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M E M O R A N D U M

TO: Technical Committee on Medical Equipment

FROM: Elena Carroll, *Project Administrator*

DATE: November 20, 2018

SUBJECT: NFPA 99 First Draft TC FINAL Ballot Results (A2020)

According to the final ballot results, all ballot items received the necessary affirmative votes to pass ballot with the exception of **First Revision No. 1040** as shown in the attached report.

When a First Revision fails Ballot, the changes proposed in the failed Revision shall be considered rejected and shall be deleted from the First Draft. Failed Revisions shall be redesignated as a Committee Input and shall be published in the Input section of the First Draft Report.

14 **Members Eligible to Vote**
1 **Members Not Returned** *(Connor)*

The attached report shows the number of affirmative, negative, and abstaining votes as well as the explanation of the vote for **each** revision**.**

To pass ballot, **each** revision requires: (1) a simple majority of those eligible to vote and (2) an affirmative vote of $^{2}/_{3}$ of ballots returned. See Sections 3.3.4.3.(c) and 4.3.10.1 of the ***Regulations Governing the Development of NFPA Standards***.

First Revision No. 1013-NFPA 99-2018 [Detail]

*****"and testing" was removed***

10.2 Performance Criteria~~and Testing~~ for Patient Care–Related Electrical Appliances and Equipment.

Submitter Information Verification

Committee: HEA-MED

Submittal Date: Wed Aug 08 11:53:04 EDT 2018

Committee Statement

Committee Statement: The title of section 10.3 is "Testing requirements- patient care related appliances and equipment" so "testing" is redundant in the title for 10.2.

Response Message: FR-1013-NFPA 99-2018

Ballot Results

This item has passed ballot

14 Eligible Voters
1 Not Returned
12 Affirmative All
1 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Connor, Charles

Affirmative All

Anicello, John J.
Beebe, Chad E.
Carr, Lisa
Cowles, Charles
Dagenais, David A.
Ferrari, Keith
Gwynn, Pamela
Lipschultz, Alan
Safdie, Ezra R.
Sandler, Lawrence S.
Scarlett, Kevin A.
Sutter, Robert M.

Affirmative with Comment

Goodman, Gerald R.

None

First Revision No. 1037-NFPA 99-2018 [Section No. 3.3.29.1]

~~**3.3.28.1** Liquid Oxygen Ambulatory Container.~~

~~A container used for liquid oxygen not exceeding 1.5 L (0.396 gal) specifically designed for use as a medical device as defined by 21 USC Chapter 9, the United States Food, Drug and Cosmetic Act, that is intended for portable therapeutic use and to be filled from its companion base unit, which is a liquid oxygen home care container. (MED)~~

Submitter Information Verification

Committee: HEA-MED
Submittal Date: Wed Aug 08 18:08:31 EDT 2018

Committee Statement

Committee Statement: This term is no longer used in the standard.
Response Message: FR-1037-NFPA 99-2018

Public Input No. 334-NFPA 99-2018 [Section No. 3.3.29.1]

Ballot Results

✔ **This item has passed ballot**

14 Eligible Voters
1 Not Returned
12 Affirmative All
1 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned
Connor, Charles

Affirmative All
Anicello, John J.
Beebe, Chad E.
Carr, Lisa
Cowles, Charles
Dagenais, David A.
Ferrari, Keith
Gwynn, Pamela
Lipschultz, Alan
Safdie, Ezra R.
Sandler, Lawrence S.
Scarlett, Kevin A.
Sutter, Robert M.

Affirmative with Comment

Goodman, Gerald R.

None

First Revision No. 1039-NFPA 99-2018 [Section No. 3.3.155]

3.3.156 Relocatable Power Tap (RPT).

~~Two~~ A device for indoor use consisting of an attachment plug on one end of a flexible cord and three or more ~~power receptacles supplied by a flexible cord~~ receptacles on the opposite end . *(See 10.2.3.6.)* (MED)

Submitter Information Verification

Committee: HEA-MED
Submittal Date: Wed Aug 08 18:27:13 EDT 2018

Committee Statement

Committee Statement: What was submitted was not consistent with UL Standard 1363, Relocatable Power Taps. The current language is more consistent with UL 1363.
Response Message: FR-1039-NFPA 99-2018

Public Input No. 232-NFPA 99-2018 [Section No. 3.3.155]

Ballot Results

✔ **This item has passed ballot**

14 Eligible Voters
1 Not Returned
10 Affirmative All
1 Affirmative with Comments
2 Negative with Comments
0 Abstention

Not Returned
Connor, Charles

Affirmative All
Anicello, John J.
Carr, Lisa
Cowles, Charles
Ferrari, Keith
Gwynn, Pamela
Lipschultz, Alan
Safdie, Ezra R.
Sandler, Lawrence S.
Scarlett, Kevin A.
Sutter, Robert M.

