CONSTRUCTION SECTION UPDATE

NCHEA ASHEVILLE CONFERENCE

AUGUST 2, 2019

Please Hold Questions Until the End of the Session

PRESENTERS

Steve Lewis
Section Chief

Jeff Harms
Engineering Supervisor

Don Schlagle
Engineering Plan Reviewer

Bob Strother
Life Safety Supervisor

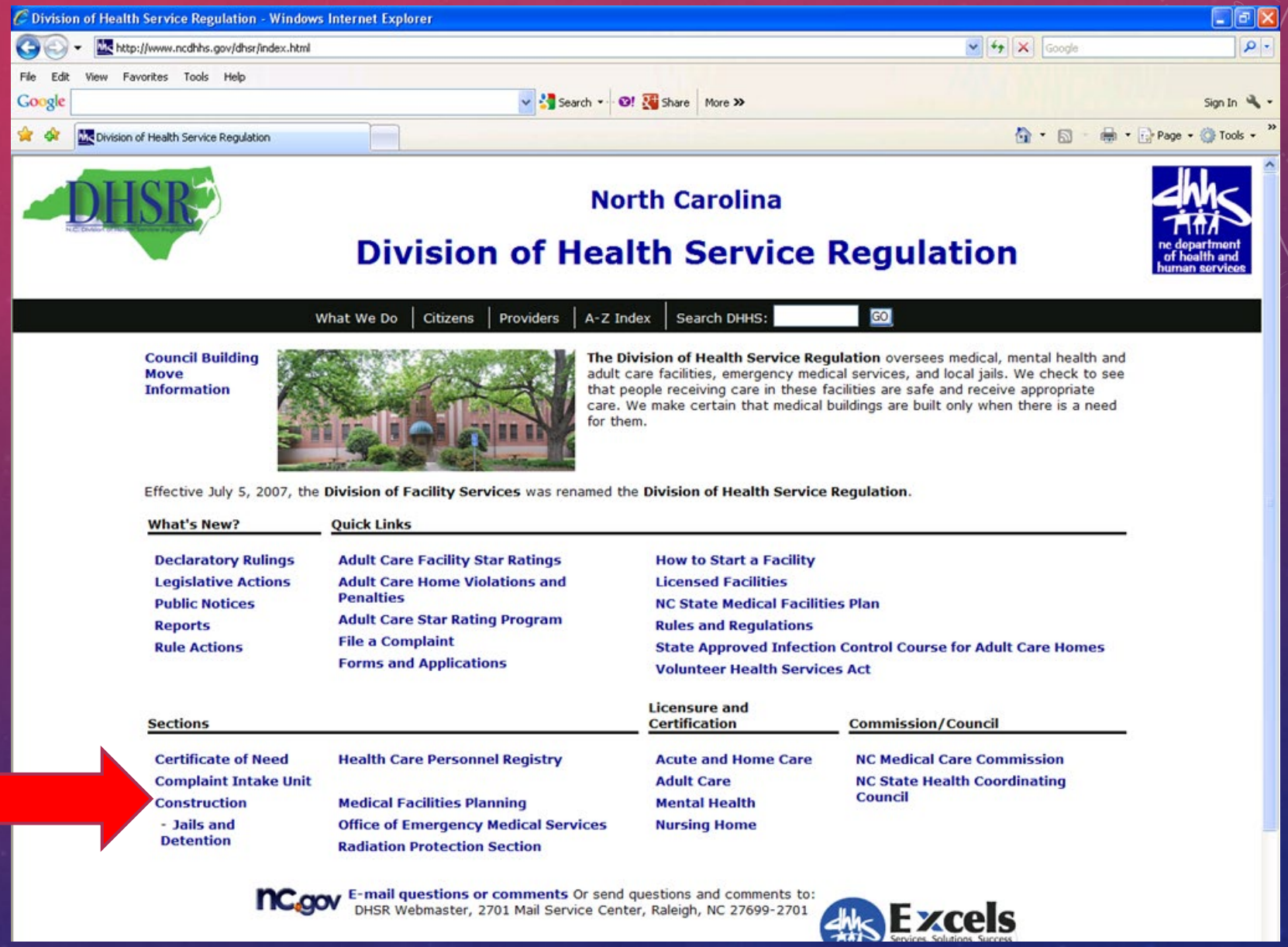
http://www.ncdhhs.gov/dhsr

919 855-3893

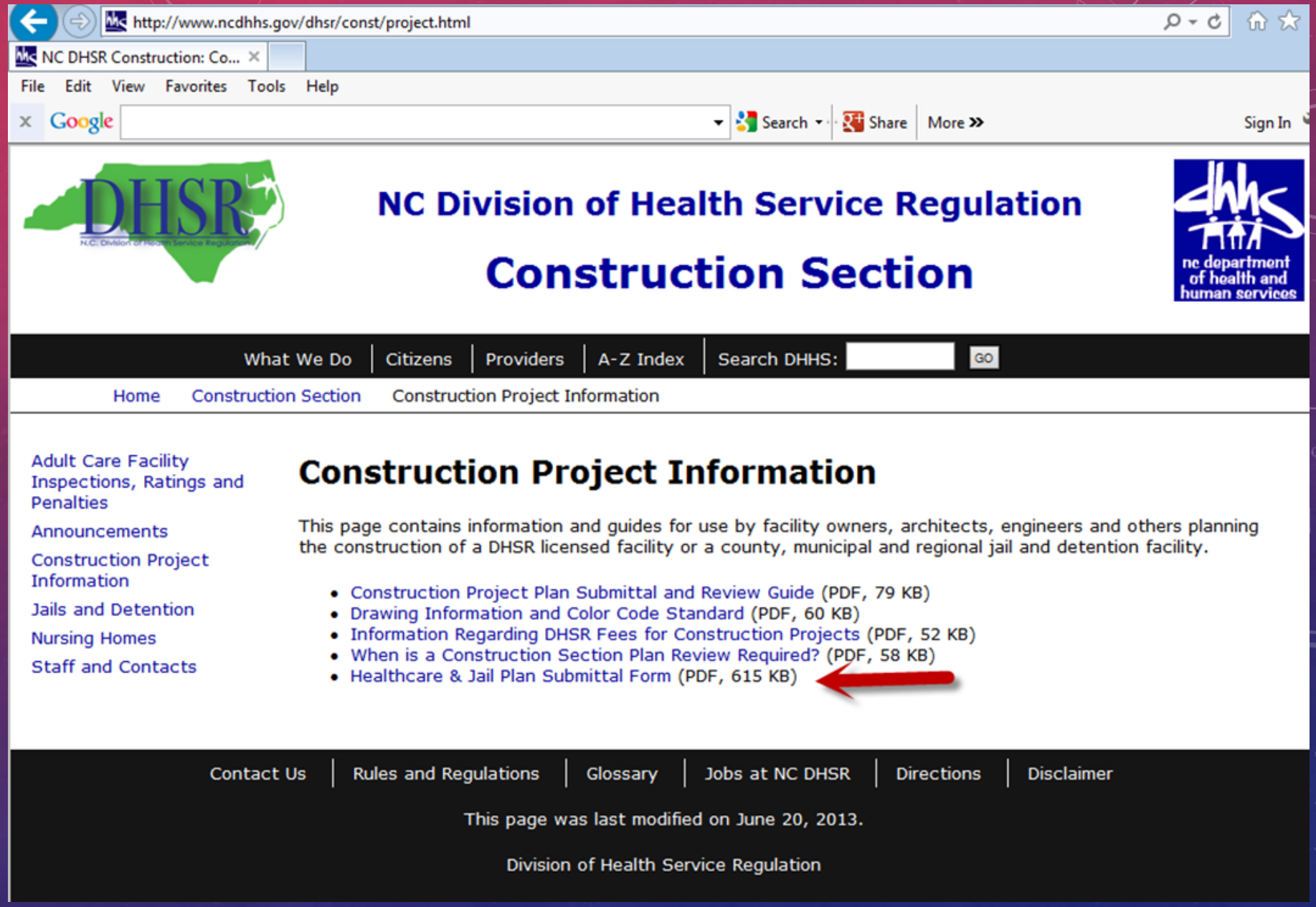
5 SUB SECTIONS

DHSR WEBSITE

http://www.ncdhhs.gov/dhsr/



PLAN SUBMITTAL FORM



http://www.ncdhhs.gov/dhsr/const/project.html

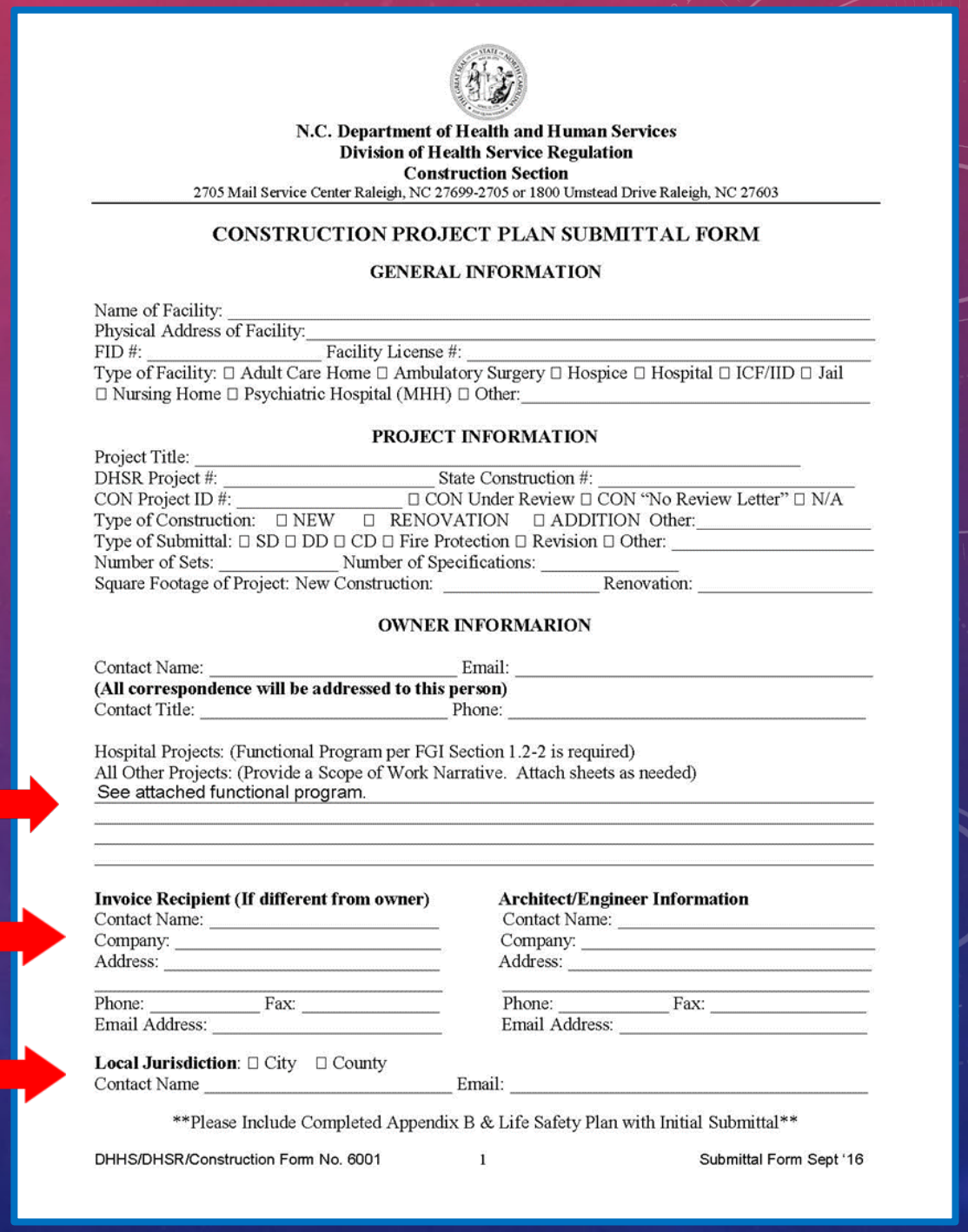
PLAN SUBMITTAL

Even the smallest project must have a thorough explanation.
Architecture and Engineering
Describe any interim life safety measures that will have to be taken.

If the functional program/executive summary is too long to write in here please attach additional pages.

Include the Contact Person

Show the Local AJH and Email



N.C. Department of Health and Human Services
Division of Health Service Regulation
Construction Section
2705 Mail Service Center Raleigh, NC 27699-2705 or 1800 Umstead Drive Raleigh, NC 27603

CONSTRUCTION PROJECT PLAN SUBMITTAL FORM

GENERAL INFORMATION

Name of Facility: _____
Physical Address of Facility: _____
FID #: _____ Facility License #: _____
Type of Facility: ☐ Adult Care Home ☐ Ambulatory Surgery ☐ Hospice ☐ Hospital ☐ ICF/IID ☐ Jail
☐ Nursing Home ☐ Psychiatric Hospital (MHH) ☐ Other: _____

PROJECT INFORMATION

Project Title: _____
DHSR Project #: _____ State Construction #: _____
CON Project ID #: _____ ☐ CON Under Review ☐ CON "No Review Letter" ☐ N/A
Type of Construction: ☐ NEW ☐ RENOVATION ☐ ADDITION Other: _____
Type of Submittal: ☐ SD ☐ DD ☐ CD ☐ Fire Protection ☐ Revision ☐ Other: _____
Number of Sets: _____ Number of Specifications: _____
Square Footage of Project: New Construction: _____ Renovation: _____

OWNER INFORMARION

Contact Name: _____ Email: _____
(All correspondence will be addressed to this person)
Contact Title: _____ Phone: _____

Hospital Projects: (Functional Program per FGI Section 1.2-2 is required)
All Other Projects: (Provide a Scope of Work Narrative. Attach sheets as needed)
See attached functional program.

Invoice Recipient (If different from owner)
Contact Name: _____
Company: _____
Address: _____
Phone: _____ Fax: _____
Email Address: _____

Architect/Engineer Information
Contact Name: _____
Company: _____
Address: _____
Phone: _____ Fax: _____
Email Address: _____

Local Jurisdiction: ☐ City ☐ County
Contact Name _____ Email: _____

Please Include Completed Appendix B & Life Safety Plan with Initial Submittal

DHHS/DHSR/Construction Form No. 6001 1 Submittal Form Sept '16

INTERPRETATIONS AND THE AHJ

FGI | **Formal Interpretations**
***Guidelines for Design and Construction of Hospitals*, 2018 edition**

Decisions published here were rendered after a multi-person panel of Health Guidelines Revision Committee (HGRC) members reviewed the request and consensus was achieved. These decisions are considered formal interpretations of the HGRC, but they are not binding for states that reference the *Guidelines*. Rather, they are advisory in nature and are intended to help users and adopting authorities having jurisdiction (AHJ) maximize the value of the *Guidelines*.

Further comments from members of the Interpretations Committee have been added to some interpretations. These comments are intended as explanatory information for users of the *Guidelines* and are not to be considered part of the formal interpretation.

