

# AMSURG

Common Findings from Life Safety Surveys

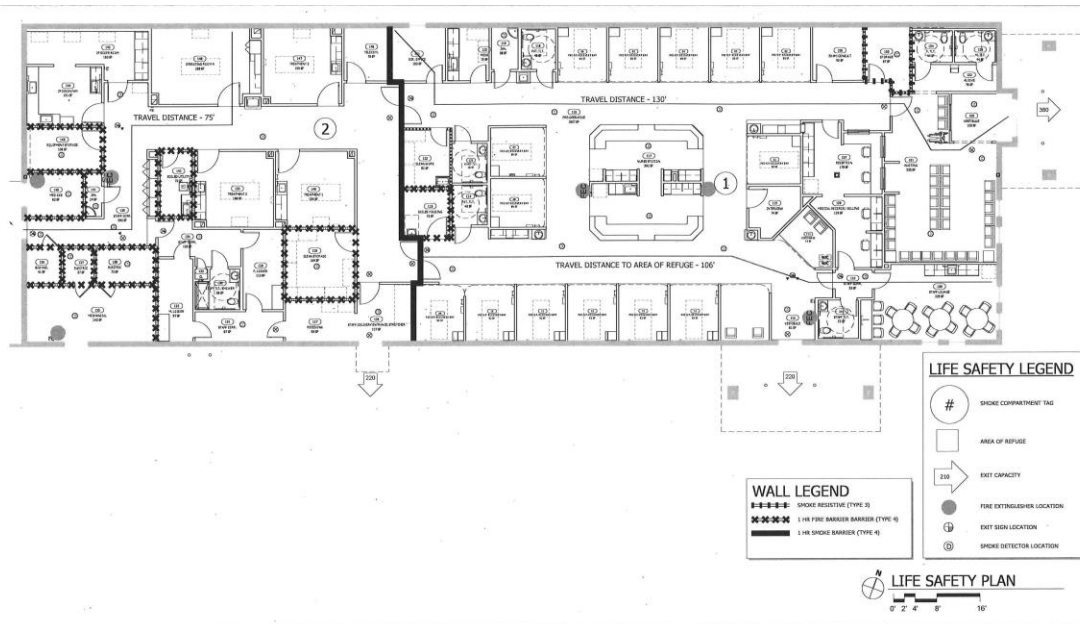
# CMS

- 2012 Edition of NFPA 101 and NFPA 99
- Supported by editions of other NFPA Codes
  - 2011 Edition of NFPA 25 – Fire Sprinklers
  - 2011 Edition of NFPA 70 – National Electric Code
  - 2010 Edition of NFPA 72 – Fire Alarms
  - 2010 Edition of NFPA 110 – Generators
  - 2010 Edition of NFPA 111 – UPS (battery backup systems)

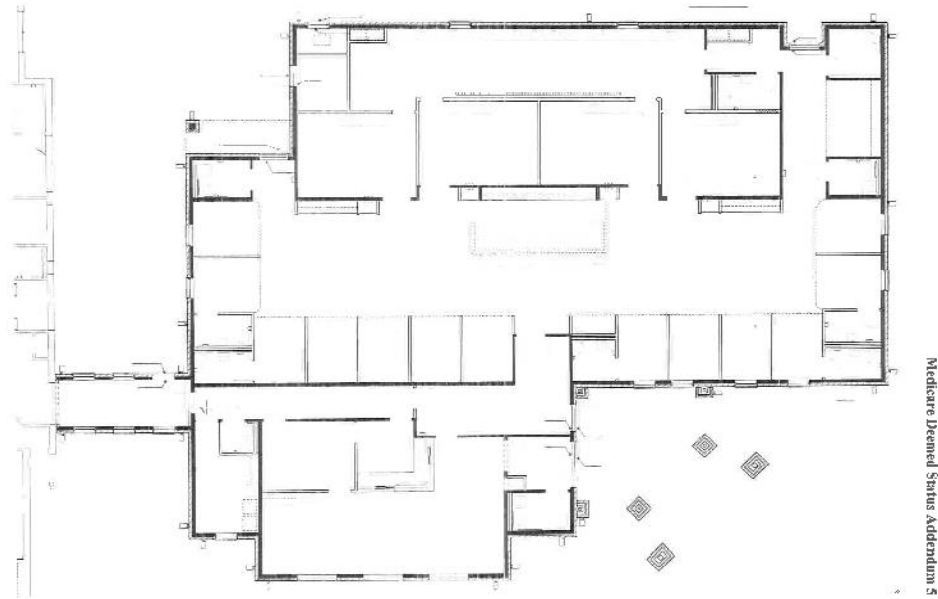
# Application for Accreditation

- Floorplan – Would prefer a life safety plan
  - Good life safety drawing vs. a bad life safety drawing
- Type of Construction
  - Protected vs. Unprotected

# Good Life Safety Plan



# Poor Life Safety Plan



# Protected vs. Unprotected Construction



# Risk Assessments

- NFPA 99, Sec. 4. Need to conduct a risk assessment, approved by the operating board, to determine which of Category 1 thru 4 building systems your facility should be designed as, or has been designed as.
- Defines Type of Electrical System and Med Gas System.
- Used to be you could be Category 1, 2 or 3.
- Today, only Category 1 or 2.