Affirmative with Comment

Goodman, Gerald R.

None

Negative with Comment

Beebe, Chad E.

I disagree with the definition in the insertion of the term “indoor use”. I understand that many of the UL listings are specific to indoor use I don’t think that the definition should include the statement and essentially prohibit the use outdoors. The term relocatable power tap is being used in this document generically and just happens to coincide with the UL listing terminology. Additionally, requirements shouldn’t be included in the definitions.

Dagenais, David A.

Indoor use is a requirement and requirements should not be in definitions.

Committee Input No. 1040-NFPA 99-2018 [Section No. 10.2.3.6]

This was a First Revision that failed ballot.

10.2.3.6* ~~Relocatable~~ Cord- and Plug-Connected Power Taps.

A.10.2.3.6

Consideration should be given to certification of relocatable power taps (RPTs) in accordance with UL 1363A, *Outline of Investigation for Special Purpose Relocatable Power Taps*, which addresses the requirements currently in NFPA 99 and additional safety requirements, such as use of hospital-grade receptacle outlets and plugs, integrity of the enclosures, and testing for grounding and leakage current.

A special purpose relocatable power tap (SPRPT), listed in accordance with UL 1363A, is only intended to be a component part of an overall listed assembly. The health care outlet assembly (HCOA) should be listed in accordance with UL 2930, *Outline of Investigation for Cord-and-Plug-Connected Health Care Facility Outlet Assemblies* . An RPT is a device listed in accordance with UL 1363, *Standard for Relocatable Power Taps* .

10.2.3.6.1 General.

~~Relocatable~~ Cord- and plug-connected power taps shall be permitted to be used to supply power to ~~plug-connected components of a movable equipment assembly that is pole-, rack-, table-, pedestal-, or cart-mounted~~ patient care–related electrical equipment , provided that all of the following conditions are met:

* ~~The receptacles are securely attached to the equipment assembly.~~

~~A.10.2.3.6(1)~~ –

~~Tape, adhesive, and hook-and-loop fasteners are not considered to be secure means of attachment.~~

(1)* The sum of the ~~ampacity~~ ampere rating of all appliances connected to the outlets does not exceed 75 percent of the ampacity of the flexible cord supplying the outlets.

A.10.2.3.6.1(1)

A means of meeting the requirement is through summation of nameplate ampacity of connected equipment and proactive administrative actions (e.g., education, signs). A circuit protective device (e.g., circuit breaker, surge protector, supplementary protector)~~,~~ alone~~,~~ is not considered sufficient.

(2) The ampacity of the flexible cord is in accordance with *NFPA 70*.

(3) The electrical and mechanical integrity of the assembly and its securement method are regularly verified and documented.

10.2.3.6.2 Power Taps Within the Patient Care Vicinity.

Cord- and plug-connected power taps used within the patient care vicinity shall be permitted to be used to supply power to plug-connected components of a movable equipment assembly that is pole-, rack-, table-, pedestal-, or cart-mounted, provided that all of the following conditions are met:

(1)* The health care outlet assembly (HCOA) is securely attached to the equipment assemblies.

A.10.2.3.6.2(1)

Tape, adhesive, and hook-and-loop fasteners are not considered to be secure means of attachment.

(2)* The sum of the ampere rating of all appliances connected to the outlets does not exceed 75 percent of the ampacity of the flexible cord supplying the outlets.

A.10.2.3.6.2(2)

A means of meeting the requirement is through summation of nameplate ampacity of connected equipment and proactive administrative actions (e.g., education, signs). A circuit protective device (e.g., circuit breaker, surge protector, supplementary protector) alone is not considered sufficient.

(3) The ampacity of the flexible cord is in accordance with *NFPA 70* .