Formal interpretations are rendered on the text of the requested edition of the *Guidelines*. However, any interpretation issued shall apply to all editions in which the text is identical, except when deemed inappropriate by the HGRC.

In all cases, it is important to remember that the ultimate interpretation of information contained in the *Guidelines* is the responsibility of the authority having jurisdiction.

The Facility Guidelines Institute administers the procedure for developing formal interpretations. Please visit the FGI website at www.fgiguidelines.org/interpretations to read "Rules for Requesting a Formal Interpretation" before submitting a request. Also on the FGI website is an electronic form for requesting a formal interpretation.

This document has been downloaded from the FGI website at the address just above. Interpretations are compiled continuously, and this summary document is periodically updated.

REQUEST

Guidelines edition: **2018 Hospital** *Paragraph reference:* **2.2-2.6.2.2 (2)**

Question: In Section 2.2-2.6.2.2 (2), regarding clearances for critical care patient care stations, does the 5-foot clearance requirement at the foot of the bed only require clearance for the width of the bed itself, or is the clearance to be extended to include transfer side width (5 feet) and non-transfer side width (4 feet), such that the width of the clearance at the foot of the bed totals 14 feet?

Response: The clearance requirement at the foot of the bed is intended to create sufficient space for care of the patient. Space is needed around the corners of the bed to allow access and movement for equipment, staff, and family members. Staff must be able to easily move around the bed. As well,

FUNCTIONAL PROGRAM

- All projects, large and small, require a functional program to guide the design.
- DHSR does not APPROVE the functional program.
- It explains what we will see in the construction documents so we don't have to interpret the submittal on our own.
- Primarily for new construction, major renovations, and changes in the functional use of any hospital space.
- Functional Program really needs to be combined with the Space Program so we know what the rooms are that are being provided.

MINOR RENOVATIONS, ETC.

- FGI Section 1.2-2.1.2.3
- *Activities such as equipment replacement, fire safety upgrades, or minor renovations that will not change the facility's function or character shall not require a functional program.*

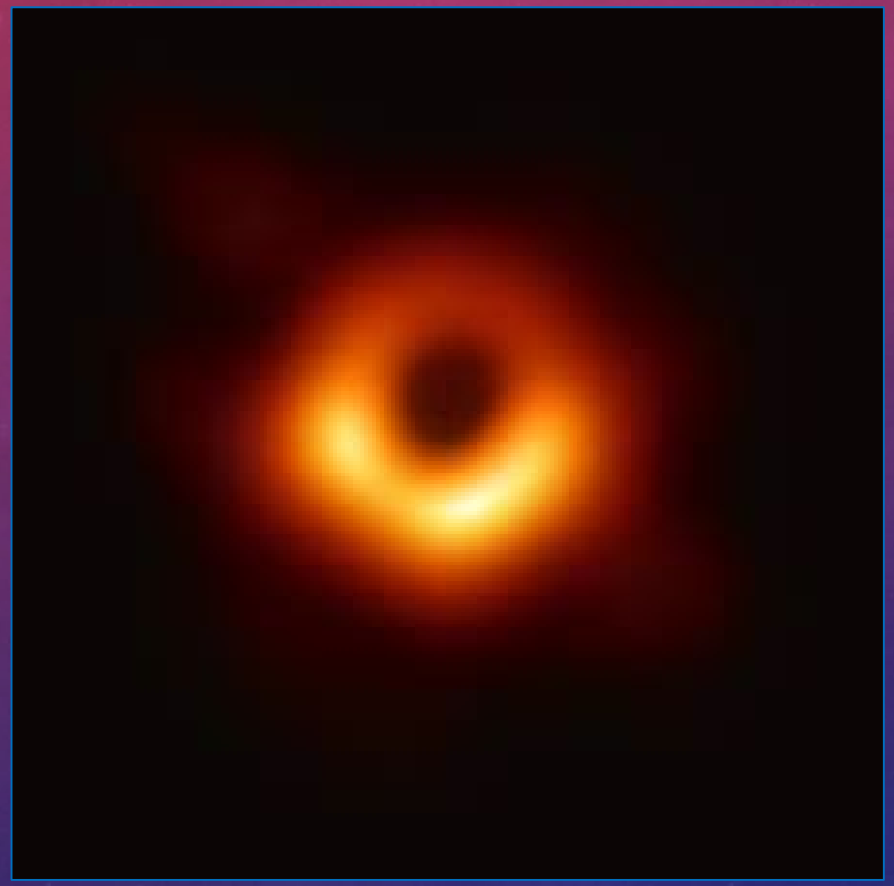
For NC hospital projects, even if a full functional program is not submitted for minor renov., every single project will require, at minimum, an expanded scope statement if not an executive summary.

For Architectural Spaces and Engineering Systems

PROJECT INFO

- Average 10 - 12 weeks review time for many projects.
- We require 2 weeks notice for inspections.
- Increasing number of phased projects. Will work with you about when we can inspect.
- Do not submit a project then decide to create phases. Let us know up front. (Interim life safety measures must be submitted and reviewed for most phased projects.)
- We may ask for photos, video, etc. for some phases or projects.
- Emergencies – Case-by-case but we will work with you to accommodate.

