are escalated to additional staff.
 - Document how the power supply is protected from tampering or staff alterations. The system must be powered by the essential electrical (emergency) system. Cards may need to be mechanically secured so they are not inadvertently unplugged.
 - Reliability & security features of the central station software and ability for future upgrades.
 - If wireless, the frequency must provide minimal susceptibility to interruption or interference. The system must have immunity from infrared signals and electromagnetic sources, and be compatible with medical telemetry devices used within the facility.
 - Explain if and how the system will interface with the facility fire alarm system.
 - Delineate who will install the system and their qualifications satisfy manufacturer and listing requirements.
 - Technical literature that substantiates the core components are listed by an independent testing laboratory. The system and its components must be listed by an independent testing laboratory to establish minimum reliability, safety, and performance. Examples include: UL 1009 Version 7 for wireless. (Note that CE, ISO, FCC are not independent testing labs).
6. The system must be tested prior to resident use, with certification of operation provided to the department.
7. Facility staff are trained and knowledgeable on the system's features and have access to an operation manual.
8. The facility is responsible for maintaining the system and must implement a maintenance program with documented testing, per manufacturer recommendations.
9. The facility must have an emergency plan to respond to failure of any portion of the nurse call system and to provide no delay of resident communication during implementation or start-up.

Question #2 – Charger Charging

1. Can the chargers for Ipods be plugged into 6 strip outlets in a non-resident area?
2. With the advancement of cell phones becoming more comparable to PCs, can cell phone chargers be plugged into 6 strip outlets in non-resident areas?
3. Can cell phone chargers be plugged directly into an outlet in a resident's room



Answer:

Very little official regulator guidance is available.

Answer #2 – Charger Charging

1. In Jan 2015, DQA Memory & Music said:

Yes, facilities may use electrical charging devices such as power strips, USB hubs, etc., in special use rooms such as a utility room, to charge iPods at night.

Generally, electrical charging devices are not for use in resident bedrooms.



2. “iPOD” is used generically to refer to “MP3” players, in general.



Answer #2 – Charger Charging

3. In Dec 2015, DQA confirmed:

iPods are similar enough to a computer type device and hence a surge protector / power strip may be used to recharge

IF the charging is not performed within resident spaces;
preferably a “hazardous / utility” non-occupied type space.



Batch charging best in designated locations

Answer #2 – Charger Charging

4. Tablets and cell phones are NOT considered “computers” and would be cited if observed plugged into a strip-plug (relocatable power tap) in any location.



Answer #2 – Charger Charging

5. If a facility elects to adopt a Categorical Waiver on RPT there is a whole different set of confusing & complicated rules

Once the 2012 LSC is adopted, then **MUST follow those rules**

**BUY ONLY UL Listed Power Strips
1363, 1363A or 60601-1
(or other equiv listed)**

**KEEP the
DOCUMENTATION!**

Question #3 – Power Strips

We do not intend to file for the categorical waiver for power strips. Do we still need to be sure all of our power strips are UL 1363 rated, permanently attached to the desks, and develop a maintenance program for them? We are currently only using power strips in offices, for computer related equipment.

Answer:

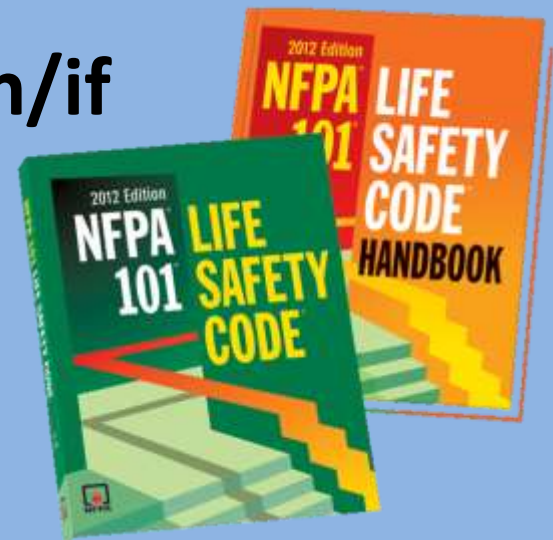
At the current time, the only RPT requirement that is seriously being enforced is that only computers may be plugged into power strips.

Answer #3 – Power Strips

Categorical Waivers

**Electing to use a Categorical Waiver
is currently Optional**

**This will all change when/if
LSC 2012 is adopted**



Answer #3 – Power Strips

Categorical Waivers: the Good, the Bad & the Ugly

**The requirements of the
Categorical Wavier will then
be mandatory!
(even for computers)**

**Get Ready &
Follow Them NOW**

Answer #3 – Power Strips

Categorical Waivers: the Good, the Bad & the Ugly





Page 5 of 6

CMS CATEGORICAL WAIVER CHECKLIST											
					CURRENT CODE		NEW CODE				
WAIVER TOPIC	K-TAG	TJC STD	S&C Letter	S&C DATE	CODE REF	CURRENT CODE REQUIREMENT	CODE REF	NEW CODE SUMMARY	REQUIREMENTS THAT MUST BE COMPLIED WITH TO USE ANY CATEGORICAL WAIVER (i.e., 2012 CODE) (All applicable items below must be evaluated & have documentation to show satisfactory compliance; refer to full code to ensure compliance)		
<input checked="" type="checkbox"/> 16-Strip Plugs	K-147	EC.02.06.01 EP 1 (Safe Envir)	14-46	9/26/14	99-1999: §7-5.1.2.6 §7-6.2.1.5 §12-4.1.2.5(b) NFPA 70-1999: art 307-6(a) and (b)2	1. Cord shall meet the requirements of 9-2.1.2.2 2. Exten.Cords may be used. Wiring must be periodically tested for physical integrity, polarity, and continuity of grounding 3. Prohibited on light fixtures in anesthetizing locations 4. No permanent use of extension cords in lieu of permanent wiring. If used temporarily, must be fed by GFCI or written program of an assured grounding conductor inspection program	99-2010 §10.2.3.6 §10.5.2 §10.5.2.5-7	1. Strip plugs permitted on rack, table, or cart-mounted equip if permanently attached & sum of amps of all appliances is less than 75% of the ampacity of the cord AND methods are used to ensure more devices can't be plugged in 2. Exten.Cords may be used. Wiring must be periodically tested for physical integrity, polarity, and continuity of grounding 3. Such sys must be demonstrated to comply with the code as a complete system LTC facilities that do not use line-operated devices for therapeutic treatment are not subject to NFPA 99 requirements and do not need to use this Categorical Waiver.	GENERAL REQUIREMENTS <input type="checkbox"/> Facility has policy on use & testing of all electrical devices & cords <input type="checkbox"/> Facility has policy for control of devices not supplied by the facility <input type="checkbox"/> Strip plugs powered by a GFCI; or part of a documented testing program of the strip plug for physical integrity, polarity, and grounding. <input type="checkbox"/> Outlets that provide power to the strip plug must be properly grounded per its listing. <input type="checkbox"/> Cords cannot be a trip hazard; be 'daisy' chained together; have tension on plug; be walked on, be overloaded, or be near combustibles <input type="checkbox"/> Strip plug must be installed & maintained per manufacturer instructions. <input type="checkbox"/> Facility complies with all requirements of 2012 NFPA 99 on strip plugs (§3.2.2.6, 10.2, 10.5, etc) <input type="checkbox"/> Facility complies with all requirements of 1999 NFPA 99 and NFPA 70, including article 715.	NON-PT CARE VICINITY Strip plugs may be used <u>outside</u> the patient care vicinity for both patient care and non-patient care equipment, provided all the following are satisfied: <input type="checkbox"/> 1-Strip Plug used for non-patient care equipment must be UL listed 1363, "Relocatable Power Tap" <input type="checkbox"/> Extension cords not used in lieu of permanent wiring, except for a 90 day period for construction or holiday decoration.	PATIENT CARE VICINITY Strip plugs may be used hospitals or nursing homes in the patient care vicinity (within 6' of a bed/stretcher) for rack, table, pedestal, or cart mounted line-operated patient care equipment, provided all the following are satisfied: <input type="checkbox"/> 1-Strip Plug must be UL listed 1363A or UL 60601-1, "Special Purpose Relocatable Power Tap" <input type="checkbox"/> 2-Strip plug must be permanently attached to the equipment assembly <input type="checkbox"/> 3-Mounting of the plug strip must be performed by qualified personnel <input type="checkbox"/> 4-Sum of Amp rating of all attached devices adds up to less than 75% of the cord rating <input type="checkbox"/> 5-Ampacity of the cord satisfied the current edition of the NFPA 70 <input type="checkbox"/> 6-A method is used to prevent added devices being plugged into the plug strip <input type="checkbox"/> 7-Equip does not need to be an integral component of a mfr assembly of equipment <input type="checkbox"/> 8-Non-pt care: equipment cannot be plugged into a power strip in the pt care vicinity.

Answer #3 – Power Strips

Categorical Waivers

GENERAL REQUIREMENTS

1. Have use & test policy on all equip. 
2. Have policy on non-facility owned equip. 
3. Have GFI & Power Strip Testing 
4. Proper grounding
5. No daisy chains, physical danger
6. Per manufacturer's instructions
7. Complies with NFPA 99-2012
8. Complies with all of NFPA 99 & 70 

Be aware of future surveys to include check for code-required testing (i.e. level 1 breakers, all GFI, etc)








GENERAL REQUIREMENTS

- ☐ Facility has policy on use & testing of all electrical devices & cords
- ☐ Facility has policy for control of devices not supplied by the facility
- ☐ Strip plugs powered by a GFI; or part of a documented testing program of the strip plug for physical integrity, polarity, and grounding.
- ☐ Outlets that provide power to the strip plug must be properly grounded per its listing.
- ☐ Cords cannot be a trip hazard; be 'daisy' chained together; have tension on plug; be walked on, be overloaded, or be near combustibles
- ☐ Strip plug must be installed & maintained per manufacturer instructions.
- ☐ Facility complies with all requirements of 2012 NFPA 99 on strip plugs (6.3.2.2.6, 10.2, 10.5, etc)
- ☐ Facility complies with all requirements of 1999 NFPA 99 and NFPA 70, including article 715.

Answer #3 – Power Strips

Categorical Waivers

PATIENT-CARE VICINITY REQUIREMENTS

1. Follow all General Requirements
2. Applies within 6' of bed/care area 
3. UL Listed 1363A or 60601-1 
4. Mounted by qualified person 
5. Permanently attached 
6. Load less than 75% of rating 
7. Cord per NFPA 70
8. Prevent adding equip 
9. Prohibit non-patient care equipment 

DQA hints they will be tough on making sure there is full compliance on all items

PATIENT CARE VICINITY




Strip plugs may be used hospitals or nursing homes in the patient care vicinity (within 6' of a bed/stretcher) for rack, table, pedestal, or cart mounted line-operated patient care equipment, provided all the following are satisfied:

- ☐ 1-Strip Plug must be UL listed 1363A or UL 60601-1, "Special Purpose Relocatable Power Tap"
- ☐ 2-Strip plug must be permanently attached to the equipment assembly
- ☐ 3-Mounting of the plug strip must be performed by qualified personnel
- ☐ 4-Sum of Amp rating of all attached devices adds up to less than 75% of the cord rating
- ☐ 5-Ampacity of the cord satisfied the current edition of the NFPA 70
- ☐ 6-A method is used to prevent added devices being plugged into the plug strip
- ☐ 7-Equip does not need to be an intraga component of a mfg assembly of equipment
- ☐ 8-Non-pt care equipment cannot be plugged into a power strip in the pt care vicinity.