(4) The electrical and mechanical integrity of the assembly and its securement method are regularly verified and documented.

10.2.3.6.3 Relocatable Power Taps (RPTs).

10.2.3.6.3.1

Relocatable power taps (RPTs) shall not be used in a patient care space or vicinity.

10.2.3.6.3.2

Power taps used outside of the patient care space shall be listed.

10.2.3.6.4 Power Taps Within the Patient Care Space.

10.2.3.6.4.1

Special purpose relocatable power taps (SPRPTs) shall not be used within the patient care vicinity.

10.2.3.6.4.2

SPRPTs shall be permitted to be used within the patient care space.

Supplemental Information

File Name	Description	Approved
99_MED_FR-1040.docx	legislative changes - staff use only	

Submitter Information Verification

Committee: HEA-MED

Submittal Date: Wed Aug 08 18:57:13 EDT 2018

Committee Statement

Committee Statement: Power taps need to be suitable for their listed uses. This further clarifies the appropriate types and use locations for different power taps.

Response Message: CI-1040-NFPA 99-2018

Ballot Results

✖ This item has failed ballot

14 Eligible Voters
1 Not Returned
6 Negative with Comments
7 Affirmative All
0 Affirmative with Comments
0 Abstention

Not Returned

Connor, Charles

Negative with Comment

Beebe, Chad E.

I disagree that health care outlet assemblies (HCOA) should be mandated within the patient care vicinity. There are many situations that wouldn't require an HCOA that depend on the category for the patient. The way this is written, a category 3 patient care vicinity would only permit an HCOA. It doesn't make any sense to require this type of assembly when the level grounding (the primary justification for such a device) isn't required beyond that of any normal receptacle.

Carr, Lisa

10.2.3.6.4.1 is unreasonable. To not allow SPRPTs in the patient vicinity, we are effecting patient care. We have been actively replacing our RPTs and SPRPTs with ones Joint Commission has required. This would effect mainly the O.R.s where there could be 2 SPRPTs depending on the complexity of the case. Adding this verbage leaves hospitals open for citations, could cause a delay in patient care and be money wasted on all the SPRPTs hospitals have already purchased to comply with Joint Commission standards. This would be almost impossible to comply with.

Dagenais, David A.

The way this reads it implies the in a Category 3 space this would be required, this is over kill and not necessary

Goodman, Gerald R.

I am not aware of any hazards that have resulted from the use SPRPT of this type of device.

Lipschultz, Alan

In section 10.2.3.6.2(1), the term "Health Care Outlet Assembly (HCOA)" is ambiguous and undefined. By including an acronym associated with the term, there is a strong implication that this is a defined term. ||| The committee has given inadequate justification for new Section 10.2.3.6.4.1. SPRPT are commonly used today within the Patient Care Vicinity and I am not aware of any hazards that have resulted from this practice. Without an adequate safety justification, the committee has no basis for adding this restrictive language. In addition any SPRT within the Patient Space may easily migrate into the Patient Vicinity. In addition any SPRT outside of the Patient Vicinity, but still within the Patient Space, may be powering patient care devices within the Patient Vicinity. If this section is added, all of these issues will present an additional burden on healthcare facilities with no demonstrable additional safety benefit to patients.

Sandler, Lawrence S.

There is no definition of an HCOA and without the definition, it appears to be a type of SPRPT. But, SPRPTs are now prohibited in the Patient Care Vicinity. Allowing SPRPT in the Patient Care Space will likely result in allowing them in the Patient Care Vicinity because of general practice. Moving to the term HCOA but continuing with the term SPRPT introduces an ambiguity that is likely to cause interpretation problems with regulators.

Affirmative All

Anicello, John J.

Cowles, Charles

Ferrari, Keith

Gwynn, Pamela

Safdie, Ezra R.

Scarlett, Kevin A.

Sutter, Robert M.

First Revision No. 1016-NFPA 99-2018 [New Section after 10.2.4.2]

10.2.4.3

Overhead power receptacles shall be permitted to be supplied by a flexible cord with strain relief (ceiling drop) that is connected at a ceiling-mounted junction box in either of the following ways:

(1) Permanently

(2)* Utilizing a locking-type attachment plug cap and receptacle combination, or other method of retention

A.10.2.4.3(2) _

The disconnection means is permitted only to facilitate replacement; as such, ceiling drop cords can not be disconnected for alternative usage. See Chapter 6 for criteria of receptacles.