BLACK HOLE



FGI 2.8

MOBILE AND TRANSPORTABLE MEDICAL UNITS

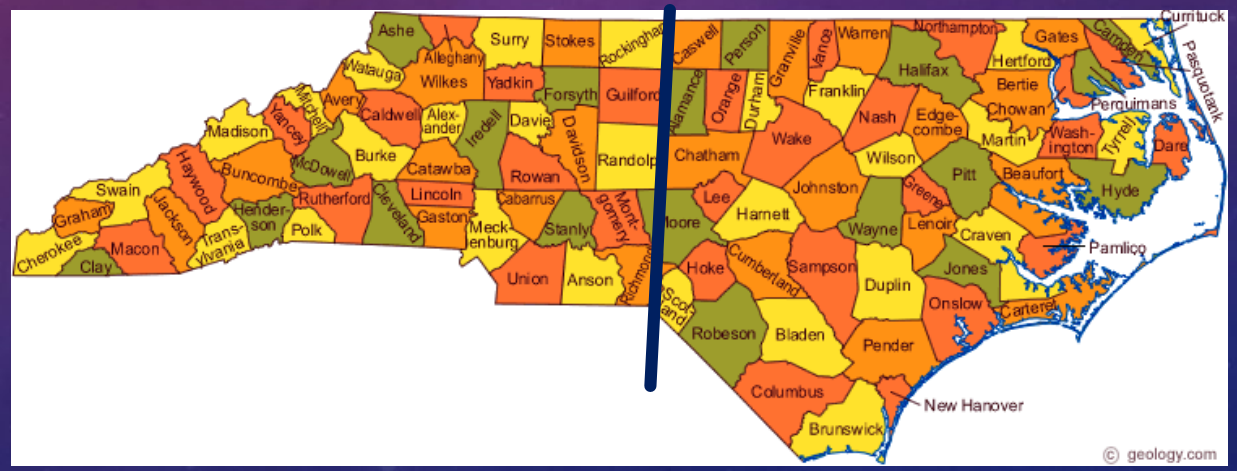
What are they?

Mobile Unit

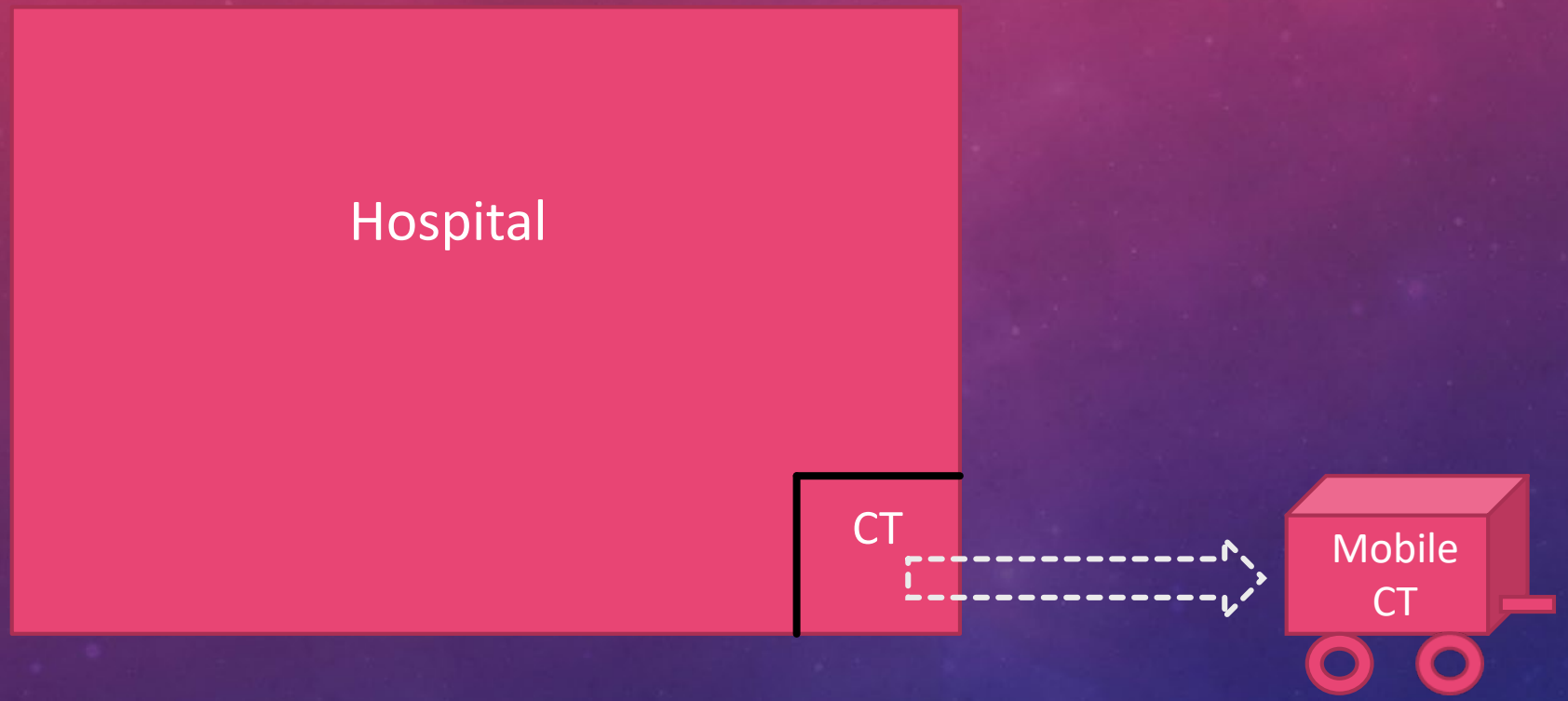
Transportable Unit

CERTIFICATE OF NEED

- State Medical Facilities Plan determines Service Areas
- DHSR Certificate of Need provides analysis for the SMFP
- CON's are issued for mobile imaging services or conversion of facility owned fixed imaging to mobile service provider.
- CON Stays with that mobile/transportable unit
- Mobile imaging service providers (Alliance) then provide clinical staff and technologists for the mobile/transportable units.
- Mobile units move to various locations according to the SMFP stipulations.

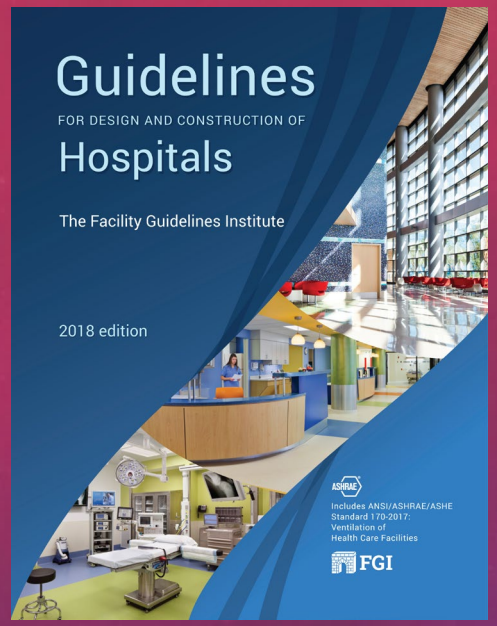


IS THIS SAFE FOR PATIENTS?

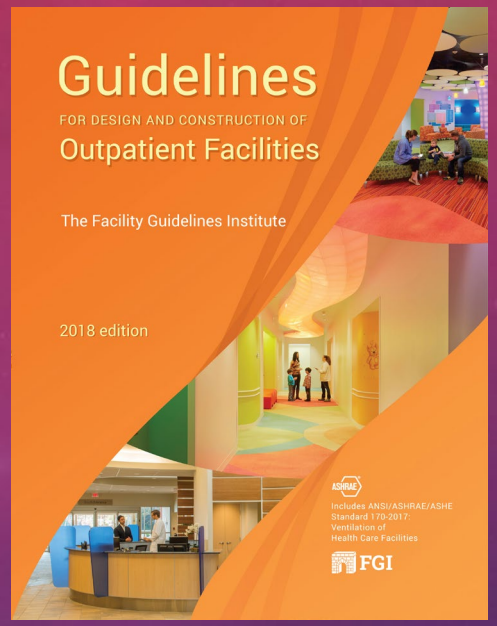


CATH LAB

O/R



Hospitals
2.8



Outpatient
2.13

- Applies to mobile/transportable units used on a temporary basis
  (e.g. – underserved areas or when existing equip. is replaced or rooms renovated.)
- Does not apply to units placed into service due to a local emergency or catastrophy
- Does not apply to modular units on a permanent foundation

CLASS 1, 2 AND 3 UNITS

- Class 1 units generally follow the category of Class 1 Imaging Room per Table 2.2-2. Inpatients and Outpatients [e.g. – X-Ray, Mammo, CT, MRI, Ultrasound, Nuc Med, Litho.] *Must meet FGI requirements for those services as modified in 2.8*

- Class 2 units meet the requirements of Class 2 Imaging Room per T2.2-2. Inpatients and Outpatients [e.g. – Cath, Angio, EP Labs] *Must meet FGI req'mts for those services as modified in 2.8*
  Safety Risk assessment can be done if min. FGI dimensions and clearances can't be met.

- Class 3 Units are typically O/R's or Class 3 Imaging (Hybrid O/R's). *Must meet all the FGI requirements for clinical and support areas for these procedures.* There are no modifications or exceptions for these services in 2.8.

CERTIFICATION OF 2.8 REQUIREMENTS

2.8-1.1.3.1

- The manufacturer must provide sealed/signed RA or PE plans

– OR –

- Field testing by a nationally recognized testing lab must be done to show the requirements of chapter 2.8 are met.

COMPLIANCE RECORDS KEPT AVAILABLE

- 2.8-1.1.3.2
- Records showing code compliance as well as testing and calibration must be kept in the coach and in the host facility for:
  - air filtration and balancing
  - any sprinkler system in the coach
  - biomed equipment
  - electrical wiring and equipment
  - fire ratings of finishes

25’ SEPARATION

2.8-1.3.1.3

- Minimum 25’ separation between coach HVAC or generator exhaust and host building OA intake.
- Quench vent for MRI

KEEP ACCESS AND EXITING CLEAR

2.8-1.3.1.4 & 5 & 6

- Access to and exiting from the host facility (to the public way) shall not be blocked by the mobile unit.
- Fire lanes and access by emergency personnel and vehicles must not be blocked.

IMPACT BARRIERS

2.8-1.3.1.8

- Provide substantial impact barriers when coach is near vehicular drives or parking areas.

Not Substantial

Substantial

IMPACT BARRIERS

Removable Steel Bollards

PROTECTION FROM THE ELEMENTS

- 2.8-1.3.3.2
- Protection from rain, sleet, wind and snow during transport of patients from the host facility to the mobile unit shall be provided.

2.8-1.3.3.2

Protection from rain, sleet, wind and snow during transport of patients from the host facility to the mobile unit shall be provided. (*Does not say it has to be a roof and walls but this level of protection has to be provided.)*

DHSR review comment will be “Specifically show how this level of protection will be provided”.