Answer #3 – Power Strips

Categorical Waivers

NON-PATIENT-CARE VICINITY REQUIREMENTS

1. Follow all General Requirements
2. Applies beyond 6' of bed/care area
3. UL Listed 1363 
4. Can plug in non-medical equipment 
5. Extension cords prohibited in lieu of permanent wiring (except for 90 days for construction or holidays) 

DQA hints they will be tough on making sure there is full compliance

NON-PT CARE VICINITY

Strip plugs may be used outside the patient care vicinity for both patient care and non-patient care equipment, provided all the following are satisfied:

- ☐ 1-Strip Plug used for non-patient care equipment must be UL listed 1363, "Relocatable Power Tap"
- ☐ Extension cords not used in lieu of permanent wiring, except for a 90 day period for construction or holiday decoration.

Answer #3 – Power Strips

Note:

Categorical Waiver requirements will be mandatory if/when LSC 2012 is adopted

BUY ONLY UL Listed Power Strips
1363, 1363A or 60601-1
(or other equiv listed)

**KEEP the
DOCUMENTATION!**

Recommendations:

1. Standardize on a single brand & model for each type power strip (so they are readily identifiable)
2. Minimize the use of power strips ... you will be required to monitor their use.

Question #4 – CBRF Plan Review

What is happening with the plan review process for CBRF's?

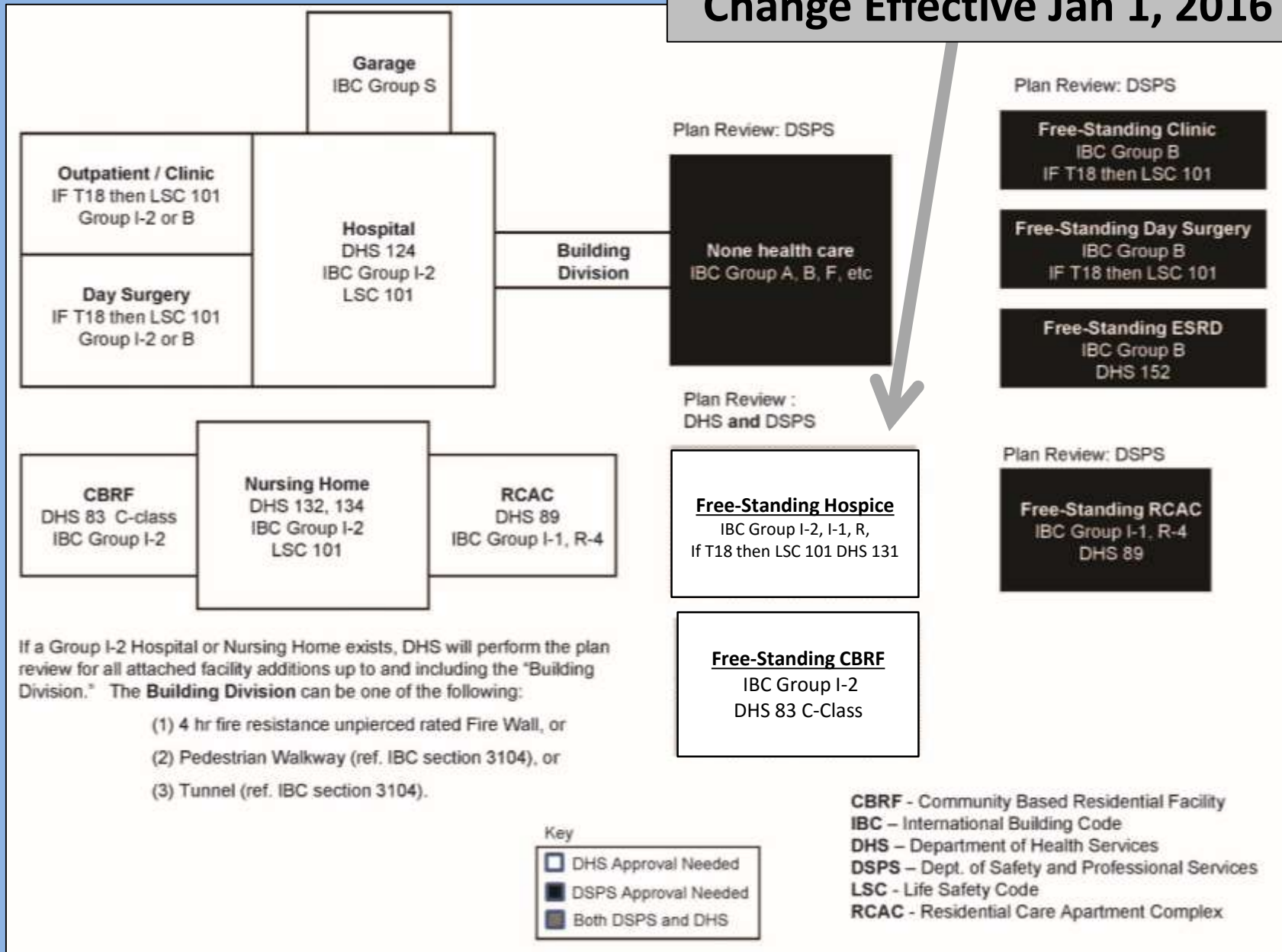


Answer:

Effective Jan 1, 2016, DSPS will NO longer review any CBRF plans. Submit ONLY to DHS

Answer #4 – CBRF PR

Change Effective Jan 1, 2016



Question #5 – Corridor “parking”

Is it in a Joint Commission or NFPA standard that carts, etc. can be left in an exit corridor for up to 30 minutes before they must be moved or is this a rule of thumb surveyors use to determine what is considered a working cart or storage in a corridor?

Answer:

The 30 minute "temporary parking" is a CMS rule, which is unwritten, and not found anywhere in the code (that I've ever seen)

Answer #5 – Corridor Parking

CMS almost never publishes their "rules"



Answer #5 – Corridor Parking

CMS almost never publishes their "rules"

The "30 minute" rule has three components

- **The cart/item can obstruct the corridor for a max of 30 minutes in a given location**
- **A staff person must be using the cart as part of their duties and**
- **The staff must be nearby, such that they can move it in the event of a fire alarm**

Question #6 – Damper Removal

We are in the process of removing a number of 1 hour fire/smoke dampers. Can we leave damper boxes in place and just remove the internal components?



Answer:

The only actual correct answer is "whatever your state inspector will allow"; however, even that is not free from future citation

Answer #6 – Damper Removal

There is No Good Answer

Some inspectors may say:
“you must totally remove the damper”

WHY?

LSC 4.6.12

***“Existing life safety features ...,
if not required by the Code,
shall be either maintained or
removed”***

They ignore the missing
words: “obvious to the
public”

Is this fire
damper above
the ceiling really
“obvious to the
public”?



Answer #6 – Damper Removal

No Good Answer

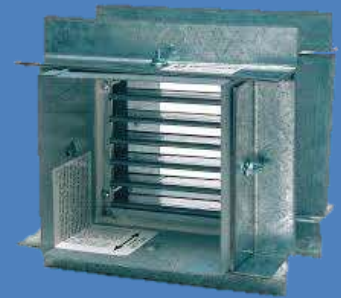
Some may say: “*You need to submit a construction plan to remove any feature of life safety & provide evidence that a damper is not needed*”

WHY?

DHS 124/132

“Submit construction plans for anything that is not a repair”

Must hire an architect or professional engineer to submit a project



Answer #6 – Damper Removal

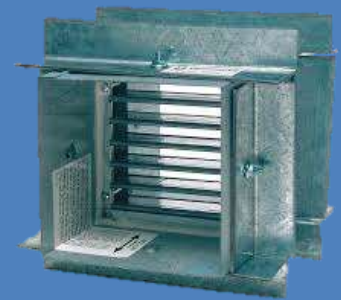
No Good Answer

Some may say: “Go ahead, just deactivate the damper, so it doesn't fail closed, which may mean just screwing the activating blades open”

WHY?

Don't bother me with another submittal. I'm too busy. Just do it.

**Open for future
inspection
citation for
removing a life
safety feature
without written
authorization**



Answer #6 – Damper Removal

**Play it safe,
you should:**

- **Get the direction in writing**
- **If permitted to abandon in place, put a label at each access door giving the date of action & location of authorization documentation**

Question #7 – Fire Wall vs Barrier

Explain the reason for using the word “fire barrier,” instead of the word “fire wall”

Answer:



“Fire barriers” are common in a typical health care facility; “fire walls” have tough requirements and are rarer. If you call a “barrier” a “wall” in front of an inspector you open yourself up to a tougher code.

Answer #7 – Fire Wall vs Barrier

“Fire Barrier” is used in the both LSC & TJC rules

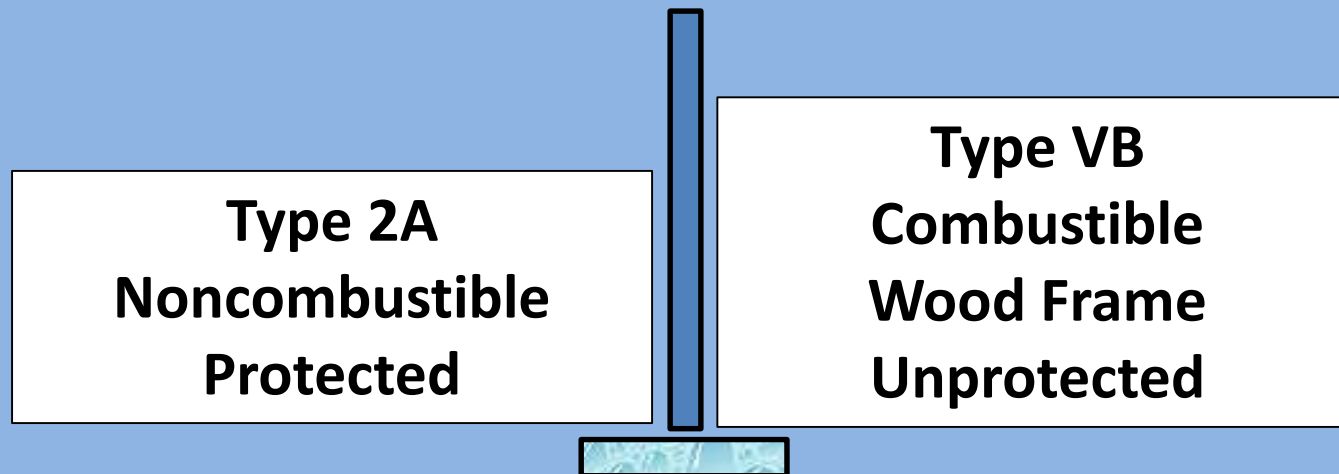
“A fire barrier is a rated wall that encloses hazardous areas or separates "safe" areas from fires, such as shafts, stairwells, occupancies, etc.”

LSC specifically describes requirements in LSC 8.2.3

Answer #7 – Fire Wall vs Barrier

“Fire Wall” is NOT found in the LSC or TJC rules

“Fire Wall” is required by the IBC where two different construction types butt one another



Answer #7 – Fire Wall vs Barrier

Fire wall is specifically described in section 706

Fire Walls must:

- 1) rest on its own footing and foundation,**
- 2) extend straight up through the building, without any vertical offsets,**
- 3) must be designed so that if the building on either side falls due to a fire it will not affect the building on the other side,**
- 4) extends 3' above the roof so fire cannot jump between buildings.**

Question #8 – Unannounced Fire Drills

One of our Joint Commission or CMS surveyors stated in order to remain in compliance we are not allowed to announce the Fire Alert is a drill. Can you provide documentation or guidance on how we should we proceed.

Answer:

Fire drill requirements are contained in LSC 18/19.7.1.2.



Answer #8 – Unannounced Fire Drills

LSC 18/19.7.1.2 does not have any wording that requires “unannounced” drills



**TJC EC.02.03.03, EP 3 says that
at least 50% must be unannounced**

Answer #8 – Unannounced Fire Drills

BUT, KEEP IN MIND:

- 1. LSC 18/19.7.1.2 requires all staff to participate.**
- 2. Experience has shown that people respond less often & less diligently to a drill**
- 3. Drills are intended to simulate emergency fire conditions, which are unexpected**

All of these leads some inspectors to mandate “unannounced” drills

Question #9 – 3rd Shift Fire Drills

The JC says we do not have to use audibles for a fire drill after hours. Can we just do a walk-through and document it without pulling the system? Is there a minimum amount of times we actually test the signal time?