# Other Assessments and Policies

- Operating rooms: wet vs. dry procedures
- Testing of patient care related equipment, i.e., Bio-Med
- Policy on loss of medical gas and vacuum systems
- Policy for fire sprinkler system out of service
- Policy for fire alarm system out of service



# Emergency Lighting Systems

- Egress Lighting
- EXIT Signs
- Battery Powered Lighting
  - Anesthetizing locations
  - At the transfer switch

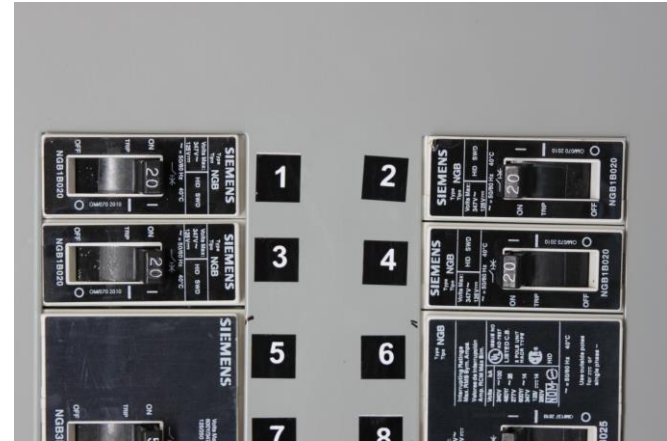
# Emergency Lighting Systems



# Emergency Lighting Systems

- NFPA 101, Section 7.9.3 Requirement is for testing for 30 seconds monthly.
- NFPA 101, Section 7.9.3.1.1 (3) If battery powered, must test for 30 seconds monthly and 90 minutes annually.
- Locations for battery powered emergency lighting include anesthetizing locations and at the generator transfer switch. If battery backup, at the UPS.

# Circuit Panels



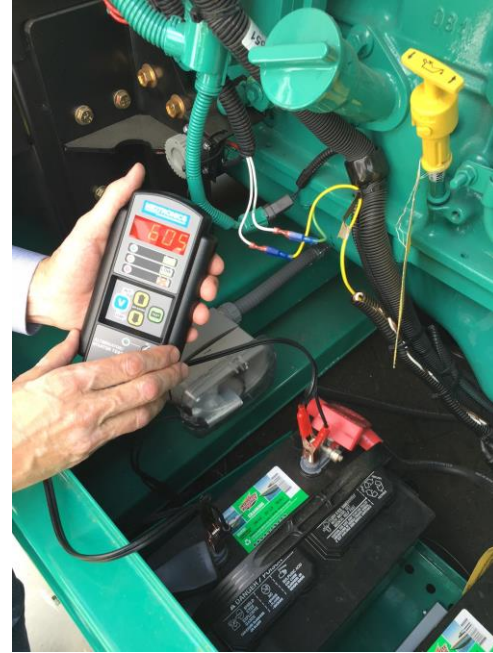
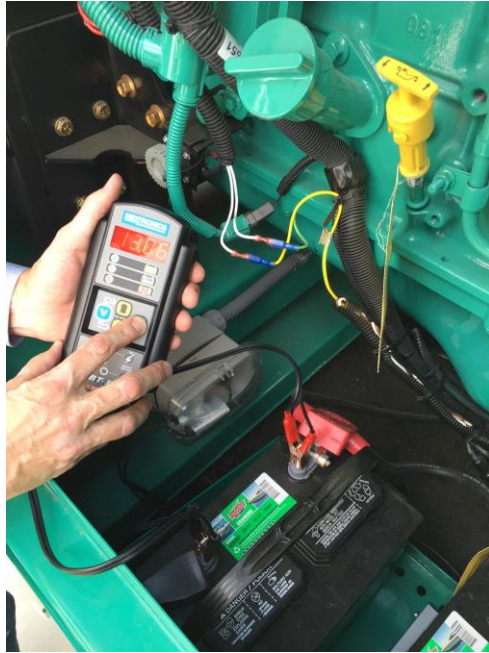
## Generators – NFPA 110

- Section 8.3.8 – A fuel quality test shall be performed at least annually using tests approved by ASTM standards.
- ASTM D975 standards include 13 different tests for diesel fuel:
  - Flash Point , Water and Sediment, Distillation, Viscosity, Ash Content, Sulfur, Copper Corrosion, Cetane Index, Cloud Point, Carbon Residue, Lubricity, Conductivity, Density
- Testing methods include pulling fuel from the bottom of the tank.

