

GSASC/SCASCA 2024 Annual Conference



Changes in Life Safety codes and
Fixing vs Fighting a bad citation

FRANKLIN SANDS – LIFE SAFETY COMPLIANCE OFFICER,
FIRE INSPECTOR, FIRE INVESTIGATOR, CLSS-HC, FATHER OF A
TEEN-AGED DAUGHTER.



Topics of Discussion

Changes from NFPA 101 & 99 –
2021ed.

Fixing vs Fighting a deficiency

What ever you want to talk about?



NFPA 99 Medical Gas 2021 Code Updates

Medical Gas Storage

NFPA 99 (2015)

5.1.3.1.8 Locations containing positive pressure gases other than oxygen and medical air shall have their door(s) labeled as follows:

**Positive Pressure Gases
NO Smoking or Open Flame
Room May Have Insufficient Oxygen
Open Door and Allow Room to Ventilate Before
Entering**

5.1.3.1.9 Locations containing central supply systems or cylinders containing only oxygen or medical air shall have their door(s) labeled as follows:

**Medical Gases
NO Smoking or Open Flame**

11.3.4.2 The sign shall include the following wording as a minimum:

**CAUTION:
OXIDIZING GAS(ES) STORED WITHIN
NO SMOKING**





5.1.3 Category 1 Sources
 Positive Pressure Gases
 NO Smoking or Open Flame
 Room May have Insufficient Oxygen
 Open Door and Allow Room to Ventilate Before Entering



5.1.3.1.8.1

Existing signage that is not in strict compliance with the provisions of this code shall be permitted to be continued in use as long as the authority having jurisdiction has determined that such use does not constitute a distinct hazard to life.

Labeling

5.1.11.1.3

Where vacuum systems are used to serve WAGD systems in accordance with 5.1.10.2.3.1, piping in the immediate area of the WAGD system shall be labeled to indicate both systems.

5.1.11.5.2

Where vacuum systems are used to serve WAGD systems in accordance with 5.1.10.2.3.1, labeling for the medical-surgical vacuum source shall indicate that it serves both systems.





Downward Facing Outlets/Inlet 5.1.5.17



To avoid inadvertent, disconnect of downward facing hoses or other high stress applications (i.e., ceiling outlet), DISS outlets will now be required.

The Responsible Facility Authority (RFA)

➤ The NFPA 99 2021 Edition introduces new requirement for a designated individual(s) to be responsible for the medical gas systems.

5.1.14.1 *General* - The **Responsible Facility Authority (RFA)** shall have primary responsibilities for the implementation of medical gas and vacuum systems including WAGD and support gas.

5.1.14.1.3.1 The person(s) designated as the RFA shall be qualified to interpret, implement and advise on this code.

Med Gas Dangers



Med Gas Dangers



2 patients die at Maryland hospital after oxygen valve mistakenly turned off

Erica Carbajal - Friday, January 29th, 2021 [Print](#) | [Email](#)

[Share](#) [Tweet](#) [Share 23](#) [Listen](#) [AA](#) [TEXT](#)

Two patients at Lanham, Md.-based Luminis Health Doctors Community Medical Center died after an oxygen valve was mistakenly turned off during maintenance Jan. 15, *FOX 5 DC* reported Jan. 28.

An oxygen valve was accidentally shut off during maintenance due to faulty valve labeling, according to a statement from a hospital spokesperson shared with *Becker's* Jan. 29. The hospital's team "immediately deployed portable oxygen to these patients," the statement said.

"We are saddened by this tragic accident and extend our deepest condolences to the families involved. We are communicating privately with them," the statement says. "We have taken action to prevent a similar occurrence in the future and have engaged outside experts as part of this review. Luminis Health Doctors Community Medical Center is committed to continuous improvement and providing the highest quality care to the communities we serve."