Answer:

There is a controversy. LSC 18/19.7.1.2 states that drills between 9 pm and 6 am may use a coded announcement rather than audible alarms.

Answer #9 – 3rd Shift Fire Drills

However, LSC 18/19.7.1.2 also says:

- 1. Drills must include the transmission of the signal,**
(there is no 3rd shift exception for this)
- 2. The 3rd shift drill is supposed to contain everything that is done on other shifts,** which includes using the fire alarm system (i.e. pull stations)
- 3. The 3rd shift exception to not sound bells & chimes may not apply to turning off strobes**
- 4. Running a "paper" drill does NOT give the 3rd shift the actual hands-on experience** that the code expects all staff to receive.

Answer #9 – 3rd Shift Fire Drills

Some inspectors feel the previous reasons mandate:

**3rd shift activating
the fire alarm
system**

Answer #9 – 3rd Shift Fire Drills

However, Some jurisdictions permit silent alarms (paper drills, walk-through drills) on 3rd shift,

IF there is a fire transmission to the monitoring company is conducted during the next shift.



Answer #9 – 3rd Shift Fire Drills

I think the best method for 3rd shift drills is to :

- **Run the drill exactly like any other drill, including pulling the station.**
- **“Silence” all annunciation devices (if your fire alarm system has that capability) during the drill**
- **Use your Code Word (i.e. “Dr. Red, etc.) to communicate the fire situation**

Anything less puts you in jeopardy of non-compliance if a picky inspector surveys you.

Question #10 – ILSM & Fire Drills

LS 01.02.01 EP 11 states that during periods of construction, we will need to conduct one additional fire drill per shift, per quarter. Does this include construction that is strictly occurring on the outside of the building?

Answer:

The Joint Commission does NOT mandate an additional fire drill during all construction projects. It says you must follow your facility ILSM policy. If your policy says you will conduct an additional fire drill during all construction projects, then you must have them.

Answer #10 – ILSM & Fire Drills

LS.01.02.01, EP 3 requires facilities to have a written Interim life safety measure (ILSM) policy with criteria for evaluating construction & deficiency risks and direct the use of ILSM to compensate for any increased safety risks.

EP 11 for an additional fire drill is just one of the tools available to the facility to compensate for increased safety risks.

Make sure your internal policy is not too restrictive

Question #11 – Damper Testing Qualifications

What type of training would my staff need to comply with the 4-6 year fire damper testing, or does this need to be done by an outside firm?

Answer:

NFPA 90A does not mandate that damper inspection be performed by an outside firm.

Answer #11 – Damper Testing Qualifications

**Fire damper inspection is not technically complicated.
Per NFPA 90A-1999 (3-4.7)**

- **Remove the fusible link,**
- **operate the damper to the closed position,**
- **Clean & lube if needed, and**
- **Replace the link.**

In general, codes require maintenance, inspection, and testing by experienced persons who are knowledgeable about the operation of the system.

Answer #11 – Damper Testing Qualifications

I recommend that you

- **Hire a respectable local HVAC contractor who services fire dampers train the head of the facility dept. and as many staff as desired**
- **Have the HVAC contractor provide documentation (on the contractor letterhead) to the facility that they trained the facility's lead inspector and they are capable of being a trainer of other facility staff.**

Question #12 – Fire Alarm Volume

Is there a set decibel level that the fire alarm has to ring at? Wondering if we could dial ours back a little. It's screaming loud.

Answer:

NFPA 72 permits a LOWER volume tone in locations that are defend in place, like hospitals and nursing homes. However, fire alarm volume can be a touchy one with the local Fire Dept.

Answer #12 – Fire Alarm Volume

Private Mode annunciation is permitted by NFPA 72, 4-3.3 in Defend-Place Occupancies

The concept is that only staff need to be alerted by the notification system, not patients,

- **since its the staff who are responsible for directing patients, and**
- **Since staff are always awake**

So the alarm doesn't need to be as loud

Answer #12 – Fire Alarm Volume

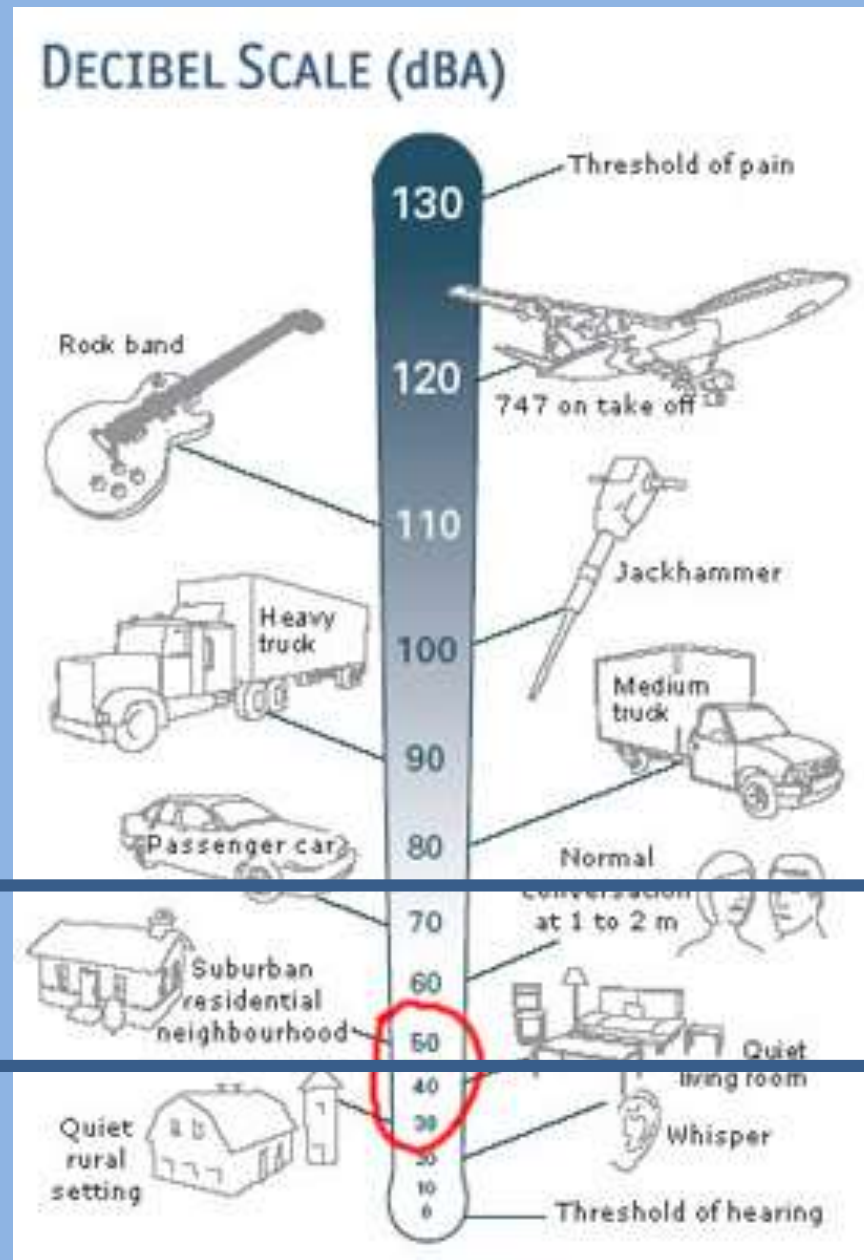
Private Mode annunciation is permitted by NFPA 72, 4-3.3 in Defend-Place Occupancies

The sound level can be as low as 45 dBA, as compared to 75 dBA in public mode.



Also, the signals only need to be 10 dBA above the ambient in private, versus 15 in public.

Answer #12 – Fire Alarm Volume



45 dBA
vs
75 dBA

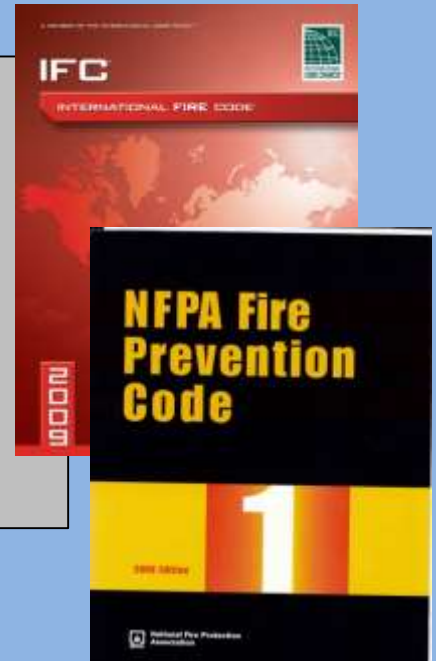
**Every 10
dB
DOUBLES
the
volume**

Answer #12 – Fire Alarm Volume

The problem is, many fire departments don't understand defend in place and Private Mode

Fire Departments use NFPA 1 (Fire Protection code) or IFC (International Fire Code), neither of which talk about Private Mode. Thus, frequently, they demand only the higher level that they are familiar with.

Many fire alarm contractors are not familiar with Private Mode because they do so few health care facilities



Question #13 – Locking Memory Care Doors

We have interior secured memory care doors. Do they have to be on a 15 second delayed egress or can we lock them down completely?

Answer:

You may be able to outright lock the entrance and egress sides of memory care units, if there is a clinical need for the security of the patients. A delayed egress lock can be used if there is no clinical need.

Answer #13 – Locking Memory Care Doors

You may outright lock the egress sides of memory care units, (LSC 18/19.2.2.2.4-exception 2)

IF

- There is a clinical need of the patient safety**
- The clinical need is documented in writing by medial staff**
- All staff can readily unlock all doors at all times**

Answer #13 – Locking Memory Care Doors

Alternatively,

You can outright lock the egress from units, if

- The facility elects the use of a Categorical Waiver. This is the new "Special Care" exception that permits locking of egress doors for special safety reasons.

Answer #13 – Locking Memory Care Doors

Categorical Waiver

Can lock if Special Need:

- ☐ The patient special needs requires specialized protective measures for their own safety, AND
- ☐ All staff can readily unlock at all times with keys they carry at all times or via remote control or other reliable means available to all staff, AND
- ☐ Only one lock on the door, AND (continued next col)

- ☐ Complete smoke detection in locked space; or locked doors remotely unlockable from an approved & constantly attended location within the space, AND
- ☐ Building fully sprinkled, AND
- ☐ Electric locks open on loss of power, AND
- ☐ Locks release by independent, activity of the smoke detector system or water flow of the sprinkler system

Answer #13 – Locking Memory Care Doors

There are additional conditions that need to be checked to lock the entrance into a unit

1. EXIT THROUGH UNIT:

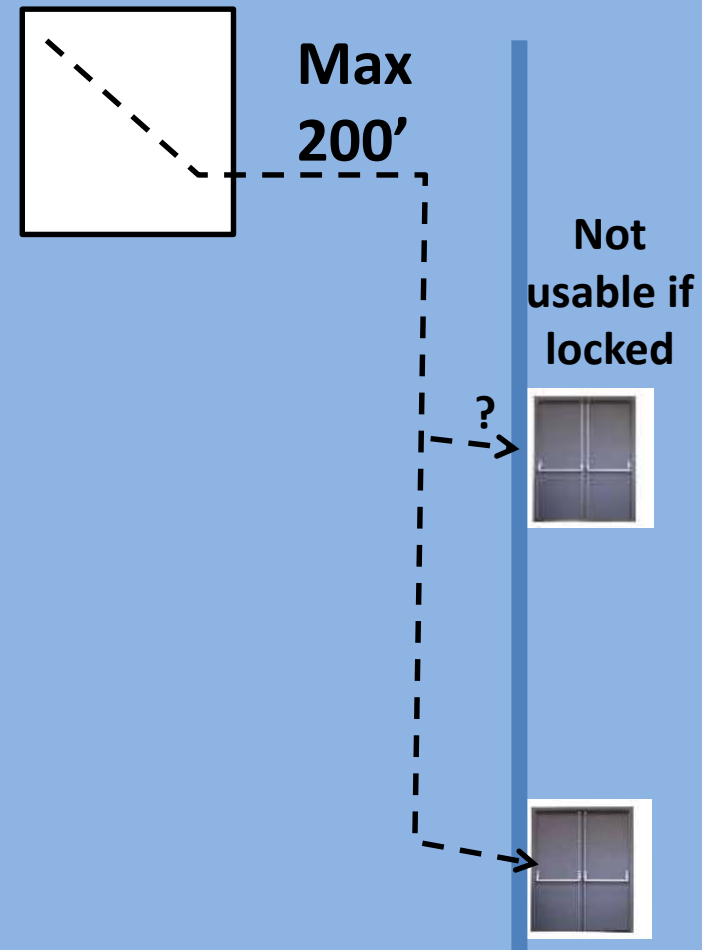
Confirm that occupants **OUTSIDE** the locked unit have other exit paths without needing to exit through the unit. Make sure you don't have any exit signs outside of the locked unit that direct egress through the locked unit.