X-RAY ON

ENTARA
ADVANCED IM
Mobile C
SENT
www.sentara.com
CAUTION
DO NOT PASS
ON RIGHT
WIDE TURNS

PROTECTION FROM THE ELEMENTS

UTILITY CONNECTIONS PROTECTED

2.8-1.3.4.2

- Utility connections, cables and wires shall be protected by concealment in conduits, underground burial or installation overhead.

UNIT PAD

2.8-1.3.5

- Level and designed for the loads

ALLIANCE
HEALTHCARE
RADIOLOGY
Essential solutions.
Exceptional care.
CT
MOBILE RADIOLOGY SERVICES

ALLIANCE
RADIOLOGY
Essential solutions.
Exceptional care.

CT

MOBILE RADIOLOGY SERVICES

ALLIANCE IMAGING

solutions.
onal care.

SPACE REQUIREMENTS

2.8-3.1.1

- In or Readily Accessible in the host facility *[on the same floor or in the same clinic]*

- Class 1 and Class 2 units
  - Holding Areas
  - Patient Changing Area
  - Patient Belonging Storage
  - Patient Toilet
  - Clean Workroom
  - Soiled Workroom
  - EVS Closet

SPACE REQUIREMENTS

2.8-3.1.1

- In or Adjacent to the Mobile Unit *[Next to but not necessarily connected to]*

- Class 2
  - Recovery Area
- Class 1 and 2
  - Storage for Equipment, Gowns and Supplies
  - Storage for Med Gas Cylinders

** Remember – Every Class 3 Requirement Must be IN the Mobile/Transportable Unit**

HVAC

2.8-8.2

- Meet the requirements of ASHRAE 170 and as modified by this section.
- Class 1, 2, and 3 meet filtration requirements of 170 section 6.4.
- Air intakes for the Mobile Unit 25 ‘ min. from plumbing vents, exhaust fans, idling vehicles, noxious fumes, etc.

ELECTRICAL

2.8-8.3

- Number of Hospital grade receptacles per Table 2.1-1
- Class 2 and 3 Units must have Level 1 EPSS power in accordance with NFPA 110 or be connected to the host facility EPSS.
- On-board generator fuel storage must be at least 90 minutes
- Emergency exit lights must be battery pack or life safety branch
- Lighting for procedure spaces not specified to be on emergency power
- Electrical, fire alarm, EPSS, nurse call, communications systems must be tested each time coach arrives on site. Written record provided. This is for NEW and EXISTING units.

PLUMBING

2.8-8.4

- Install a backflow prevention device at the point of water connection on the mobile unit.
- Waste must discharge into the host facility's sewage or into a storage tank in the unit.
- Med-gas is not currently required for Class 1 Units. Table 2.1-3 in HL does list 1-O, 1-V and 1-MA (the MA was removed in the Errata) but Table 2.1-2 in OP does not have any requirement for med-gas. The HGRC Task Group intended to have both books match what is printed in the OP Guidelines.
- Med-gas is required for Class 2 and 3 units.
- Tables 2.1-3 (HL) and 2.1-2 (OP) do not specifically allow a system of portable cylinders.
- NFPA 99 med-gas requirements must be met for the system Category installed.

HAND WASHING

2.8-3.1.2

- All mobile/transportable medical units shall provide hand-washing stations

2.2-3.4.2.3

- Class 1 and Class 2 hand-washing stations can be directly accessible to the imaging room
  [connected to or through a doorway – not through an intervening space]

2.1-7.2.2.8.6

- Shall include liquid or foam soap dispensers

Table 2.1-4

- 105 – 120 degree water

FIRE ALARM

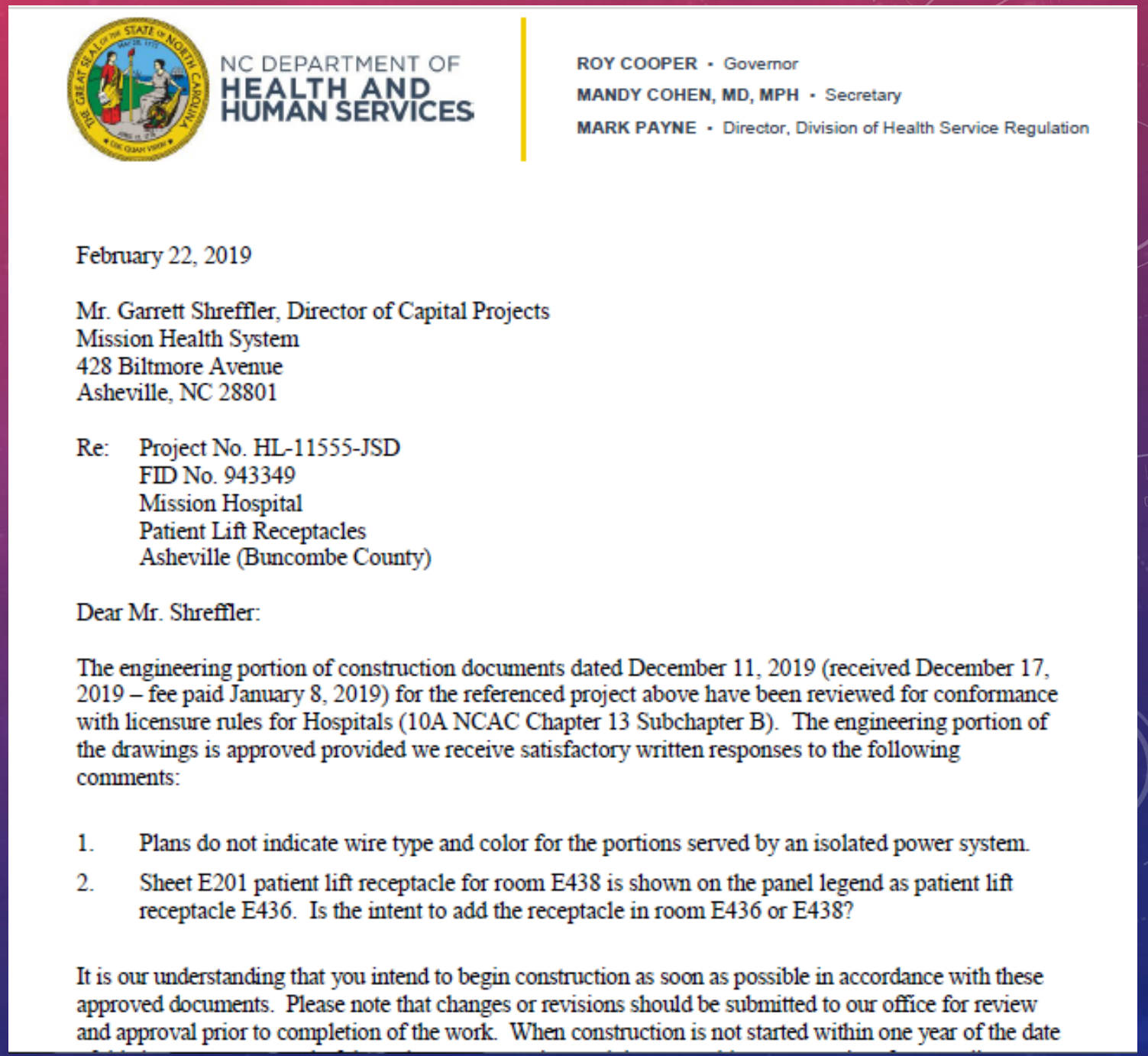
2.8-8.6.1 NEW ITEMS

- Fire alarm notification from the mobile unit to the host facility and vice-versa.
- A manual pull station must be installed in the mobile unit or at the unit-building connection (patient passageway).
- Fire alarm notification and smoke detection must be provided in the patient connector or passageway (per 101 and 72)
- Fire extinguisher in the coach.

DHSR HELP DESK

- For general questions call 919 855-3893
- For project specific questions call reviewers directly

- HL-11555-JSD
- NH- 2808-AJH
- AS-370-RAJ/DWS



NC DEPARTMENT OF HEALTH AND HUMAN SERVICES

ROY COOPER • Governor
MANDY COHEN, MD, MPH • Secretary
MARK PAYNE • Director, Division of Health Service Regulation

February 22, 2019

Mr. Garrett Shreffler, Director of Capital Projects
Mission Health System
428 Biltmore Avenue
Asheville, NC 28801

Re: Project No. HL-11555-JSD
FID No. 943349
Mission Hospital
Patient Lift Receptacles
Asheville (Buncombe County)

Dear Mr. Shreffler:

The engineering portion of construction documents dated December 11, 2019 (received December 17, 2019 – fee paid January 8, 2019) for the referenced project above have been reviewed for conformance with licensure rules for Hospitals (10A NCAC Chapter 13 Subchapter B). The engineering portion of the drawings is approved provided we receive satisfactory written responses to the following comments:

1. Plans do not indicate wire type and color for the portions served by an isolated power system.
2. Sheet E201 patient lift receptacle for room E438 is shown on the panel legend as patient lift receptacle E436. Is the intent to add the receptacle in room E436 or E438?

It is our understanding that you intend to begin construction as soon as possible in accordance with these approved documents. Please note that changes or revisions should be submitted to our office for review and approval prior to completion of the work. When construction is not started within one year of the date

CONTACTING STAFF

https://www2.ncdhhs.gov/dhsr/const/staff.html

Staff

Below is a list of Construction Section personnel and their area of responsibility.

Construction Section Main Telephone Number: 919-855-3893

Name	Telephone Number	Email	Position	Initials
Acker, Marjorie L.	919-855-3894	Marjorie.Acker@dhhs.nc.gov	Assistant Section Chief	MLA
Beals, Larry	919-855-3898	Larry.Beals@dhhs.nc.gov	Architect	LDB
Bell, Mark	919-855-3923	Mark.Bell@dhhs.nc.gov	Architect	MAB
Brinson, Anthony	919-855-3920	Anthony.Brinson@dhhs.nc.gov	Biennial Residential Team Leader	ARB
Brown, Charles	919-810-5580	Charles.B.Brown@dhhs.nc.gov	Engineering Jail Inspector	CBB
Dixon, Paul	919-218-5417	Paul.Dixon@dhhs.nc.gov	Architectural/Engineering Technician	PTD
Dulaney, Jeff	919-855-3864	Jeffery.Dulaney@dhhs.nc.gov	Engineering Plan Reviewer	JSD
Dunn, Kristi	919-855-3857	Kristi.Dunn@dhhs.nc.gov	Processing Assistant	KWD
Fay, Suzanna	919-218-0930	Suzanna.Fay@dhhs.nc.gov	Architectural/Engineering Technician	SEF
Fortman, Roger	919-218-7640	Roger.Fortman@dhhs.nc.gov	Life Safety Surveyor	RWF
Gardner, David	919-218-7949	David.Gardner@dhhs.nc.gov	Life Safety Surveyor	DLG
Harms, Jeff	919-855-3915	Jeff.Harms@dhhs.nc.gov	Engineering Supervisor	AJH

HELP DESK ITEM – OUTPATIENT BOOK

Question:

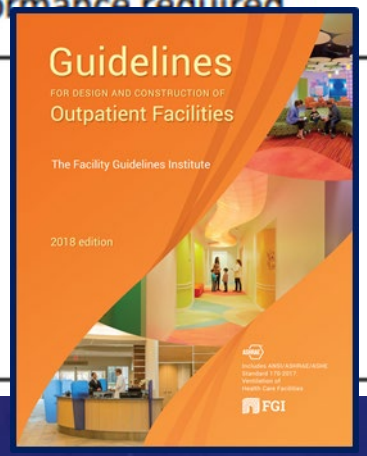
Is NC using FGI Outpatient Guidelines now?