5.1.14.3.5 Special Precautions

When clinical spaces are converted to nonclinical spaces, medical gas inlets and outlets that are not accessible for maintenance and testing shall be either removed or decommissioned.

Pre-Construction Risk Assessment



Plywood used in Med Gas Room



NFPA 99

5.1.3.3.2* Design and Construction.

(13) They shall have racks, shelves, and supports, where provided, constructed of noncombustible materials or limited-combustible materials.



Cylinders



Are you WAGD Compliant?

Dedicated Waste Anesthetic Gas Inlets are not installed in areas where general anesthesia is administered.



2017-Addendum I Anesthetic Gas Use

ANSI-ASHRAE 170

7. Unless a higher ventilation rate is stipulated in Table 7.1 or elsewhere in this standard, wherever anesthetic gases are administered outside of an operating room, procedure room, or Class 2 and Class 3 imaging rooms, ventilation shall be provided at a minimum rate of 2 outdoor ach and 6 total ach. (Informative Notes: [1] Refer to NFPA 99 for WAGD piping and gas scavenging requirements. [2] "Anesthetic gases" commonly refers to nitrous oxide and xenon but may also include halogenated volatile anesthetic agents such as desflurane, sevoflurane, and isoflurane.)

Other changes

- ❖ Flammable-liquid solution soaked materials no longer have to be removed from operating room, now they just have to be removed from patient care vicinity.
- ❖ Flammable liquid germicides or antiseptics are allowed to be in flammable packaging, previously they were not allowed to be in

Who has
Procedures
that produce a
Smoke-
Plume?



Surge Protectors

1363A or UL 60601-1 are considered to be SPRPTs (special purpose).