Answer #13 – Locking Memory Care Doors

There are additional conditions that need to be checked to lock the entrance into a unit

2. SMOKE TRAVEL DISTANCE: The smoke travel distance from the most remote point in any smoke compartment must be less than 200' to the closest smoke barrier doors that are UNLOCKED. Since the unit is locked, you can't use it as your closest smoke barrier from another smoke compartment



Answer #13 – Locking Memory Care Doors

There are additional conditions that need to be checked to lock the entrance into a unit

3. DEAD END CORRIDOR: Corridors that lead to the locked unit must have a length less than 30', which is the limit for a dead end corridor.



Question #14 – Closer on Small Storage Rms

I have a storage room, less than 50 sq. ft. in size, that holds supplies such as band aids, swabs, gauze, wipes. It has a non-rated door. Can I put a closer on it that when you push the door open all the way it stays open or would I have to install like a magnet type and tie it into the fire system?

Answer:

The door you describe does not even need a closer; but if you want one it can be the mechanical hold-open arm type. You do not need a mag-hold open.

Answer #14 – Closer on Small Storage Rms

STORAGE



LSC 18.3.2.1 - NEW

<49 SF

No Requirements

50-99 SF

***Door Closer &
Smoke-Tight***

100 SF & larger

Rated Walls & Door

LSC 19.3.2.1 - EXISTING

<49 SF

No Requirements

50 SF & larger

- 1. Rated Walls & Door, with closer OR***
- 2. Sprinkle & Door, with closer & smoke tight***

Answer #14 – Closer on Small Storage Rms

Added things to consider:

- **If the door opens into a corridor, you cannot use any kind of "stop" like a wedge or hook on any door**
- **If you choose to install a mag hold-open**
(even where not required):
 - **Install a nearby smoke detector**
 - **Connect both to the fire alarm system**

Question #15 – Occasional Inpatient Use

I have a client that has an AHC attached to their hospital. The AHC has a GI suite in it that would like to see an “occasional” inpatient. Is this acceptable from a CMS standpoint?

Answer:

NO. CMS feels that even a single, occasional inpatient from a hospital or nursing home must receive care or treatment in a health care occupancy.

Answer #15 – Occasional Inpatient Use

See the April 16, 2014 Federal Register concerning CMS proposed adoption of the 2012 LSC, where they articulated their position.

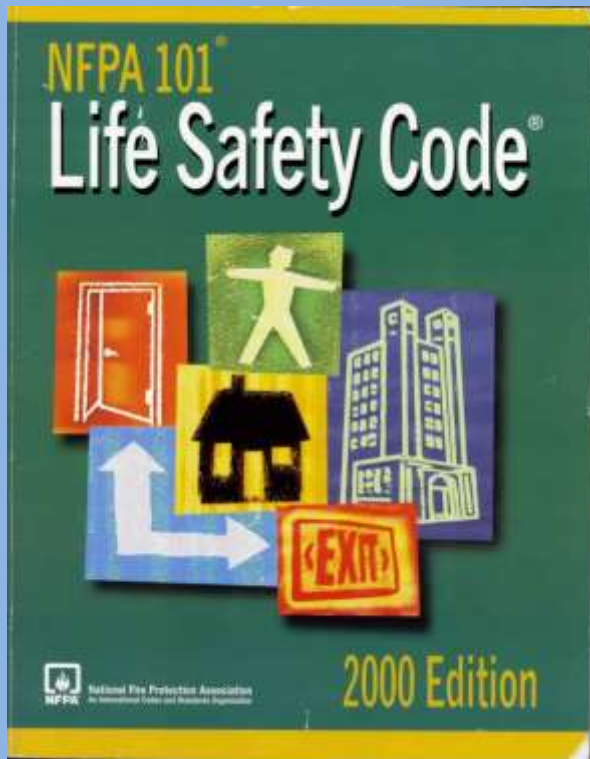


FEDERAL REGISTER

The Daily Journal of the United States Government

Answer #15 – Occasional Inpatient Use

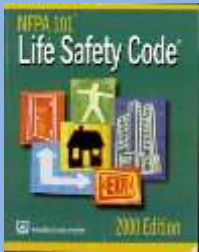
**NFPA 101 says 4 or more
patients = health care**



4

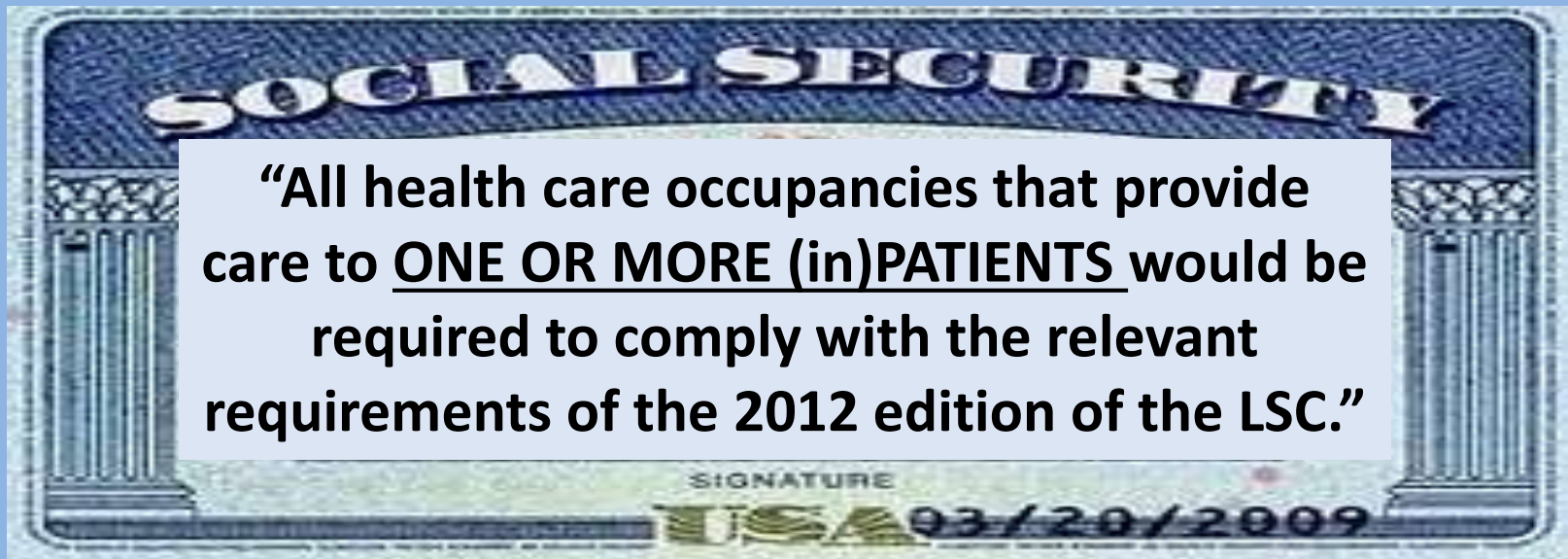
Answer #15 – Occasional Inpatient Use

CMS uses a different definition of health care than the Life Safety Code.



~~4~~

1



[Quote from Federal Register, Published
Wed April 16, 2014]

Answer #15 – Occasional Inpatient Use

**CMS does not consider how
"occasional" the treatment**

ANY treatment of an inpatient
(even occasional or intermittent)
needs to be provided in a
health care occupancy
(hospital/nursing home)

Answer #15 – Occasional Inpatient Use



Any inpatient, even "occasional" , must be treated or cared for in a health care occupancy



And, they must be transported through a health care occupancy

Question #16 – Generator Load Banking

We have a new 150kW diesel generator. I do an annual load bank test. Does that mean I don't have to exercise and prove 30% load on a monthly test?



Answer:

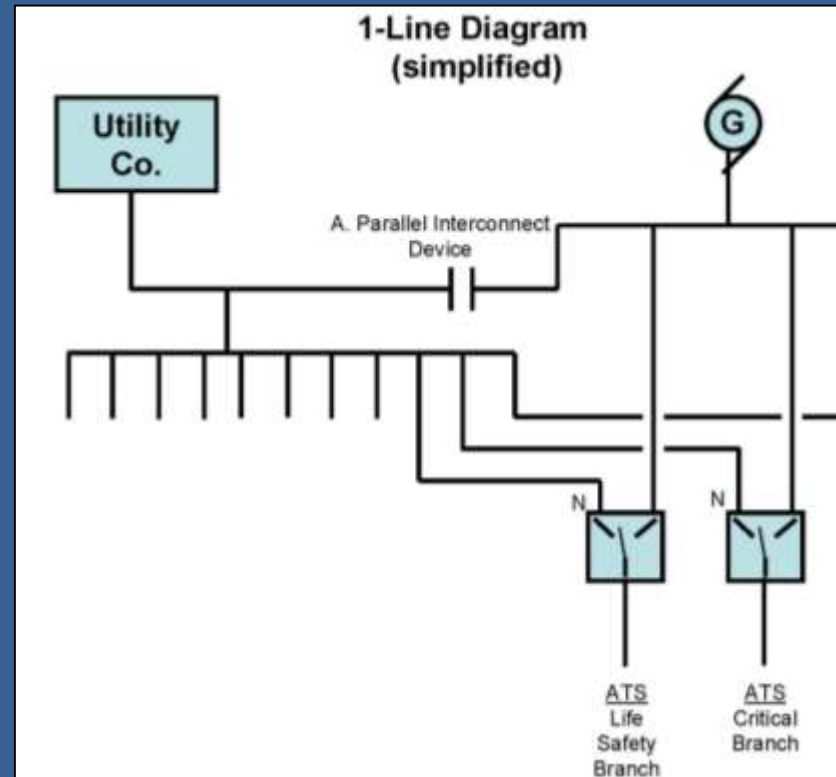
If you use the annual load bank test, you don't need to meet the 30% load each month. However, you still have to run the generator each month for 30 minutes under whatever load is available.

Question #17 – Transfer Switch Testing

We have 2 transfer switches. Is it only required to test the life safety ATS, or also the critical care ATS?

Answer:

All automatic transfer switches need to be exercised each month.