Answer:

Errata for the 2018 *Guidelines for Design and Construction of Hospitals*

Content Corrections

PAGE	SECTION	ERROR	CORRECTED TEXT
28	1.2-5.4.3	***1.2-5.4.3 Wayfining**	***1.2-5.4.3 Wayfinding**
53	Table 1.2-6	[3]In cases where greater speech privacy is required between patient ~~care~~ rooms when both room doors.... [4]This is the performance required	[3]This is the performance required [4]In cases where greater speech privacy is required between patient rooms when both patient room doors...
67	2.1-1	**2.1-1 General** ...	**2.1-1 General** ... **2.1-1.1.4** Outpatient projects located in hospitals shall meet the requirements of the FGI *Guidelines for Design and Construction of Outpatient Facilities.*



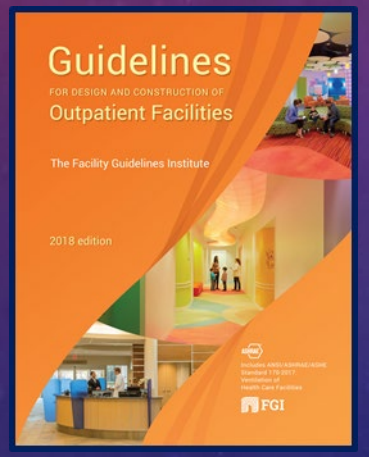
HELP DESK – HOSPITAL OWNS AN ASC

Question:

- Our hospital owns an ambulatory surgery center and wants to renovate it. Will FGI for Hospitals or Outpatient Facilities apply?

Answer:

- If the ASC is operated under the hospital's Medicare Provider Number, use



Because of the Errata item.

HELP DESK – INDEPENDENT ASC

Question:

- A group of doctors obtained a CON to build an Endoscopy ASC. Must they use the FGI OP Book to build the facility?

Answer:

- No. The FGI Hospital Errata item only applies to outpatient services in hospital's or hospital owned/operated facilities. The doctors must build their ASC per 10 NCAC 13C Rules for Licensing Ambulatory Surgical Facilities.

HELP DESK QUESTION – USE OF ERRATA

Question:

Our hospital has an outpatient only mammo machine being replaced. Is nurse call required for this room? None is present in the room now.

Answer:

Per the December, 2018 Errata item: 2.1-1.1.4 Outpatient projects located in hospitals shall meet the requirements of the FGI Outpatient Guidelines. If the hospital specifically states this Class 1 Imaging Room is only for outpatients, Table 2.1-3 in FGI for Outpatient Facilities would not require nurse call in the imaging room.

HELP DESK QUESTION – CHANGE OF USE

Question:

The hospital wants to change a Med Surg room to an LDRP room. Do we need to submit the project?

Answer:

Yes the project has to be submitted because it is a change in function of an existing space [FGI 1.1-2.3].

Also submit a Functional Program describing how the existing hospital space is being changed (including building systems) [1.2-2.2]

Submit any ILSM's that will be necessary.

Also will require an adjustment to the facility bed count.

HELP DESK QUESTION – EQUIPMENT CHANGE OUT

Question:

We are changing out equipment only in an X-Ray exam room. Does the room layout need to be upgraded to meet FGI requirements?

Answer:

Not in this case.

1.1-1.1 Generally, FGI applies to new construction and major renovations in hospitals.

1.1-2.2 Structural additions that result in additional sq. ft.

1.1-2.3 Change in function of an existing space

1.1-3.1.2.2 Minor renovations or replacement work are permitted to be exempt. (Still need Fcn. Prog. or detailed summary)

HELP DESK QUESTION – CATH LAB

Question:

Where are the requirements for Cath Labs found in FGI?

Answer: *[The words "cath lab" are not found in the book]*

2.2-3 Diagnostic and Treatment Facilities

2.2-3.4 Imaging Services

2.2-3.4.1.2 Imaging Room Classification

Table 2.2-2 Class 2 Imaging Room [Coronary, Angio, EP] Describes location and surfaces required.

Table 2.1-1 Electrical [Receptacle number and location]

Table 2.1-2 Nurse Call [Devices required and location]

Table 2.1-3 Med Gas [Number of Outlets/Inlets]

2.1-7 Common Elements – Design & Const. Requirements

HELP DESK – DOWNGRADE A RATED WALL

Question

- We are downgrading walls to no longer be a storage room. Do we need to revise the signage above ceiling and remove the fire sealant?

Answer

- Verify the storage room is not required by Licensure Rules.
- Remove the wall label or paint over the wall rating signage.
- Revise the Life Safety plan to reflect the room change.
- The fire caulk does not need to be removed.

HELP DESK – USP PHARMACY PROJECTS

JSD

Question:

- What information should be included in the functional program for Pharmacy USP 797/800 projects?

Answer:

- The functional program should include all of the elements defined in 2018 FGI Section: 1.2-2. Specifically the program should clarify how areas and/or rooms will be used, as in–

1. USP 797 positive buffer room meeting ISO class 7 requirements for sterile compounding.
2. USP 800 negative buffer room meeting ISO class 7 requirements for sterile HD compounding.
3. The area/room where non-sterile HD's will be compounded.
4. Required areas for the receipt and unpacking of HD's.
5. Required storage areas and equipment used for storing HD's.

JSD

HELP DESK – USP 797/800 AIR FLOW

Question:

Can the negative pressure to the negative buffer room be reduced or turned off when the room is not in use?

Answer:

No, the negative buffer room must maintain a negative pressure of 0.01 to 0.03 inches of water column relative to all adjacent areas at all times.

HELP DESK – HAZARDOUS DRUG STORAGE

Question:

- Can sterile and nonsterile hazardous drugs be stored together?

Answer:

- Yes, but HD's used for nonsterile compounding should not be stored in areas designated for sterile compounding (negative buffer room) to minimize traffic into the sterile compounding area.

HELP DESK QUESTION

How do we Resolve the Natural Gas Generator Issue?

Please Note - Until Permanent Generator is in compliance, the following Interim Life Safety Measures (ILSM's) must be in compliance for both LS Code and Emergency Preparedness per CMS.

1. On-site temporary generator w/ 96-hour reserve fuel supply connected to the Essential System (EES).

   Per NFPA 101 [2012 ed.]
   NFPA 110 [2010 ed.]
   NFPA 99 [2012 ed.]

NATURAL GAS GENERATOR ISSUE

2. Submit replacement generator project to DHSR Construction Section for review and approval. (Refer to DHSR website for project submittal requirements). Obtain local building permit.

3. Immediately contact local officials (Fire Marshal, Building Official, EMS, DHSR) notifying them your EES generator has no reserve on-site fuel supply. Document all notifications.

4. In the case of loss of both normal and emergency power, required preparations for evacuation, transport, and relocation facilities (per CMS Emergency Preparedness Requirements) must be in place. This should be documented as well.

NATURAL GAS GENERATOR ISSUE

5. Do an in-service for all staff: Upon loss of normal and EES generator power follow Emergency Policies/Procedures Guidelines for your facility (e.g. – flashlights available, notify local officials, etc.) The Procedures document should be available to all supervisors and staff at all times. This should be documented also for our review for on-site investigations.

6. Finally, this has to be addressed ASAP per Certification and DHSR Licensure requirements for licensed facilities.

BS

HELP DESK – SUPERVISORY SIGNAL SILENCE

Question

- During our nursing home inspection the audible fire alarm supervisory signal for the sprinkler system main water flow control valves did not re-sound after silencing. Why does the inspector say supervisory signals for the automatic sprinkler system cannot be silenced until the valve is back in the normal position? This is a nuisance for the patients and staff.

Answer

- CMS will allow an intermittent signal to meet this as long as the re-sounding of the audible signal occurs at a 5 minute maximum interval until the valve is back in
- the normal position. [NFPA 101, 9.7.2.1]

HELP DESK QUESTION – NURSE CALL REPLACEMENT

Question

- We are replacing the old call system in our skilled nursing facility device for device. Why do we have to submit a project to DHSR for review and inspection?

Answer

- A nurse call system is a life safety system required by licensure rules. [10A NCAC 13D .3404]
  The newly installed system must be a UL 1069 listed, labeled system and call devices must be placed at each patient bed, toilet, tub and shower.

HELP DESK - FILTRATION FOR FAN COIL UNITS

Question:

What are DHSR requirements for fan coil units in hospitals? Is Merv 13 filtration required?

Answer:

If air is brought in from the outside for patient rooms it is required to be double filtered. So the main unit supplying the outside air would need to meet this requirement. The portion of air being recirculated by the individual room fan coil unit would not be required to have the double filtration as allowed by FGI 6.4 filtration exceptions for spaces allowed to be recirculated by table 7.

HELP DESK - NURSING HOME FILTRATION REQUIREMENTS

Question:

Can I still use through the wall Fan Coil Units in Nursing Homes and what are the filtration requirements?

Answer:

ASHRAE 170 - The entire minimum outside air changes per hour required by table 9.1 must comply with filtration of table 6.4.

Nursing Facilities require Merv 13 Filtration for Filter Bank 1

The portion of air being recirculated by the individual room fan coil unit would not be required to have the Merv 13 filtration as required by FGI 6.4 filtration exceptions for spaces allowed to be recirculated by table 7.

HOSPITALS OR NURSING HOMES FILTRATION MONITORING

ASHRAE 170 6.4

Each filter bank with an efficiency of greater then MERV 12 shall be provided with an installed manometer or differential pressure measuring device that is readily accessible and provides a reading of differential static pressure across the filter to indicate when the filter needs to be changed.