UL 1363 are considered to be RPTs

Less stringent UL listings allowed in non-patient care areas



1363



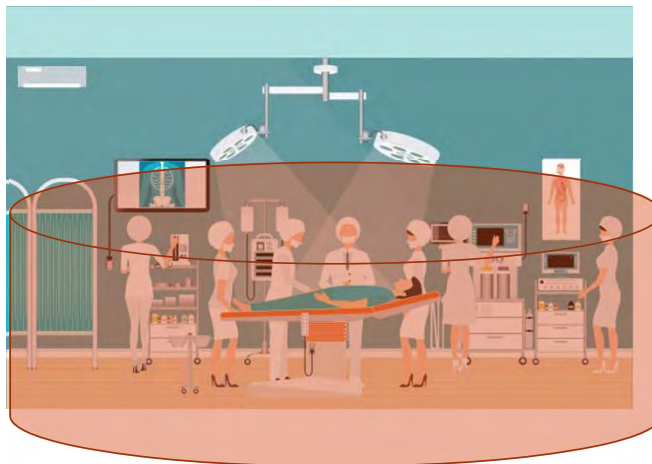
1363A



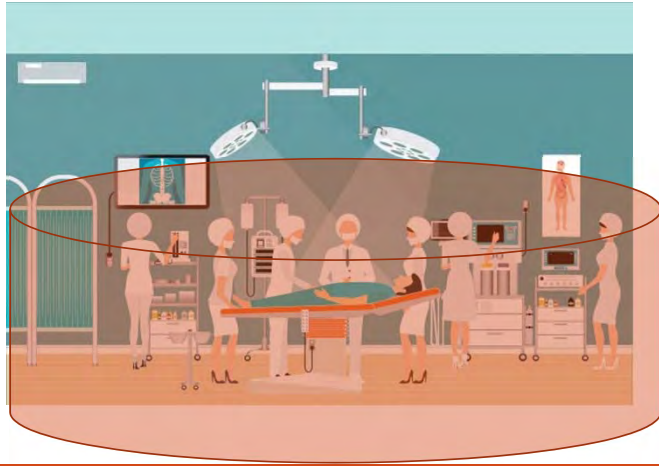
60601-1



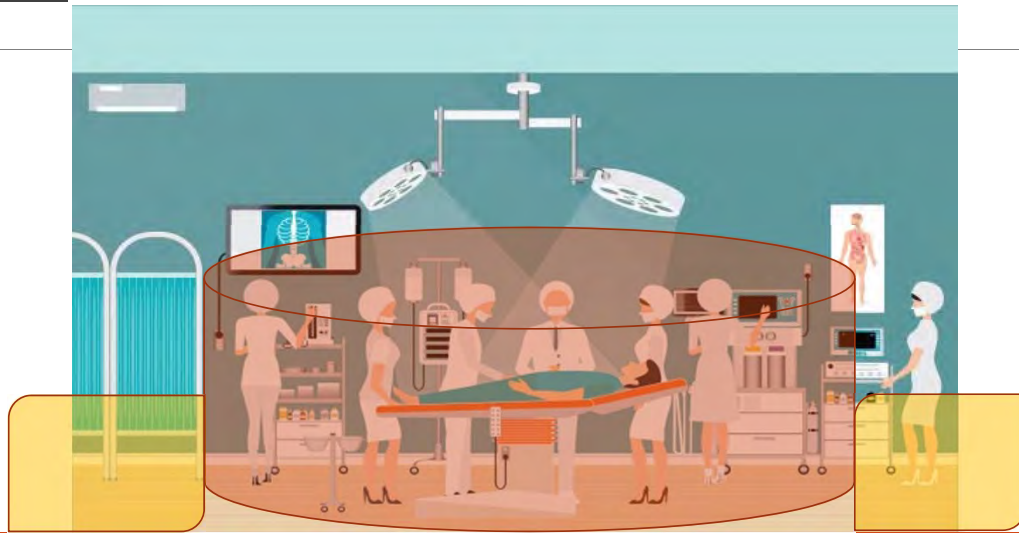
60601-1 & 1363A



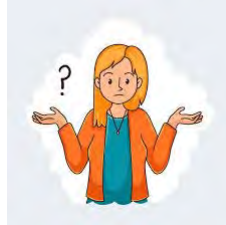
60601-1 & 1363A



1363



Fixing vs Fighting



What to do...What to do.

Variables

- Cost
- Ease/difficulty of correction
- Time for correction
- Validity of the deficiency
- Pressures from above

When is it worth Fighting?

High cost of correction

A bad citation

Stopping the snowball before it goes downhill

Conversation and agreement by multiple sources



Fixing

Listen.....WaitThink

Listen

I think..

You should..

I recommend

It would be better if...

You have to....

The code states....

Listen

I think..

You should..

I recommend

It would be better if...

You have to....

The code states....

WAIT...

- What is on the statement of deficiencies.
- This is where the wishes and wants disappear

Think

Wants vs Needs from surveyors

1. Experience
2. Multiple views
3. Improve or simplify a process
4. Sound practical and beneficial
5. Life safety – Does it add to

FIGHTING

Listen.....Wait.....Have a plan ready.

Plan

Validate your objection

Gather the troops

- Life Safety “expert”
- Corporate backing
- Architect
- Engineer

- Be precise in the wording of the objection

FIGHT for...

- Your facility
- You and your staff's hard work
- Every other facility
- Consistent surveys



THANK YOU!!!





Franklin Sands – Fire Inspector,
Fire Investigator, CLSS-HC

Life Safety Compliance Officer

THANK
YOU!

Contact:

(904) 202-5722

franklin.sands@ce-tech.net

www.CE-Tech.com



Summary of NFPA 99 2021 Changes

5.1.3.10 Cryogenic Fluid Central Supply Systems Multiple Changes

5.1.10.2.3.2 Labelling for both Vacuum and WAGD

5.1.11 Labelling, Identification and Operating Pressure Multiple Changes

5.1.13 Category 1 Medical Support Gas Multiple Changes

5.1.14 Category 1 Operations and Management Very Important - Multiple Changes

Q & A Time