Answer #17 – Transfer Switch Testing

1. One ATS is used to cold-start the generator
2. *Measure and record the amount of time it took the generator to start and actually transfer the available load (max 10 seconds if EES)



*Measuring transfer times is not required monthly, but should be done at least once a year for each ATS to make sure they satisfy code requirements

Answer #17 – Transfer Switch Testing

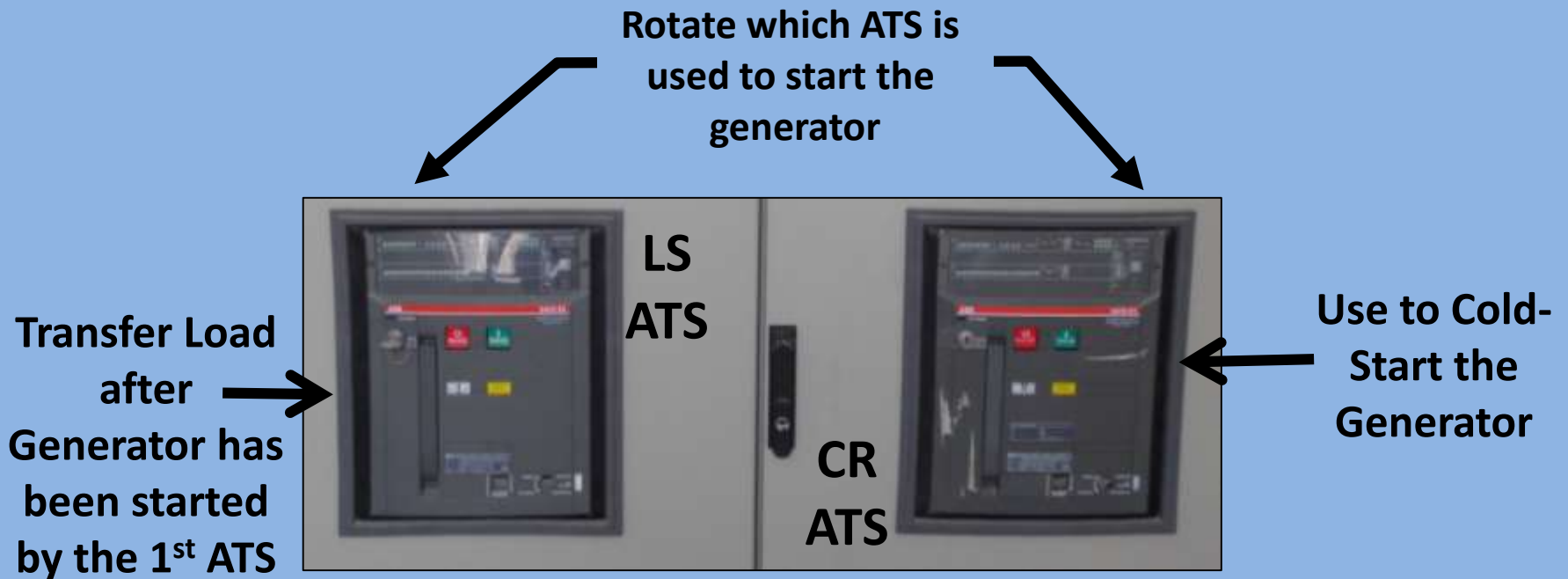
3. Then manually switch the other ATS with the generator running, so it transfers its load



Transfer Load
after
Generator has
been started
by the 1st ATS

Answer #17 – Transfer Switch Testing

4. Next month repeat the process, rotating which ATS is used to start the generator



Question #18 – Locked Electrical Panels

Could you please tell me the code # requiring that electrical panels be closed and locked and would that pertain to server boxes and like cable tv distribution boxes if they were in an electrical closet ?

Answer:

For electrical panels the requirement for locking depends on the voltage of the system. There is no code requirement for low voltage communication systems



Answer #18 – Locked Electrical Panels

For panels & equipment that are over 600 volts:
NFPA 70 (1999 ed.), Article 110-31(c).

“Access to electrical panels must be limited to those persons who have a need and ability to safely operate the breakers”

For systems under 600 volts.

Similar language is NOT in that section of the NEC

Answer #18 – Locked Electrical Panels

If you have a difference of opinion with an inspector:

Politely ask (for educational purposes) what specific code section requires what is being “required”

I AM A
**BUILDING
INSPECTOR**
TO SAVE TIME,
LET'S JUST ASSUME
THAT I AM
NEVER WRONG

Never Fight with An Inspector



You will Always Loose

Question #19 – Electric Strike Installation

We are in the process of putting electric strike on some of our doors. The strikes are rated for use on fire doors.

- 1. What steps do we need to take to install these devices on existing fire doors?**
- 2. If we in some way need to modify the jamb to except the new strike, what will this require us to do?**
- 3. If they fit with no modification does this change anything?**

Answer:

This is a tough subject, because rarely are the strict code compliant things done.

Answer #19 – Electric Strike Installation

Over-riding Concept:

**Any modification of
doors or frames
would nullify its
rating & label**

Answer #19 – Electric Strike Installation

Rule 1 –

Make sure you have official written documentation for fire/smoke doors and frames and any device attached to them. (exception: kick plates under 16" high and small signs)



Answer #19 – Electric Strike Installation

Rule 2 –

DO NOT change anything on **ANY** rated fire/smoke door or frame unless:

- a. The device (mfr & model) you are adding is listed (such as UL, FM, WH, act) for the rating that of the door assembly, and you have documentation.



Answer #19 – Electric Strike Installation

Rule 2 –

DO NOT change anything on ANY rated fire/smoke door or frame unless:

b. The device (mfr & model) you are adding is listed by the door manufacturer as acceptable under their listing, and you have documentation.



Answer #19 – Electric Strike Installation

Rule 2 –

DO NOT change anything on **ANY** rated fire/smoke door or frame unless:

c. Field installation is specifically shown as an acceptable method on the door/frame mfr listing approval, and you have documentation.



Question #20 – Sleep Room Speaker/Strobes

I am receiving conflicting answers regarding fire system speaker/strobes notification devices for sleep rooms. We have a couple sleep rooms within the hospital occupancy for MD's & etc. Do the sleep area / room and restrooms inside the rooms both need notification devices?

Answer:

It depends on the occupancy & which AHJ you need to satisfy



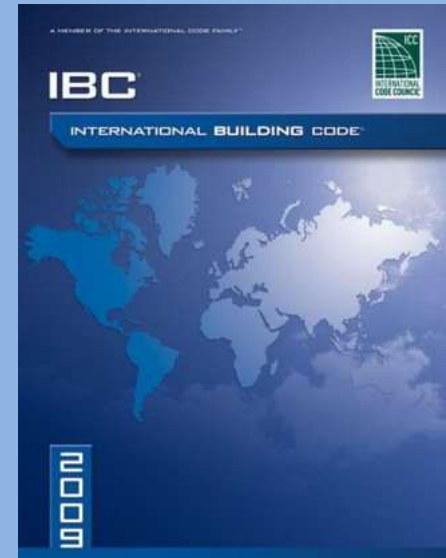
Answer #20 – Sleep Room Speaker/Strobes

**This doesn't usually apply
to Sleep rooms**

**If the rooms are new, or the fire
alarm is new:**

IBC 907.5.2.3.1:

***“Visual alarm notification appliances shall be
provided in public areas and common areas.”***



Answer #20 – Sleep Room Speaker/Strobes

**Fire Alarm system requirements
are based on the occupancy**

- 1. Since there are sleeping taking place in the space it is either**
 - a hospital (if care is given) or**
 - residential (if no care is given) occupancy**
- 2. The number of on-call rooms determines the type of occupancy.**

Answer #20 – Sleep Room Speaker/Strobes

The number of on-call rooms determines the type of occupancy.

- **If more than 16, it is a Hotel (chap 28/29)**
- **If there 4-16 sleepers, it is Lodging/Rooming House (chap 26)**
- **If less than 4 sleepers, it is governed by the requirements of the primary occupancy, health care (chap 18/19)**

Answer #20 – Sleep Room Speaker/Strobes

The number of on-call rooms determines the type of occupancy.

Hotel (>16 persons)

the room must have a fire ALARM, which is a smoke detector with an audible alarm. Visible signals are required in new hotel public spaces (per 28/29.3.4.3.3) & rooms equipped to accommodate the hearing impaired, per 28.3.4.3.2)

Lodging/Room House (4-16 persons)

A visible signal is required if the occupant is hearing impaired and there are more than 5 rooms (26.3.3.3, exception 1)

Hospital (<4 persons)

no special requirements

QUESTIONS

1. Wireless Nurse Call
2. Charging & Power Strips
3. Power Strips
4. CBRF – Plan Reviews
5. Corridor Equipment Parking
6. Damper Removal
7. Fire Wall vs Fire Barrier
8. Fire Drills – Unannounced
9. Fire Drills - 3rd Shift
10. Fire Drills - ILSM
11. Damper Testing
12. Fire Alarm – Volume
13. Door Locking – Memory Care
14. Small Storage Rooms – Closers
15. Occupancy – Occasional Use
16. Generator Load Banking
17. Transfer Switch Exercising
18. Electrical Panel Locking
19. Electric Strike Installation
20. Sleep Room Speakers & Strobes



3 Part Harmony

Dec 8, 2015 Lunch & Learn

Part 3

Top 10

Citations

MOST COMMON CMS CITES



% of CMS Surveys

1. Sprinkler Reports	58%
2. Fire Drills	42%
3. Electrical Issues	35%
4. Hazardous Rooms	33%
5. Sprinkler Install	29%
6. Fire Alarm Reports	39%
7. Path of Egress	22%
8. Corridor Doors	20%
9. Smoke Barriers	13%
10. Generator Reports	13%
11. Fire Alarm Install	13%

MOST COMMON TJC CITES

% of TJC EC/LS Cites



1. EC.02.03.05, EP25	76%
2. EC.02.05.01, EP6; EC.02.06.01, EP13	50%
3. LS.02.01.35, EP4-6	40%
4. LS.02.01.10, EP9	24%
5. LS.02.01.20, EP13	22%
6. LS.02.01.30, EP2	21%
7. EC.02.05.01, EP8	21%
8. LS.02.01.30, EP11	19%
9. LS.02.01.20, EP1	17%
10. LS.02.01.30, EP18	14%

Fire Alarm/Sprinkler Reports
Ventilation
Sprinkler Install
Fire Stopping
Obstructions
Hazardous Rooms
Shutdown Labels
Corridor Doors
Path of Egress Locks
Smoke Barriers

MOST COMMON CITES

% of CMS Surveys

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Similarity of Both Lists

Fire Protection Reports

% of CMS Surveys

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% of TJC EC/LS Cites

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2. Ventilation 50%
3. Sprinkler Install 40%
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On BOTH Lists

Hazardous Rooms

% of CMS Surveys

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On BOTH Lists

Sprinkler Installation

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On BOTH Lists

Path of Egress

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On BOTH Lists

Corridor Doors

% of CMS Surveys

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On BOTH Lists

Smoke Barriers

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On BOTH Lists

Out-Lying Cites

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10 Tips for Code Compliance

1. Always Follow the instructions of listing agency & the manufacturer
2. Always keep listing documents
3. Never modify a Listed device
4. Do not Obstruct Means of egress, controls, sprinklers
5. Know & Maintain Compartment Boundaries

10 Tips for Code Compliance

6. Do not Lock egress doors
7. Fix deficiencies; they are opportunities to improve; don't pass them by when you find them
8. Paperwork is important: who, what, when & how
9. The inspector is not always right; show respect, but challenge interpretations
10. Use checklists, but follow the code

Top 10 Cites

1. Sprinkler Reports
2. Fire Drills
3. Electrical Issues
4. Hazardous Rooms
5. Sprinkler Install
6. Fire Alarm Reports
7. Path of Egress
8. Corridor Doors
9. Smoke Barrier Walls
10. Generator Reports

Cite #1: Sprinkler Inspections (K-62)

MONTHLY, QUARTERLY & ANNUAL **INSPECTIONS**

- Follow NFPA 25 Inspection Guides
- Fix any Problem that was Identified & Document
- 5 Year Gauge Replace/Recalibrate



Cite #1: Sprinkler Inspections (K-62)

- Sprinkler Lint



Use ZERO Tolerance
(NO lint, paint, cobwebs, rust)

Cite #1: Sprinkler Inspections (K-62)



- Spares: Min 2 per Type & Temp in Bldg
- Wrench that fits sprinklers

Cite #1: Sprinkler Inspections (K-62)



**HOLES
in the
CEILING**

Cite #2: Fire Drills (K-50)