# Generator Battery Conductance Test

- NFPA 110, Sec. 8.3.7.1. – A monthly conductance test of the generator starting battery may be conducted in lieu of a specific gravity test.

# Photo of Conductance Meter



# Generators

- 2010 Edition of NFPA 110, Standard for Emergency and Standby Power Systems, Section 8.4 Operational Inspection and Testing
  - Section 8.4.2. Diesel generators shall be exercised at least once monthly, for a minimum of 30 minutes, using one of the following methods:



# Generators

- Loading that maintains the minimum exhaust gas temperature per the manufacturer.
- An operating load of not less than 30% of the generator's nameplate rating.
  - Section 8.4.2.3 states: If not tested as above, see section 8.4.2.3 for annual load bank testing requirements.

# Generators

- Section 8.4.2.3 load bank testing: annually for 90 minutes, the first 30 minutes at not less than 50% of the nameplate rating, then next 60 minutes at not less than 75% of the nameplate rating.
- Level 1 generators shall be tested at least once within every 36 months, i.e., this is a 4-hour load bank test.

# Remote Generator Shut Off



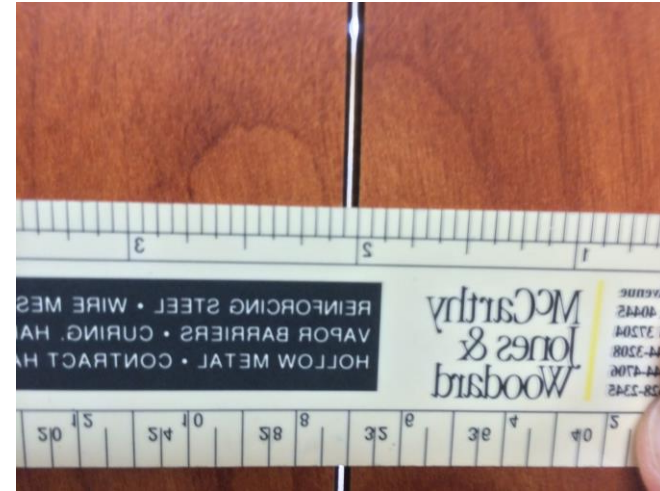
# Fire Door Inspections

- NFPA 80, Section 5.2.3.1 Functional testing of fire door and window assemblies shall be performed by individuals with knowledge and understanding of the operating components of the type of door being subject to the testing.
- Clearances of undercut and space between door edge and frame.

# Fire Door Inspection

- Match the rating to the wall, or room.
- Ensure labels on door are in place.
- Doors opening to egress corridors are self-latching.
- Hazardous rooms are self-latching and self-closing.
- No more than 1/8" space between the door and frame for wood doors. NFPA 80, Section 6.3.1.7

# Fire Door Inspections



# Fire Barriers – Fire Door Inspections

- Go to the website below to find local fire door inspectors that you can contact for quotes.
- <http://www.dhi.org/> Choose “Find a Pro” on the right side of the page
- Choose **Only** your state, e.g. “Tennessee” from the state drop down and choose **Only** “Fire Door Assembly Inspector” from the DHI Certification(s) drop down.

# Fire Barriers – Fire Door Inspections

- **Do not fill out any other fields or drop downs.**
- Hit the find button and resources will be displayed.
- If no success, contact a local locksmith.
- National companies will travel to you, but are more expensive.



# Fire and Smoke Dampers

- 2012 Edition of NFPA 105, Section 6.5
  - Inspected and tested one year after installation and every 4-years thereafter.