HELP DESK - AHSRAE 170 AIR FLOW SETBACKS

Question:

Do we have to have continuous exhaust in soiled rooms? Can the exhaust in toilet rooms and soiled rooms be connected to an occupancy sensor?

Answer: YES and NO

Yes to continuous exhaust.
No to connected to an occupancy sensor.

ASHRAE allows setbacks for when rooms are not occupied. Soiled rooms and toilet rooms are to be maintained negative at all times. Even if allowed to reduce the air changes the room still must be negative.

As far as set back when not occupied: Soiled rooms are typically occupied by the soiled materials 100 percent of the time. The odors and potential infectious hazards are always present.

DHSR believes the intent of set back controls was for larger rooms such as Isolation, O/R's etc. to not have to maintain the large air changes when the spaces are not in use for periods of time. Example - weekends evenings etc.

HELP DESK - NURSING HOME VENT BED QUESTION

Question:

We are looking at converting some of our beds to ventilator beds. What requirements apply?

Answer:

10A NCAC 13D .3402 EMERGENCY ELECTRICAL SERVICE items (5), (6) and (7) are a starting point for some of the fundamental electrical requirements for vent beds. This will give your electrician something to go by to start determining whether your older facility has distinct branches of the essential electrical system (life safety, critical or equipment). They may also be able to go ahead and determine where and how many transfer switches the facility has and whether the generator is diesel, propane or natural gas fueled.

The generator would need to meet Level 1 gen set req'mts.

Wiring must meet the requirements of NCEC 517.13A & B. Important if these were previously Home for Aged Beds.

HELP DESK - SMOKE DAMPERS

Question:

What branch of power can I use for Smoke Dampers?

Answer:

Any smoke damper actuators that require power to a motor to close should be connected to the life safety branch because closing the blades in the duct protects the opening in the rated wall between smoke compartments.

Life safety branch is not appropriate for power to open dampers unless the dampers are part of a smoke control system requiring some dampers to be open and some closed to maintain pressurization etc.

HELP DESK - FIRE ALARM REMOTE ANNUNCIATORS

Question:

Where can I find the requirements for remote annunciators for the fire alarm panel.

Answer:

NFPA 72 -10.17.3 Annunciator Access and Location. The AHJ determines the type and location of any required annunciation. Common locations include; lobbies, guard's desk and fire command centers.

NFPA 101 - 9.6.6 Operator controls, alarm indications, and manual communications capability shall be installed at a convenient location acceptable to the AHJ.

CMS requires a constantly attended location.

HELP DESK - EXIT SIGN ILLUMINATION

Question:

Can we use internally illuminated photoluminescent exit signs in Nursing Homes and Hospitals?

Answer: NO

NFPA 101, 2012 ed, Sections 19.2.10, 7.10, 7.10.4, 7.10.7.2 - which allows these signs with a proper/reliable charging illumination light source as determined by the AHJ (LS).

NFPA 101 states electrical systems must meet NEC.

NEC 517.33 (B) exit signs shall be connected to the life safety branch of the essential electrical system.

HELP DESK - DOOR RELEASE DEVICES

Question:

What is the mounting height requirement for door releases (e.g. - locking system release switches)?

Answer:

NFPA 101 [2012] 7.2.1.5.10.1 - The release mechanism for any latch shall be located:

1) Not less than 34 inches above the finished floor
2) Not more than 48 inches above the finished floor

A FEW CODE ITEMS TO REMEMBER

How Many Tanks is too Many?

If an interior location, it must be vented by a shaft per the NC Fire Code 3006

If the room is sprinklered still must maintain 5 foot separation from combustibles.

If not sprinklered must be minimum 20 foot separation from combustibles.

General Rule of thumb don’t create a Medical Gas Storage room to also serve general storage.

Must comply with [NFPA 99 11.3.2.3]

TEMPORARY CONSTRUCTION BARRIER

SOMEONE WAS LISTENING ?

Corridors cannot be reduced.

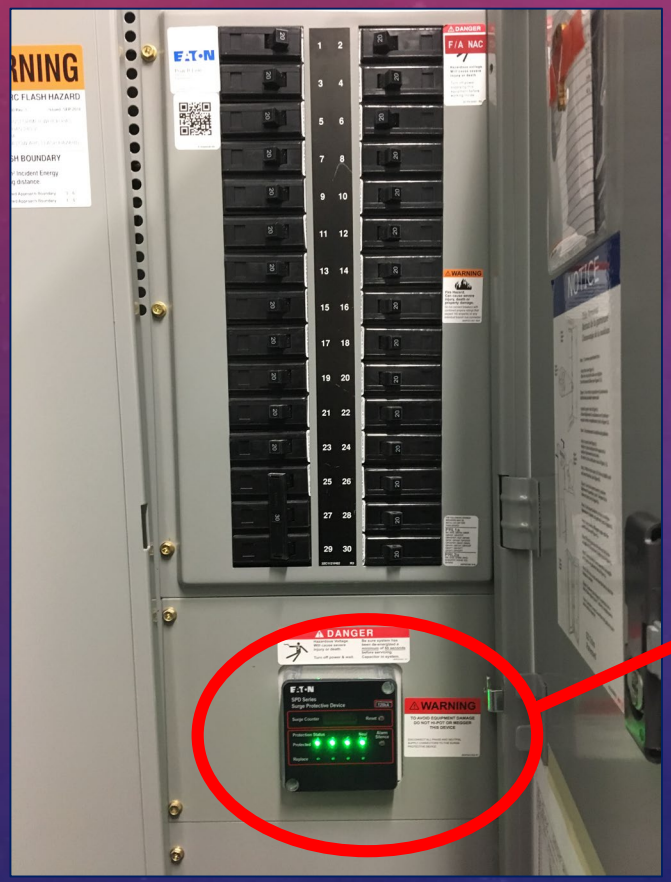
We were told they could take this down in 10 minutes and staff were trained

You know the next question!... What hours do you work?

This barrier is up all night and Staff have no clue it needed to be removed.

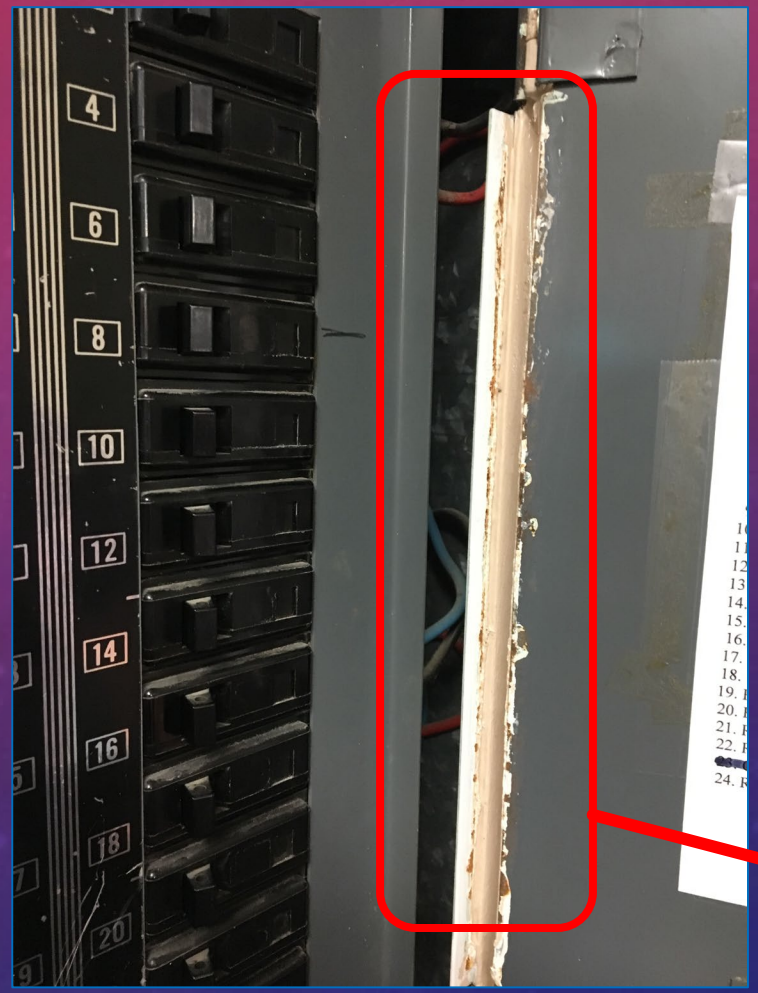
NCEC 700.8 SPD DEVICES

Surge Protection Devices are required to be installed in or on all emergency system switchboards and panelboards



SAFETY CONCERNS

Boiler Open Pipe
Unprotected

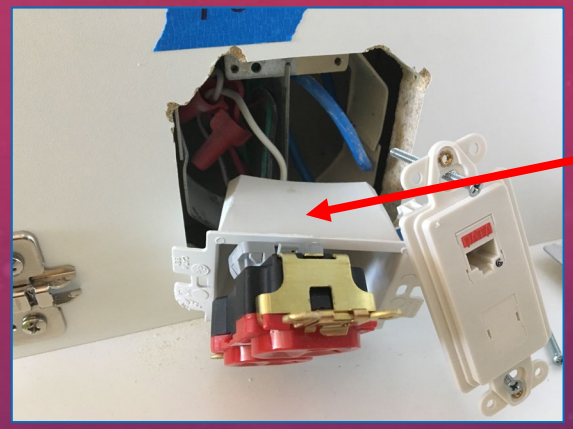


Gap at Electric Panel

BUT We Provided a
Warning Sign

THINGS TO LOOK FOR

GOOD GONE BAD



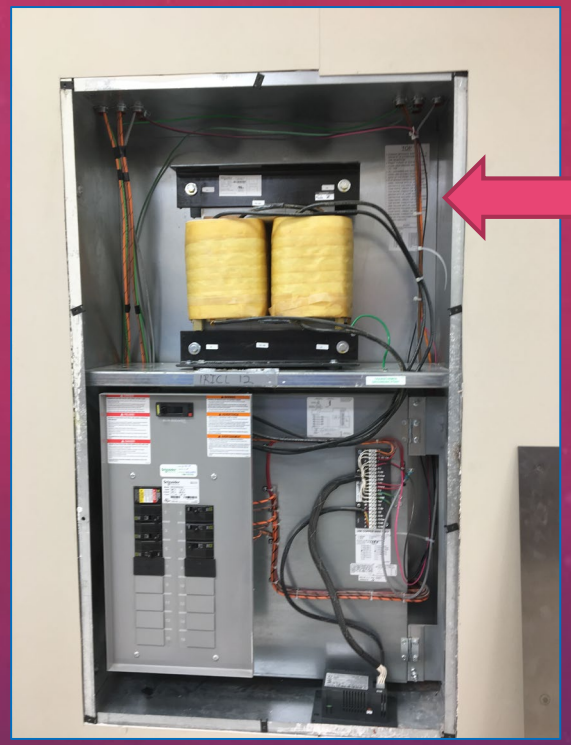
Plastic box extender doesn't comply with separation of circuits.