ONE per SHIFT per QUARTER

Training is NOT a drill

- Cover all elements of Discovering a Fire (RACE)

Staff Activates the alarm system

- Cover the Response to Alarms

Include Preparation to Evacuate
(to next Smoke Compartment)

- Vary the Location, Time & Situation
- Verify Monitoring Svc Received Alarm



**Use
THIS
GRID→**

DOCUMENTATION MUST INCLUDE:

- 1).Quarterly per Shift,
- 2).Staff Activate Alarms;
- 3). Verifv Transmission;
- 4).Vary Locations & Times;
- 5) Qualified Leader;
- 6).Staff Participation;
- 7).Evaluation Report

FIRE DRILL LOG FOR YEAR _____

	<u>1st SHIFT</u>			<u>2nd SHIFT</u>			<u>3rd SHIFT</u>		
	Date	Time	Loc	Date	Time	Loc	Date	Time	Loc
Jan									
Feb									
Mar									
Apr									
May									
Jun									
Jul									
Aug									
Sep									
Oct									
Nov									
Dec									

Cite #3: Electrical Code (K-147)

PANEL INSTALLATION

Clearances (min 36")

Damage Protection

Panel Labeling (clear, complete)

Panel Security (restricted access)

Panel-Spare Breaker Off



BOXES & CONDUITS

Missing Cover on Switch/Outlet Box

Open Elec Box

Open Knock Out space

Open Wire Nuts

Broken Face Plate



Cite #3: Electrical Code (K-147)

EXTENSIONS & STRIP PLUGS

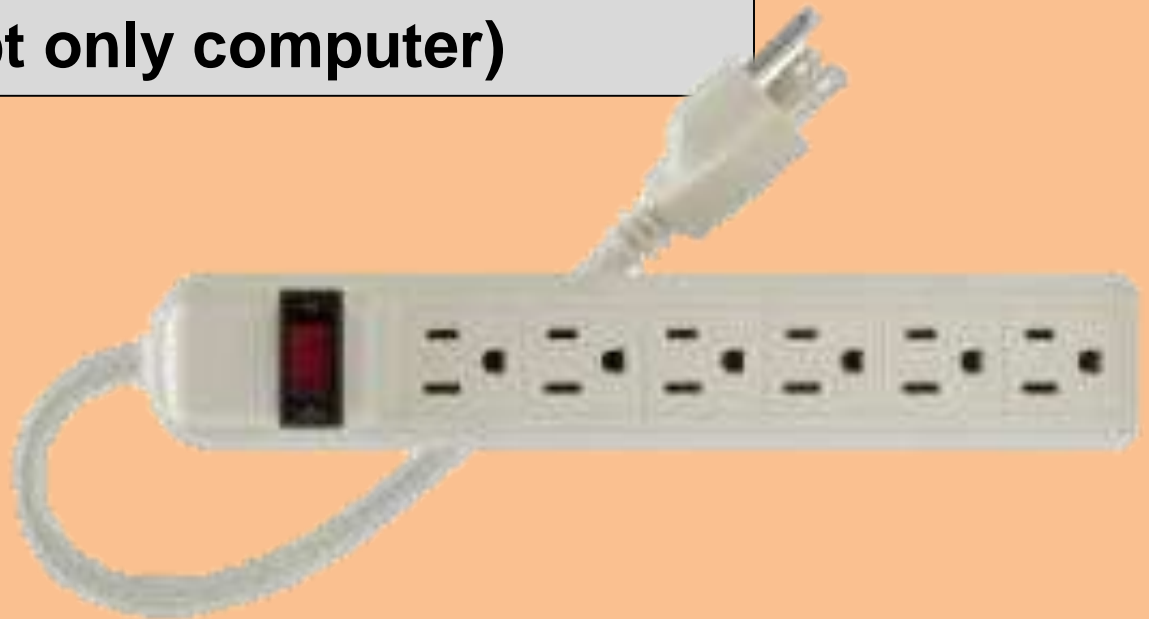
Cheater Outlet

Extension Cord

Extension Cord w/Med Equip

Flex Cord Use

Strip Plug (except only computer)



CATEGORICAL WAIVER

REQUIREMENTS THAT MUST BE COMPLIED WITH TO USE ANY CATEGORICAL WAIVER (i.e., 2012 CODE)

(ALL applicable items below must be evaluated & have documentation to show satisfactory compliance; refer to full code to ensure compliance)

CODE REF	NEW CODE SUMMARY			
99-2010 §10.2.3.6	1. Strip plugs permitted on rack, table, or cart-mounted equip if permanently attached & sum of amps of all appliances is less than 75% of the ampacity of the cord AND methods are used to ensure more devices can't be plugged in	GENERAL REQUIREMENTS <input type="checkbox"/> Facility has policy on use & testing of all electrical devices & cords <input type="checkbox"/> Facility has policy for control of devices not supplied by the facility <input type="checkbox"/> Strip plugs powered by a GFCI; or part of a documented testing program of the strip plug for physical integrity, polarity, and grounding. <input type="checkbox"/> Outlets that provide power to the strip plug must be properly grounded per its listing. <input type="checkbox"/> Cords cannot be a trip hazard; be 'daisy' chained together; have tension on plug; be walked on, be overloaded, or be near combustibles <input type="checkbox"/> Strip plug must be installed & maintained per manufacturer instructions. <input type="checkbox"/> Facility complies with all requirements of 2012 NFPA 99 on strip plugs (6.3.2.2.6, 10.2, 10.5, etc) <input type="checkbox"/> Facility complies with all requirements of 1999 NFPA 99 and NFPA 70, including article 715.	NON-PT CARE VICINITY Strip plugs may be used <u>outside</u> the patient care vicinity for both patient care and non-patient care equipment, provided all the following are satisfied: <input type="checkbox"/> 1-Strip Plug used for non-patient care equipment must be UL listed 1363, "Relocatable Power Tap" <input type="checkbox"/> Extension cords not used in lieu of permanent wiring, except for a 90 day period for construction or holiday decoration.	PATIENT CARE VICINITY Strip plugs may be used hospitals or nursing homes in the patient care vicinity for rack, table, pedestal, or cart mounted line-operated patient care equipment, provided all the following are satisfied: <input type="checkbox"/> 1-Strip Plug must be UL listed 1363A or UL 60601-1, "Special Purpose Relocatable Power Tap" <input type="checkbox"/> 2-Strip plug must be permanently attached to the equipment assembly <input type="checkbox"/> 3-Mounting of the plug strip must be performed by qualified personnel <input type="checkbox"/> 4-Sum of Amp rating of all attached devices adds up to less than 75% of the cord rating <input type="checkbox"/> 5-Ampacity of the cord satisfied the current edition of the NFPA 70 <input type="checkbox"/> 6-A method is used to prevent added devices being plugged into the plug strip <input type="checkbox"/> 7-Equip does not need to be an integral component of a mfrg assembly of equipment <input type="checkbox"/> 8-Non-pt care equipment cannot be plugged into a power strip in the pt care vicinity.
§10.5.2	2. Exten.Cords may be used. Wiring must be periodically tested for physical integrity, polarity, and continuity of grounding			
§10.5.2.5-7	3. Such sys must be demonstrated to comply with the code as a complete system LTC facilities that do not use line-operated devices for therapeutic treatment are not subject to NFPA 99 requirements and do not need to use this Categorical Waiver.			

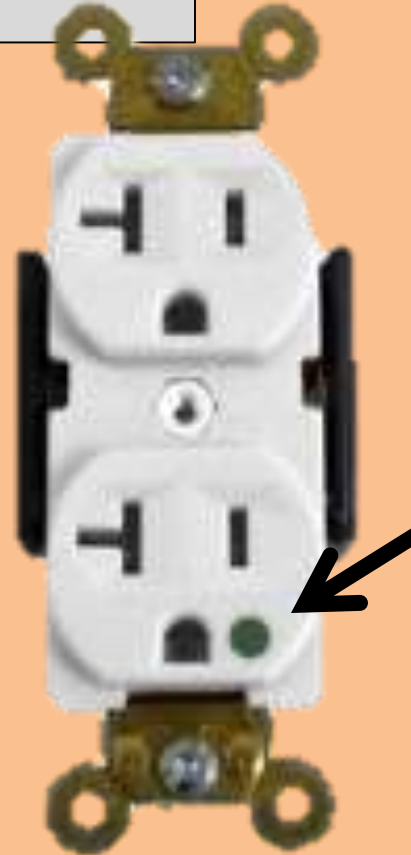


Cite #3: Electrical Code (K-147)

OUTLETS

Ground fault outlet missing

Hospital grade outlet missing



Look for the
“Green” Dots

(especially on
patient-use
devices

Cite #4: Hazardous Rms (K-29)

GIFT SHOPS are hazardous unless there is a separate product storage area. If <500 SF it can be open to the corridor. [LSC 18/19.3.2.5]

BOILER & FUEL-FIRED ROOMS

LAUNDRIES > 100 SF

LABS (if qty rated as severe)

COMPRESSED GAS STORAGE

OXYGEN STORAGE >3000CF
[99:4.3.1.1.2]

PAINT SHOPS & MAINTENANCE

SOILED **LINEN** & **TRASH** ROOMS or
CARTS > 32 Gallons [LSC 18/19.7.5.5]

LEAD BATTERIES>100 Gal: 2 hr in I, 1 hr
in B

HAZARDOUS ROOM (K-29) Inspection Guides

Item	What to Check	NEW Requirement	EXISTING Requirement
Layout	<ol style="list-style-type: none"> Exit Thru Haz Rm Haz Areas 	<ol style="list-style-type: none"> Egress not permitted from a less hazardous space thru a more hazardous space A single residential range/oven or residential laundry mch is not haz provided the fuel capacity doesn't exceed that found in a1 or 2 family residence [SOM, Append I, K29 Interpretive Guidelines. 	<p>Same as NEW</p> <div style="border: 1px solid black; padding: 10px; transform: rotate(-5deg); display: inline-block;"> <p>#1 Cite in Past Years!</p> </div>
Doors	<ol style="list-style-type: none"> Door Rating Closer Hold-Open Self-Latching Grills Window Undercut Opening Force Dbl Door-Astragal Frame Kick Plate 	<ol style="list-style-type: none"> Min 45 min label [NFPA 101, 18.3.2.1] Closer required; Door must fully close [LSC 18.3.2.1] Only with Electro- magnet, with Smk Detector < 5' away, connected to alarm sys Hardware must positively latch by itself; No Deadbolt [NFPA 101, 8.2.3.2] Grills/louvers not permitted Rated Glass; max 100 Sq In unless listing approv; Max 3/4" undercut Max 15 lb to unlatch, 30 lb to start motion, 15 lb to full open (NFPA 101, 7.2.1.4.5) If meeting gap >1/8" Must have astragal; Must have Coordinator if astragal can obstruct [NFPA 101, 18.3.2.1] Must have stop on jambs & header Max 48" hi non-rated protective kick plate 	<ol style="list-style-type: none"> Same as NEW, but if Rm sprinkled no rated required, but must resist passage of smoke. Max 6 heads on isolated sprinkler sys fed via a domestic water supply 2, 3, 4, 5, 7, 9, 10, 11. Same as NEW Same as NEW, except no limit, if Rm sprinkled Same as NEW, except Max 50 lb to open
Wall	<ol style="list-style-type: none"> Rating Windows Grills 	<ol style="list-style-type: none"> Min 1 hr (Min 1 layer 5/8" drywall on both sides; 6" block), [NFPA 101, 18.3.2.1] Vision panels in a haz area wall are prohibited [SOM, Append I, K29 Interpretative Guidelines] No grills/louvers permitted w/o fire damper 	<ol style="list-style-type: none"> Same as existing door above Same as NEW, except no limit, if Rm sprinkled Same as NEW
Above ceiling	<ol style="list-style-type: none"> Penetrations Ducts 	<ol style="list-style-type: none"> Rated fire stop material installed per listing; Intumescent at PVC/cable/insulated pipes [NFPA 101, 18.3.2.1] Fire Dampers required if duct terminates at wall 	<ol style="list-style-type: none"> Same as existing door above Same as NEW, but damper not required if Rm sprinkled