Submitter Information Verification

Committee: HEA-MED
Submittal Date: Wed Aug 08 12:18:19 EDT 2018

Committee Statement

Committee Statement: The committee wants to include requirements that allow for overhead receptacles to be served by flexible cord. The allowances for multiple outlet connections is very specific to moveable equipment assemblies. This was previous wording from the 2005 edition of NFPA 99 section 8.4.1.2.4.3.

Response Message: FR-1016-NFPA 99-2018

Public Input No. 36-NFPA 99-2018 [New Section after 10.2.4.2]

Ballot Results

✔ **This item has passed ballot**

14 Eligible Voters
1 Not Returned
12 Affirmative All
1 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Connor, Charles

Affirmative All

Anicello, John J.

Beebe, Chad E.

Carr, Lisa
Cowles, Charles
Dagenais, David A.
Ferrari, Keith
Gwynn, Pamela
Lipschultz, Alan
Safdie, Ezra R.
Sandler, Lawrence S.
Scarlett, Kevin A.
Sutter, Robert M.

Affirmative with Comment

Goodman, Gerald R.

None

First Revision No. 1014-NFPA 99-2018 [Section No. 10.2.5]

10.3.4.2 ~~Leakage Current — Fixed Equipment.~~

The leakage current flowing through the ground conductor of the power supply connection to ground of permanently wired appliances installed in Category 1 or Category 2 spaces shall not exceed 10.0 mA (ac or dc) with all grounds lifted.

Submitter Information Verification

Committee: HEA-MED
Submittal Date: Wed Aug 08 12:10:34 EDT 2018

Committee Statement

Committee Statement: The committee is relocating this section because of the re-titling of section 10.2 to no longer cover testing.
Response Message: FR-1014-NFPA 99-2018

Ballot Results

✔ **This item has passed ballot**

14 Eligible Voters
1 Not Returned
12 Affirmative All
1 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Connor, Charles

Affirmative All

Anicello, John J.
Beebe, Chad E.
Carr, Lisa
Cowles, Charles
Dagenais, David A.
Ferrari, Keith
Gwynn, Pamela
Lipschultz, Alan
Safdie, Ezra R.
Sandler, Lawrence S.
Scarlett, Kevin A.
Sutter, Robert M.

Affirmative with Comment

Goodman, Gerald R.

None

First Revision No. 1015-NFPA 99-2018 [Section No. 10.2.6]

10.3.5.4* Touch Current — Portable Equipment.

The touch current for cord connected equipment shall not exceed 500 µA with normal polarity and the ground wire disconnected (if a ground wire is provided).

Submitter Information Verification

Committee: HEA-MED

Submittal Date: Wed Aug 08 12:13:01 EDT 2018

Committee Statement

Committee Statement: The committee is relocating this section to the testing section, which is more appropriate for this requirement.

Response Message: FR-1015-NFPA 99-2018

Ballot Results

✔ **This item has passed ballot**

14 Eligible Voters
1 Not Returned
12 Affirmative All
1 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Connor, Charles

Affirmative All

Anicello, John J.
Beebe, Chad E.
Carr, Lisa
Cowles, Charles
Dagenais, David A.
Ferrari, Keith
Gwynn, Pamela
Lipschultz, Alan
Safdie, Ezra R.
Sandler, Lawrence S.
Scarlett, Kevin A.
Sutter, Robert M.

Affirmative with Comment

Goodman, Gerald R.

None

First Revision No. 1027-NFPA 99-2018 [Section No. 11.3.5.3]

11.3.5.3

Oxidizing gases such as oxygen and nitrous oxide shall be separated from combustibles or flammable materials by one of the following *(see also A.5.1.3.2.5)* :

(1) Minimum distance of 6.1 m (20 ft)

(2) Minimum distance of 1.5 m (5 ft) if the entire storage location is protected by an automatic sprinkler system designed in accordance with NFPA 13

(3) A gas cabinet constructed per ~~NFPA 30 or~~ NFPA 55~~, if the entire storage location is protected by an automatic sprinkler system designed in accordance with NFPA 13~~

Submitter Information Verification

Committee: HEA-MED

Submittal Date: Wed Aug 08 13:52:12 EDT 2018

Committee Statement

Committee Statement: The requirement for the installation of a sprinkler system is redundant in this section. NFPA 30 doesn't not have any requirements for gas cabinets; rather it is for flammable liquids cabinets, so that would not apply in this instance.