# Fire Dampers



# Smoke Damper



# Damper Access Panels



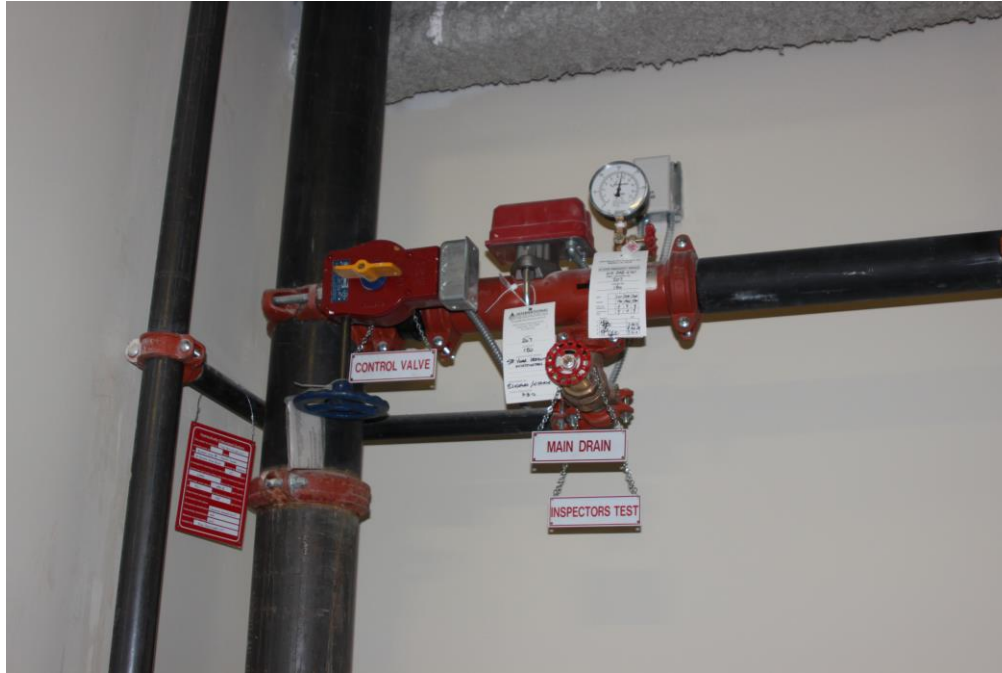
# Fire Sprinkler System

- 2011 Edition of NFPA 25
- Section 5, Table 5.1.1.2 – Summary of Sprinkler System, Inspection, Testing and Maintenance
- Summary of inspection, testing and maintenance of fire sprinkler valves and valve components, Table 13.1.1.2.

# Fire Sprinkler System

- Inspections:
  - Weekly, monthly, quarterly, semi-annual, annual and 5<sup>th</sup> year.
- Testing:
  - Quarterly, semi-annually, annually, 3<sup>rd</sup> year, 5<sup>th</sup> year, 10<sup>th</sup>, 20<sup>th</sup>, 50<sup>th</sup> and 75<sup>th</sup> year after installation
- 5<sup>th</sup> year internal inspection for obstructions

# Valves, tamper & flow switches, gauges







# Fire Sprinkler System

- Impairment Coordinator: Section 15.5.2
  - Where a required protection system is out of service for more than 10 hours in a 24-hour period, the impairment coordinator shall arrange for one of the following:
    - Evacuation of the building
    - An approved fire watch
    - Establishment of a temporary water supply
    - Establishment of a program to eliminate potential ignition sources

# Fire Alarm System

- 2010 Edition of NFPA 72
- Testing frequencies, see Table 14.4.5
  - Battery voltage, supervisory signals: semi-annually
- Fire drills not being conducted

# Fire Alarm – Out of Service

- Policy when the fire alarm system is out of service for more than 4-hours in a 24 hour period.
  - Notify the local fire authority and do one of the following:
    - Evacuate the building
    - Establish a fire watch

# Fire Alarm



# Electrical Systems

- 2012 Edition of NFPA 99, Maintenance and Testing of Circuitry
  - Section 6.4.4.1.2.1\* Main and feeder circuit breakers shall be inspected annually and a program for periodic exercising of the components shall be established per the manufacturer's recommendation.

# Electrical Systems

- NFPA 99, Sec. 6.3.3.2, and 6.3.4.1. Testing of electrical receptacles.
  - Hospital grade vs. non-hospital grade determine frequency of testing.

# Hospital Grade Receptacles



# Electrical Polarity & Tension Tester





# Take Aways

- Have good contracts
- Tell the vendor you have a contract with they have to follow the inspection, testing, maintenance tables per the NFPA edition CMS follows
- Contact an electrician to help you identify the circuit breakers controlling your emergency lighting systems and inspection of the circuit breakers

# Take Aways

- Fire Sprinklers: 2011 Edition NFPA 25, Section 5, Table 5.1.1.2 and Table 13.1.1.2.
- Fire Alarm System: 2010 Edition NFPA 72, Testing frequencies, Table 14.4.5
- Fire Door Inspection: follow the instructions exactly as shown

# Take Aways

- Generators: 2010 Edition NFPA 110, Section 8.4.2 for inspection, testing and maintenance requirements
- Do your risk assessments
- Write your policies

# The End

- Questions?

# Notes