Cite #4: Hazardous Rms (K-29)

STORAGE

***ANY amount of Combustible
Storage may be trigger
“hazardous”***

LSC 18.3.2.1 - NEW

<49 SF

No Requirements

50-99 SF

***Door Closer &
Smoke-Tight***

100 SF & larger

Rated Walls & Door

LSC 19.3.2.1 - EXISTING

<49 SF

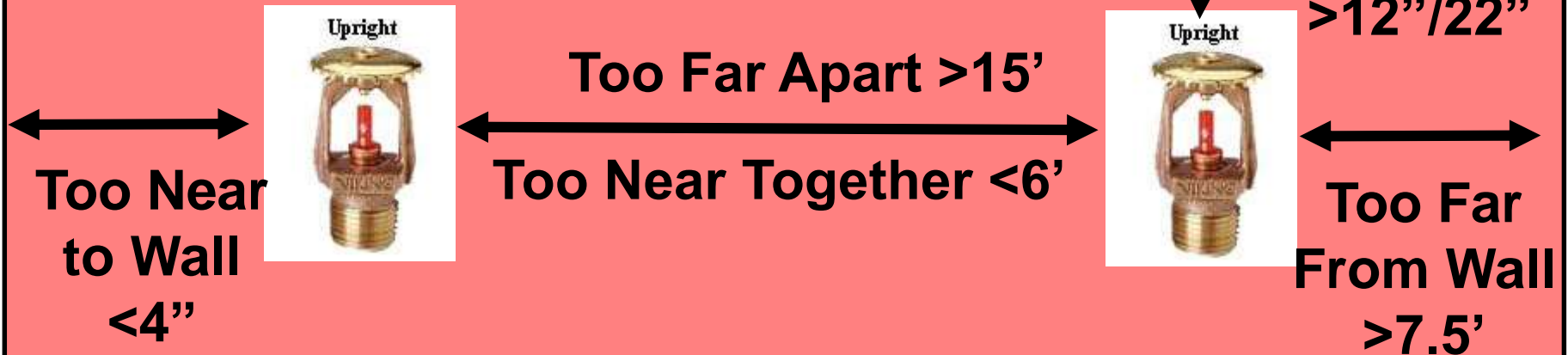
No Requirements

50 SF & larger

- 1. Rated Walls & Door, with closer OR***
- 2. Sprinkle & Door, with closer & smoke tight***

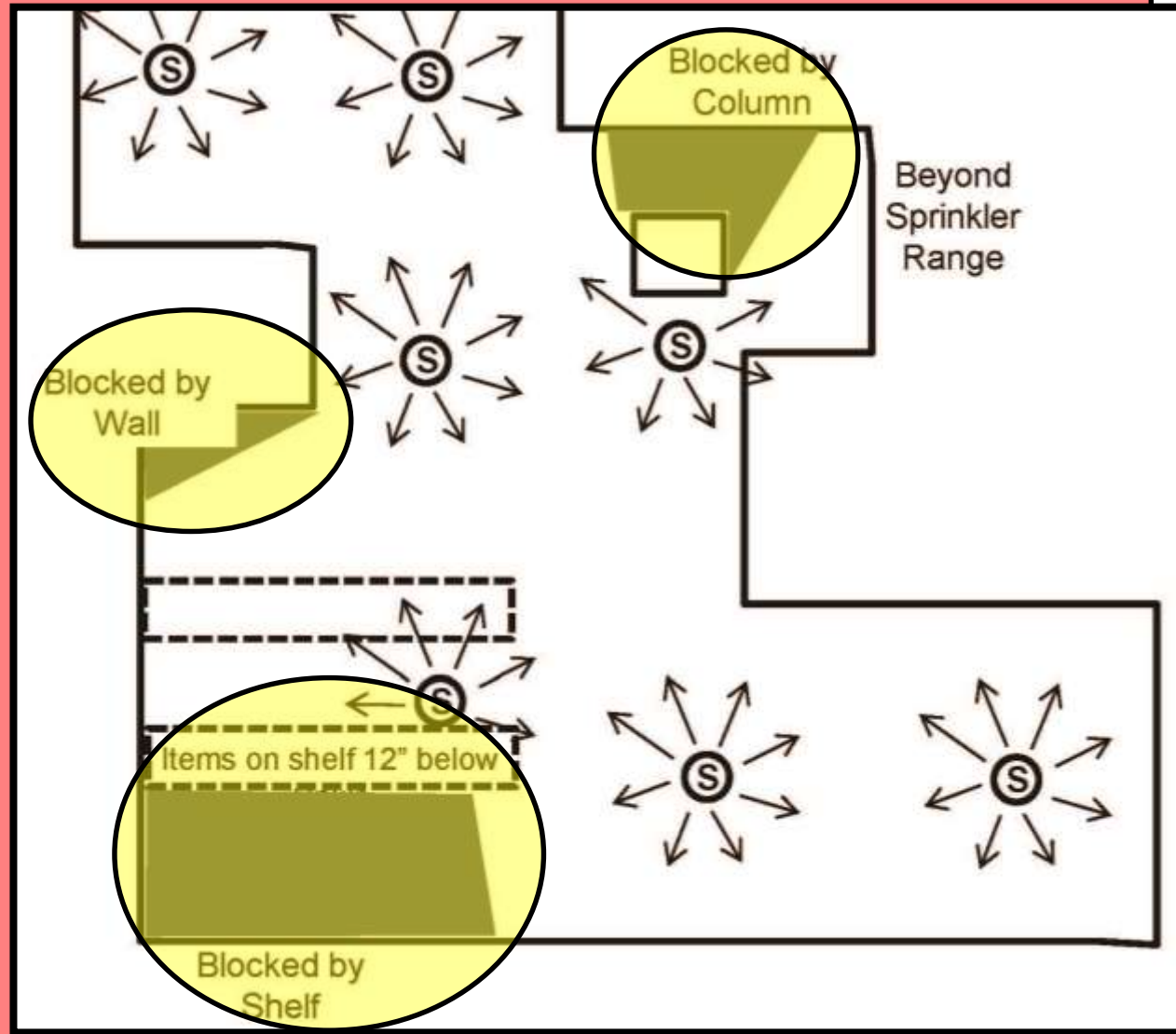
Cite #5: Sprinkler Install (K-56)

- Sprinkler Locations



- **Sprinkler Shadows**

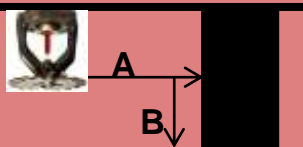
**Water spray
blocked
by
construction**



• Sprinkler Obstructions

Follow the Charts

HANGING DOWN FROM CEILING

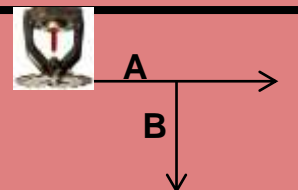


A

B

<u>Distance to Obstruction</u>	<u>Max Distance Below Deflector</u>
<12"	0"
12-18"	2.5"
18-24"	3.5"
24-30"	5.5"
30-36"	7.5"
36-42"	9.5"
42-48"	12"
48-54"	14"
54-60"	16.5"
>60"	18"

FLOOR MOUNTED ITEMS



A

B

<u>Horiz Dist to Obstruction</u>	<u>Min Distance Below Deflector</u>
<6"	3"
6-9"	4"
9-12"	6"
12-15"	8"
15-18"	9.5"
18-24"	12.5"
24-30"	15.5"
>30"	18"

Cite #6: Fire Alarm Testing (K-52)

INSPECTIONS !

MONTHLY, QUARTERLY, SEMI-ANNUAL & ANNUAL

- Follow NFPA 72 Inspection Guides (Table 7-3.1)
- Visual Inspections & Tests
- Fix any Problem that was Identified & Document

TESTS & INSPECTIONS

Annual Inspection
Quarterly Inspections
Semi-A Inspections
Tests Missing

OTHER

Pull Sta Access
Repairs not made

Cite #7: Exit Availability (K-38)

GENERAL

Exit Obstruction

Exit Thru Suite

Headroom

Exit Thru Haz Room

Locked Exit

Ramp Handrail

Interruption of Stair Travel

- Insufficient Height or Width of Corridor

Cite #7: Exit Availability (K-38)

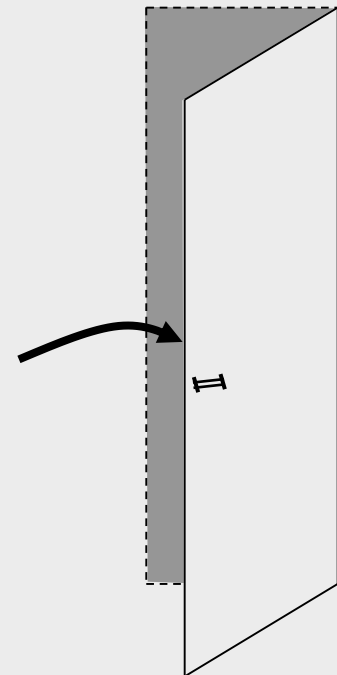
DOOR

Force to Open
Force to Unlatch
Dead Bolt (one hand Motion)
Latch Height (36"-48"hi)
Outswing Door
One Hand Motion
Privacy Latch Release (2 motion)
Swing with Egress (>50 occ)
Level Door Slab on both sides

Out swinging Doors into
Corridor must obstruct
<50% &
obstruct <7" when full
open

FORCES TO OPEN: [LSC 7.2.1.4.5]

- Latch release <15lbs
- Start motion <30 lbs
- Full open <15lbs
- Power Op <50lbs if lose power
- w/o Closer <5lbs



Cite #7: Exit Availability (K-38)

DELAYED EGRESS

- Activation**
- Force to Open**
- Fully Sprinkled**
- Other Issue**
- Re-Set at door**
- Sign**
- Sign-Contrast**
- 2 in Path**

EXIT DISCHARGE

- Exit to Exterior**
- Interior Discharge**
- Path Maintainable**
- Snow Removal**
- Un-Level Egress Path**

ACCESS CONTROL LOCK

- Egress Locking**
- Missing Switch**
- Missing Switch Sign**

Cite #8: Corridor Doors (K-18)

[LSC 18.2.2.2; 18.3.6.3; 18.3.7.5]

STOPS – Frame must have stops at jamb & header

LATCH- Single-motion release; self-latch; cannot lock from exit side unless using 'delayed egress' latch; max 15lb force to open

MAIL SLOT – Max 20 sq.in in lower half of door (none in rated doors) [LSC 18.3.6.5]

UNDERCUT –Max 1" in corridor

CLOSER – Needed if rated door-No hold-open arm; **Optional on all other doors (provide hold-open arm)**

MAG-HOLD-OPEN – Needed only if rated & door left open; must have full corridor smoke detection OR at least one smoke detector within 5' of door; any headers $\geq 2'$ needs a detector [72:3-9.6]

KICK-PLATE –Max 48" if smoke or corridor

DOOR STOP (or wedge)– Never acceptable

Inspect door self-closing & latching several times to make sure they operate repeatedly.