New annex material added for guidance and to correlate with Chapter 5 guidance.

Response Message: FR-1027-NFPA 99-2018

Public Input No. 16-NFPA 99-2018 [New Section after 11.3.5.3]

Public Input No. 29-NFPA 99-2018 [Section No. 11.3.5.3]

Public Input No. 209-NFPA 99-2018 [Section No. 11.3.5.3]

Public Input No. 27-NFPA 99-2018 [Section No. 11.3.5.3]

Ballot Results

✔ **This item has passed ballot**

14 Eligible Voters
1 Not Returned
12 Affirmative All
1 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Connor, Charles

Affirmative All

Anicello, John J.

Beebe, Chad E.

Carr, Lisa
Cowles, Charles
Dagenais, David A.
Ferrari, Keith
Gwynn, Pamela
Lipschultz, Alan
Safdie, Ezra R.
Sandler, Lawrence S.
Scarlett, Kevin A.
Sutter, Robert M.

Affirmative with Comment

Goodman, Gerald R.

None

First Revision No. 1028-NFPA 99-2018 [New Section after 11.3.5.7]

11.3.7*

Storage for nonflammable gases less than 85 m^3 (3000 ft^3) at STP shall be permitted to be stored in a gas cabinet constructed in accordance with NFPA 55, provided that the following also applies:

(1) Storage is limited to cylinders.

(2) There are no flammables or combustibles in the cabinet.

(3) The temperature limitations of 5.1.3.2.11 are met.

(4) The cylinders are secured.

(5) When storing nitrous oxide, the cabinets are lockable.

A.11.3.7

Limited quantities of combustibles applicable to the cylinders, such as cylinder labels, gauges, posted safety signs, and similar, are permitted.

Submitter Information Verification

Committee: HEA-MED

Submittal Date: Wed Aug 08 14:12:09 EDT 2018

Committee Statement

Committee Statement: Today hundreds of hospitals are storing nonflammable medical gasses in cabinets located in corridor alcoves (that is permitted by NFPA 101), nurses' stations and similar locations. There is no need for these cabinets to be located in a room. In fact an argument could be made that they are a noncombustible enclosure and meet 11.3.5. Some cabinets can hold over 85m3 (3000 ft3) so adding this fourth category of portable cylinder storage would be very beneficial and not create a hazard. The committee has limited the mandatory locking to only Nitrous Oxide as other gases are really not susceptible to theft and Oxygen needs to be readily accessible without having to find a key. The committee has also limited this to cylinders, as lifting containers over the lip of these cabinets could result in very dangerous spills.

Response Message: FR-1028-NFPA 99-2018

Public Input No. 210-NFPA 99-2018 [New Section after 11.3.5.7]

Ballot Results

✔ **This item has passed ballot**

14 Eligible Voters
1 Not Returned
12 Affirmative All
1 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Connor, Charles

Affirmative All

Anicello, John J.

Beebe, Chad E.

Carr, Lisa

Cowles, Charles

Dagenais, David A.

Ferrari, Keith

Gwynn, Pamela

Lipschultz, Alan

Safdie, Ezra R.

Sandler, Lawrence S.

Scarlett, Kevin A.

Sutter, Robert M.

Affirmative with Comment

Goodman, Gerald R.

None

First Revision No. 1031-NFPA 99-2018 [Section No. 11.3.10.2]

11.3.11.2

~~Sign(s)~~ In health care facilities where smoking is permitted, sign(s) shall include the following wording as a minimum:

CAUTION

OXIDIZING GAS(ES) STORED WITHIN

NO SMOKING

11.3.11.3

In health care facilities where smoking is prohibited, sign(s) shall include the following wording as a minimum:

CAUTION

OXIDIZING GAS(ES) STORED WITHIN

NO OPEN FLAME

11.3.11.4

Replacement of existing signage that includes "No Smoking" for health care facilities that prohibit smoking shall not be required.

Submitter Information Verification

Committee: HEA-MED

Submittal Date: Wed Aug 08 15:00:41 EDT 2018

Committee Statement

Committee Statement: This change is made to align with the life safety code while also taking into consideration that this chapter applies to new and existing facilities.