No Divider

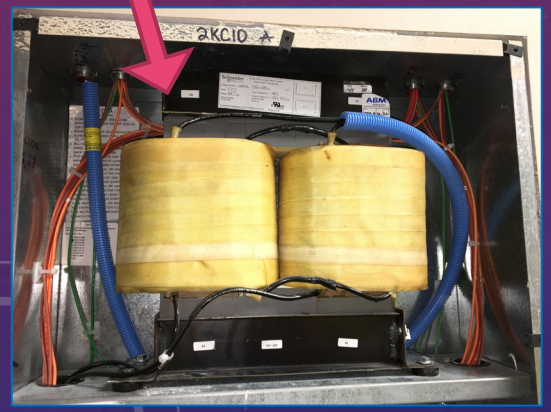
Separation Of Wiring and Run Without Protection

Label Circuits Correctly ?

ISOLATED POWER PANELS



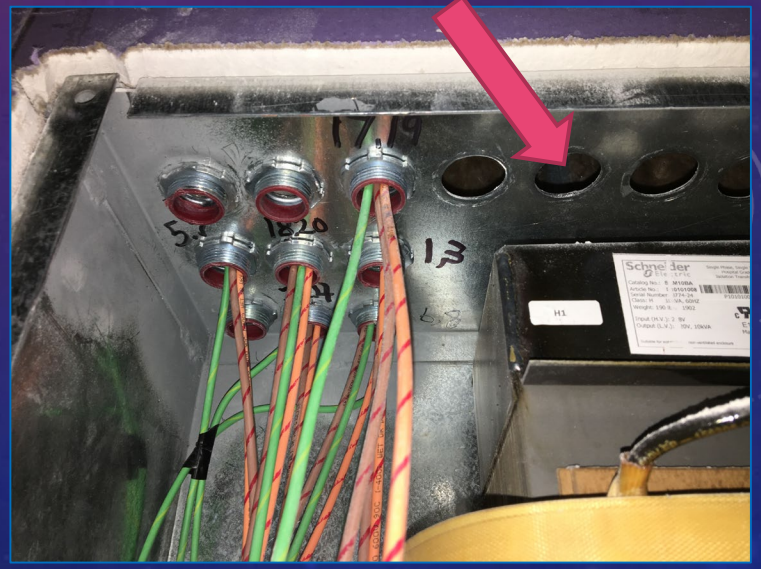
Label says no conduit entries more than 5 inches from sides



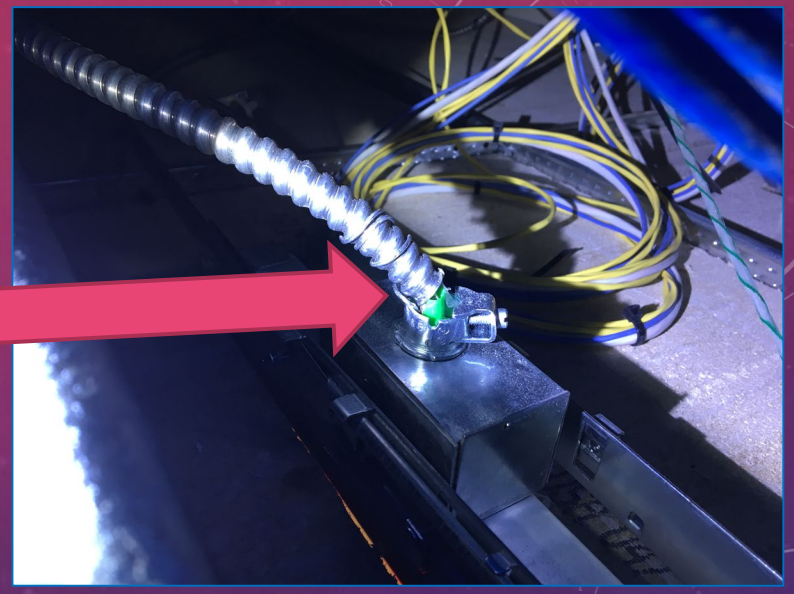
Wire NOT to run over top of Transformer ?

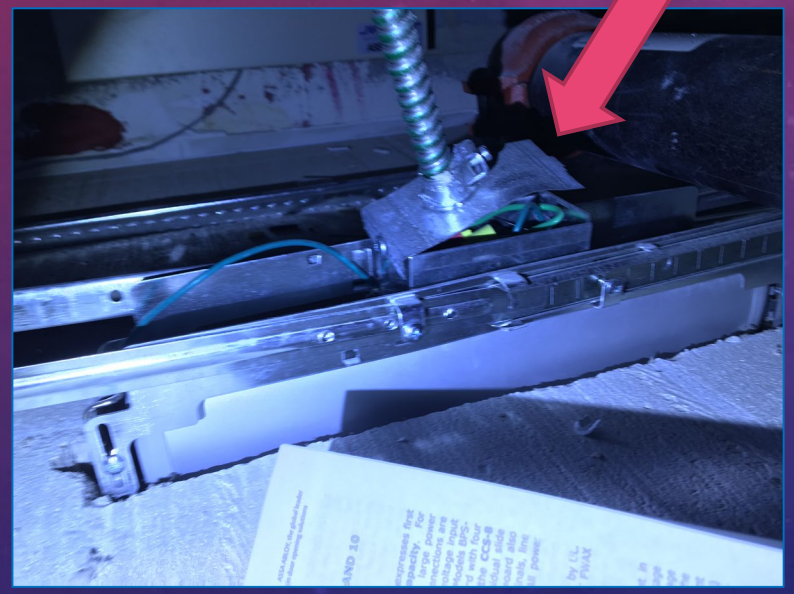
Transformer in Base of Panel

Definitely Miscommunicated These



HCF FLEX ISSUES





DEFINITELY A FIRST

(AKA YOU CANT MAKE THIS UP)

Assume this is to help with above ceiling inspections

See vendor Booth for Instructions

Double Door Stop Just in Case the First One Burns Too Fast

MOST DEFINITELY A FIRST

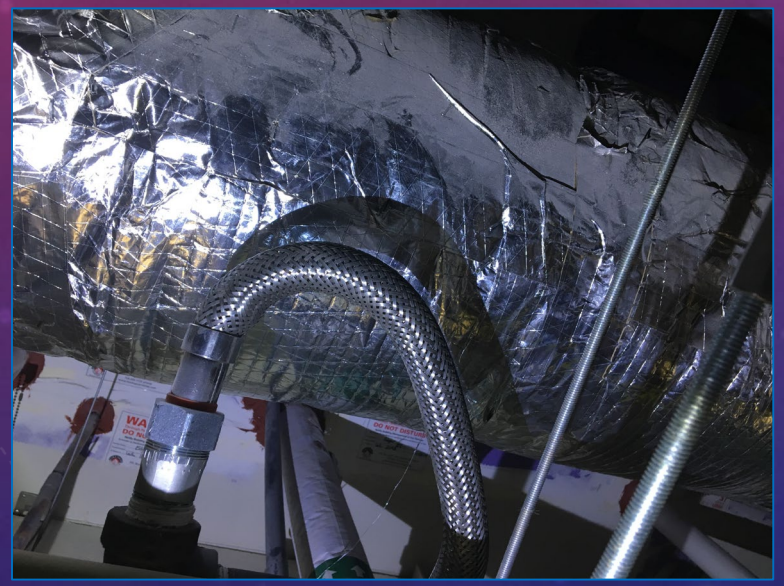
(AKA YOU CANT MAKE THIS UP)

Portable Heater Inside Gen Set Enclosure on Top of Oil Buckets

SPRINKLERS – KINKED FLEX

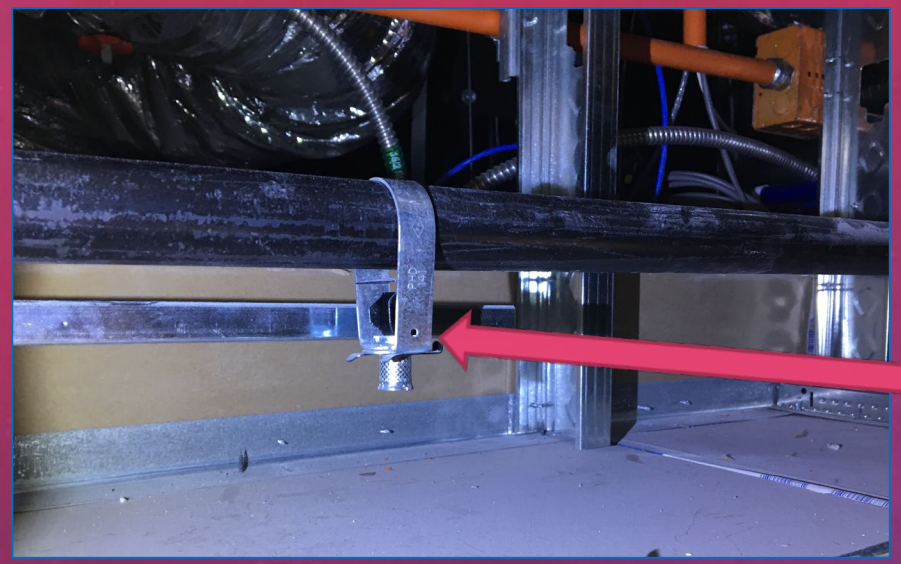
Are These Acceptable Bends / Radius?