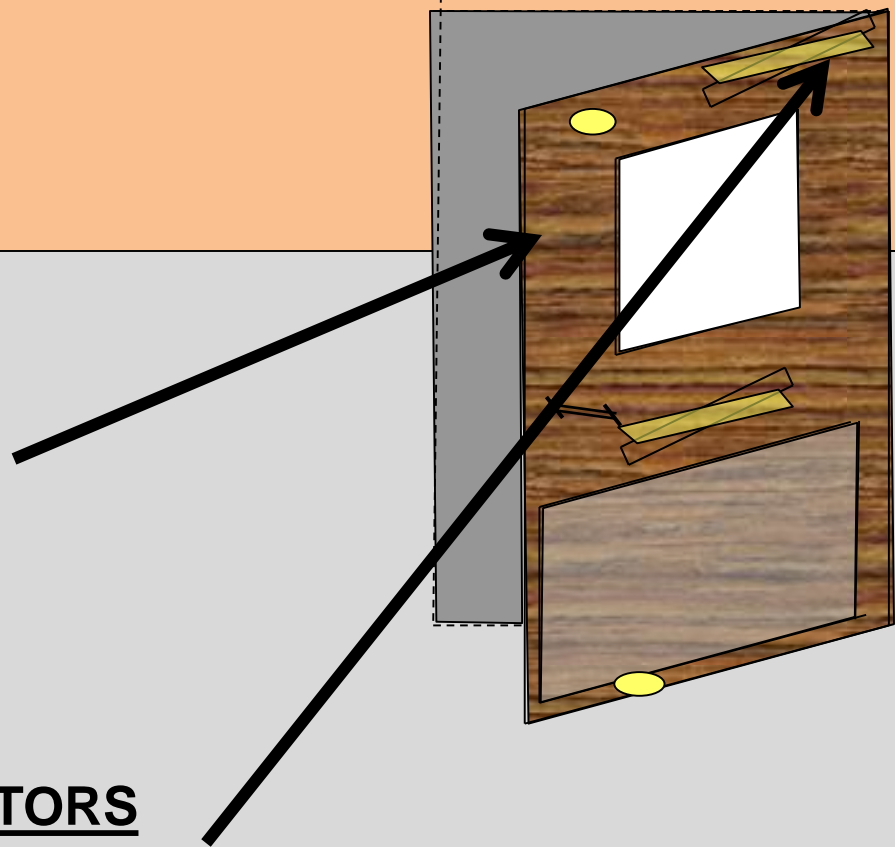
Cite #8: Corridor Doors (K-18)

DOOR

Astragal
Dutch Door-Seal
Grill/Louver
Kick plate > 48" high
Mail Slot
Non-Side Hinged

CLOSERS & COORDINATORS

Pair Doors w/Closer +Coordinator, but not Latch
Pair Doors w/ Closer, but No Coordinator



Cite #8: Corridor Doors (K-18)

LATCHING

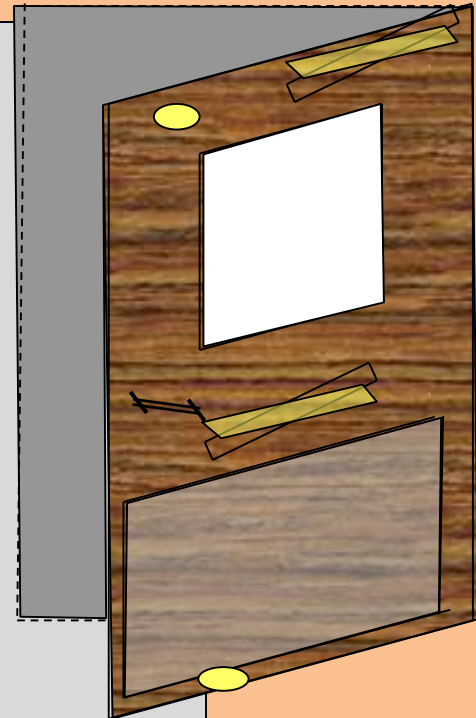
- Auto Door Latching
- Closer but Not Latch
- Dead-Bolt Latch
- Dutch Door-Latch
- Inactive Latch
- Door Latch
- Push-Pull

HOLD-OPEN

- Hold Open
- Smoke Detector at Mag Hold Opens
- Wedge Hold Open

FRAME

- Frame-Smoke Tight



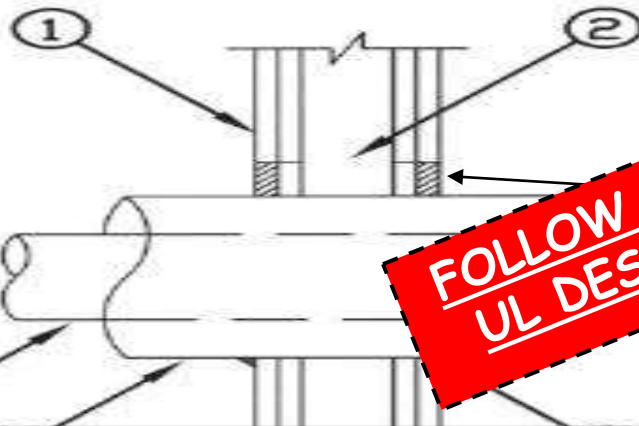
Cite #9: Smoke Barriers (K-25)

All design. Typically both sides of walls and the top side of floors must be stopped.

Always use the UL Design from your product vender for the precise method for each seal! (Example Below)

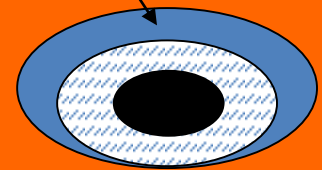
A-RATED COMPONENT

1. Gypsum wall board (2 hr shown)
2. Metal studs, min 2-1/2"



C-RESTRICTIONS

max 18" hole;
annular: 0" to 1-7/8"



**FOLLOW THE
UL DESIGN**

FIRE STOPPING

B-PENETRANTS

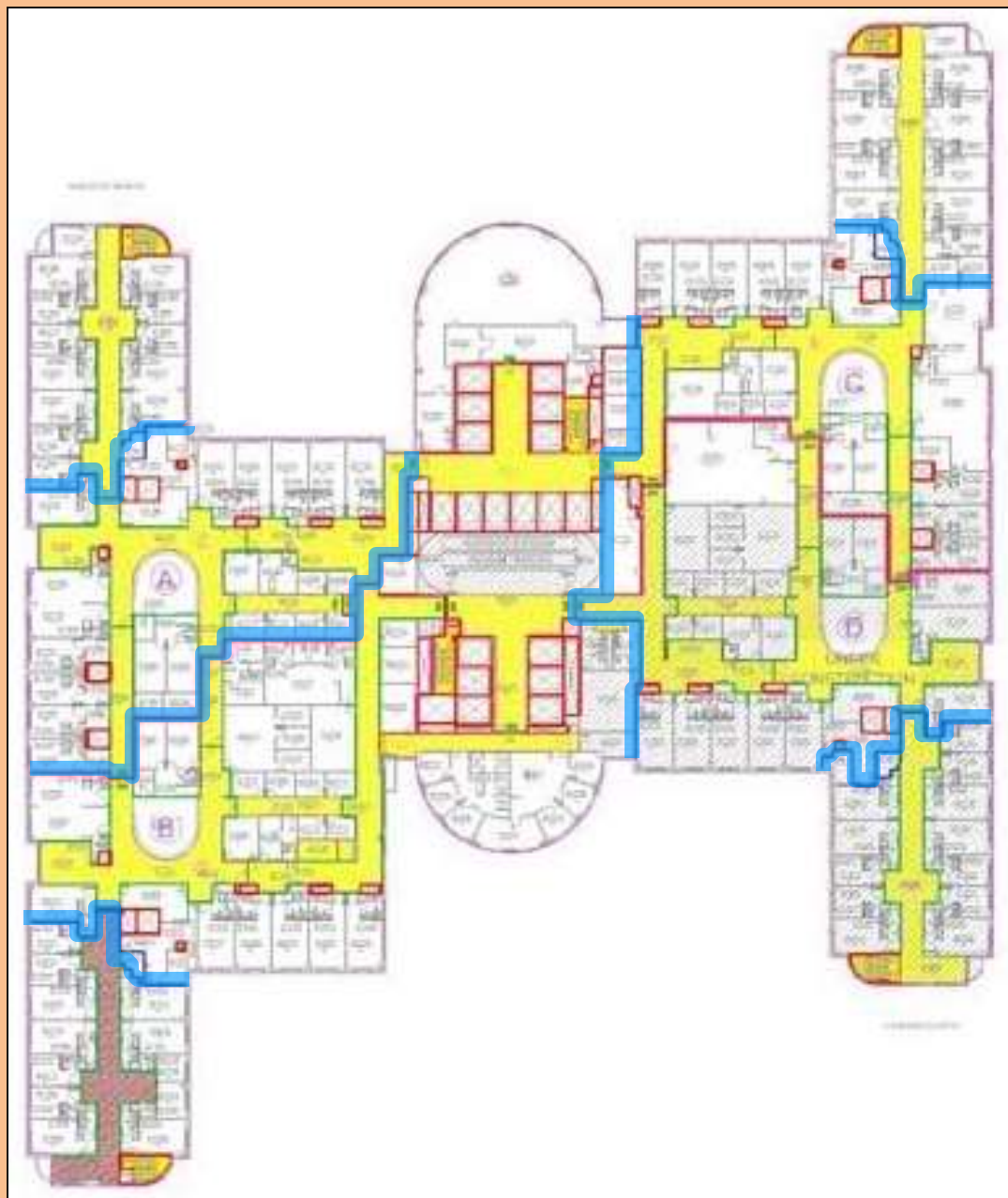
3. Metal pipe, max: (NO sleeve) 12" steel (sch20); 6" cu, 4" emt
4. Max 2" fiberglass insul

D-REQUIRED SEALANT

5. Min FS-1: 5/8" for 1 or 2 hr
6. Min 1/2" crown of FS-1

Cite #9: Smoke Barriers (K-25)

**Update Your
Life Safety
Plan!**



Cite #9: Smoke Barriers

**Mark Smoke Barrier
Walls (outside to
outside of building)
with WIDE Blue
highlighter !**

**Confirm the wall
locations shown are
accurate**

Cite #9: Smoke Barriers (K-25)

**Pre-Inspect the walls
PRIOR to the expected
inspection
and
FIX issues**

Cite #10: Generators (K-144)

INSPECT WEEKLY (Do not need to Run)

- Include accessories shown in NFPA 110 appendix
- Battery Inspection – record specific gravity

**USE a
GOOD
Form**



EXERCISE MONTHLY for 30 min under load

- Run at 30% of Nameplate Amps
- Min 5 min Cool down
- Monthly ATS exercise; confirm transfer time
- Load Test ok for diesel (not Natural Gas)

Cite #10: Generators (K-144)

REMOTE STOP BUTTON

- Located outside generator space
- “Tamper-resistant”

BATTERY

- Maintenance Free Prohibited if Level 1 generator



Natural Gas Reliability Letter

- a) Statement that normal service is reliable & gives supportive reasons
- b) Statement that service during likely interruptions is reasonable reliable & gives supportive reasons
- c) Signed by Technical Person

Cite #10: Generators (K-144)

REPAIRS

- Identified problems must have documentation of repair



ANNUNCIATOR PANEL

Battery powered Alarm Annunciator -at 24-hour manned location that signals if it's operating, low fuel, pressure or temp abnormal & other conditions [110:3-4.1]

Most Common Cites

% of CMS Surveys

- | | |
|------------------------|-----|
| 1. Sprinkler Reports | 58% |
| 2. Fire Drills | 42% |
| 3. Electrical Issues | 35% |
| 4. Hazardous Rooms | 33% |
| 5. Sprinkler Install | 29% |
| 6. Fire Alarm Reports | 39% |
| 7. Path of Egress | 22% |
| 8. Corridor Doors | 20% |
| 9. Smoke Barriers | 13% |
| 10. Generator Reports | 13% |
| 11. Fire Alarm Install | 13% |

% of TJC EC/LS Cites

- | | |
|---------------------------------|-----|
| 1. Fire Alarm/Sprinkler Reports | 76% |
| 2. Ventilation | 50% |
| 3. Sprinkler Install | 40% |
| 4. Fire Stopping | 24% |
| 5. Obstructions | 22% |
| 6. Hazardous Rooms | 21% |
| 7. Shutdown Labels | 21% |
| 8. Corridor Doors | 19% |
| 9. Path of Egress Locks | 17% |
| 10. Smoke Barriers | 14% |



3 Part

Harmony

presented by

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