NFPA 13 Allows 3 Inch Radius Minimum



Factory Mutual Allows 7 Inch Radius Minimum

SPRINKLERS (CONT)



Hanger just hanging out

Green Paint

Sprinkler noted to be painted Green. Look close - this green was from original construction

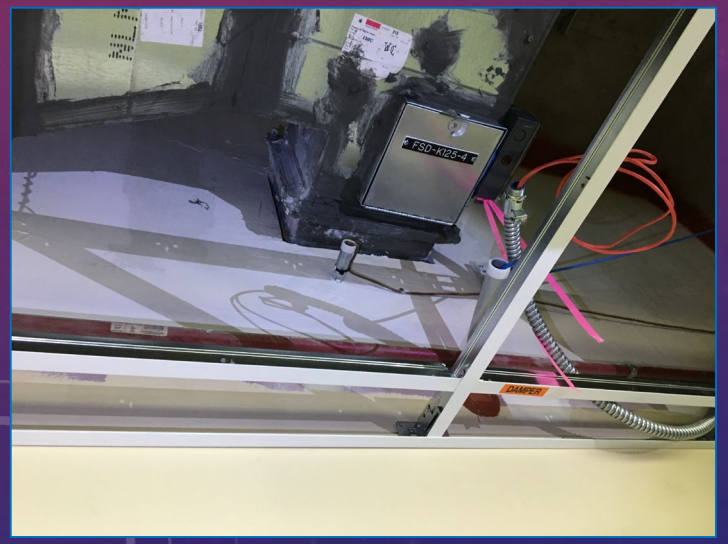
Snow

Dirt

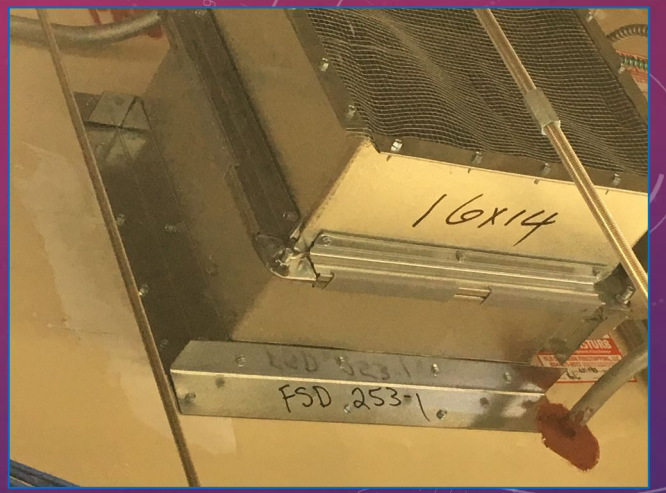
I Wonder who does these annual NFPA 13 compliant certifications?

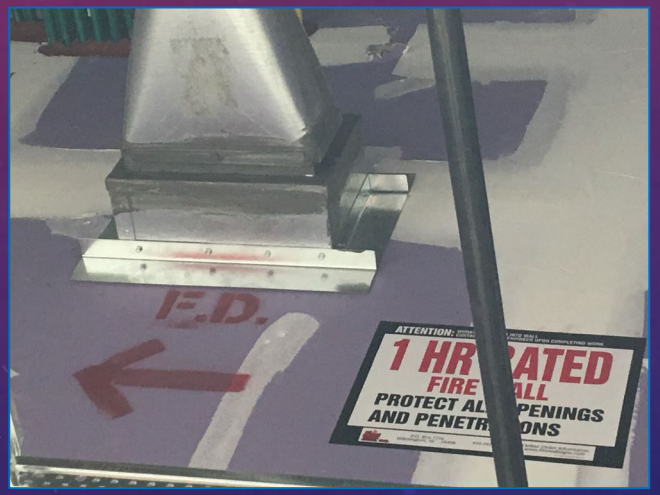
DAMPER GOOD ROUGH OPENINGS

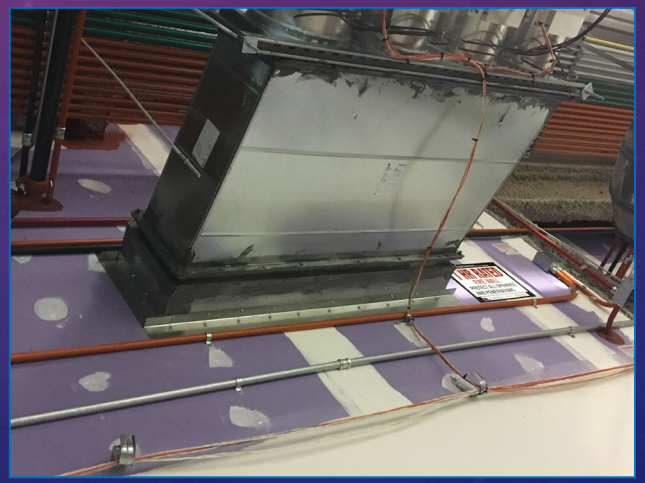
Damper Labels



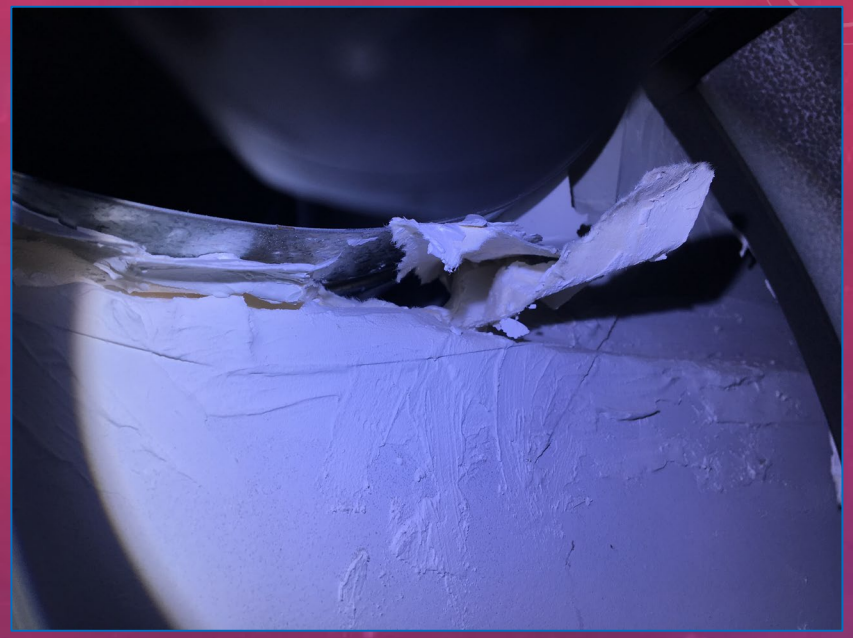
GOOD DAMPER INSTALLS







Shaft Wall



Too Much Rough Opening

No Rough Opening

Not too little - NONE

Why screws missing now?

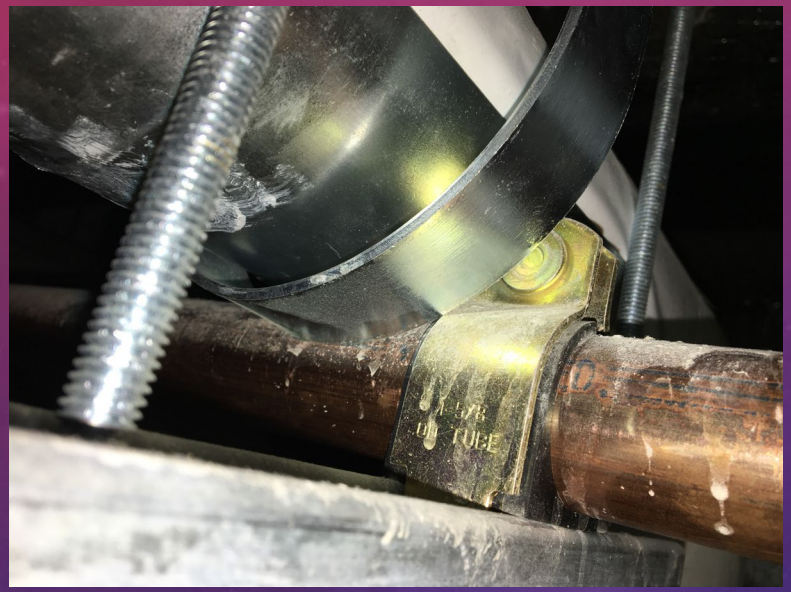
GOOD ITEMS

Good Bond
Between Panels

Good Sign Hazard Exhaust

PIPING ISSUES

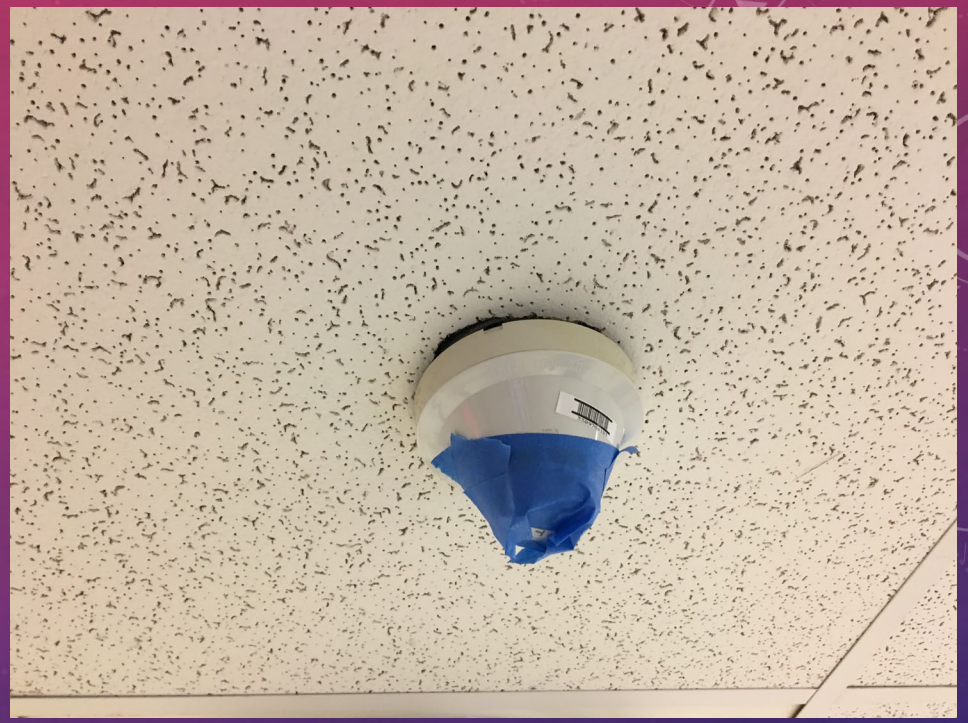
Top View of Boom Hub



Maybe Dissimilar Metal is OK…But Rubbing?

INSPECTION ITEM

Final Inspection - Smoke Detector is Bagged



Blue Tape over
Smoke Head

DHSR Construction Section

THANK YOU!