Response Message: FR-1031-NFPA 99-2018

Public Input No. 28-NFPA 99-2018 [Section No. 11.3.10.2]

Ballot Results

This item has passed ballot

14 Eligible Voters
1 Not Returned
12 Affirmative All
1 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Connor, Charles

Affirmative All

Anicello, John J.
Beebe, Chad E.
Carr, Lisa
Cowles, Charles
Dagenais, David A.
Ferrari, Keith
Gwynn, Pamela
Lipschultz, Alan
Safdie, Ezra R.
Sandler, Lawrence S.
Scarlett, Kevin A.
Sutter, Robert M.

Affirmative with Comment

Goodman, Gerald R.

None

First Revision No. 1032-NFPA 99-2018 [Section No. 11.5.2.1.5]

11.5.2.1.5

If ~~a bulk~~ a cryogenic fluid central supply system is present, the supplier shall provide annual training on its operation.

Submitter Information Verification

Committee: HEA-MED
Submittal Date: Wed Aug 08 16:33:24 EDT 2018

Committee Statement

Committee Statement: The term is being replaced with the term "cryogenic fluid central supply systems" in NFPA 55 and NFPA 99.
Response Message: FR-1032-NFPA 99-2018

Public Input No. 144-NFPA 99-2018 [Section No. 11.5.2.1.5]

Ballot Results

✔ **This item has passed ballot**

14 Eligible Voters
1 Not Returned
12 Affirmative All
1 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned
Connor, Charles

Affirmative All
Anicello, John J.
Beebe, Chad E.
Carr, Lisa
Cowles, Charles
Dagenais, David A.
Ferrari, Keith
Gwynn, Pamela
Lipschultz, Alan
Safdie, Ezra R.
Sandler, Lawrence S.
Scarlett, Kevin A.
Sutter, Robert M.

Affirmative with Comment

Goodman, Gerald R.

None

First Revision No. 1033-NFPA 99-2018 [Section No. 11.5.2.3.1]

11.5.2.3.1

Transfilling to liquid oxygen base reservoir containers or to liquid oxygen portable containers over 344.74 kPa (50 psi) shall include the following:

(1) A designated area is separated by a fire barrier of 1-hour fire-resistive construction from any portion of a facility ~~wherein~~ where patients are housed, examined, or treated ~~by a fire barrier of 1 hour fire-resistive construction~~ .

(2) The area is mechanically ventilated, is sprinklered, and has ceramic or concrete flooring.

(3) The area is posted with signs indicating that transfilling is occurring and that smoking in the immediate area is not permitted.

(4) The individual transfilling the container(s) has been properly trained in the transfilling procedures.

Submitter Information Verification

Committee: HEA-MED
Submittal Date: Wed Aug 08 17:17:49 EDT 2018

Committee Statement

Committee Statement: The order of the requirement was changed to make it more clear to users.
Response Message: FR-1033-NFPA 99-2018

Ballot Results

✔ **This item has passed ballot**

14 Eligible Voters
1 Not Returned
12 Affirmative All
1 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned
Connor, Charles

Affirmative All
Anicello, John J.
Beebe, Chad E.
Carr, Lisa
Cowles, Charles
Dagenais, David A.
Ferrari, Keith
Gwynn, Pamela
Lipschultz, Alan

Safdie, Ezra R.

Sandler, Lawrence S.

Scarlett, Kevin A.

Sutter, Robert M.

Affirmative with Comment

Goodman, Gerald R.

None

First Revision No. 1034-NFPA 99-2018 [Section No. 11.6.1.3]

11.6.1.3

Policies for enforcement shall include the following:

(1) Regulations for the storage and handling of cylinders and containers of oxygen and nitrous oxide

(2) Prompt evaluation of all signal warnings and all necessary measures taken to re-establish the proper functions of the medical gas and vacuum systems

(3) Organizational capability and resources to cope with a complete loss of any medical gas or vacuum system

(4) Successful completion of all tests required in 5.1.12.4 prior to the use of any medical gas or vacuum piping system for patient care

(5) Locations intended for the delivery vehicle delivering cryogenic liquid to ~~bulk cryogenic liquid systems~~ cryogenic fluid central supply systems to remain open and not be used for any other purpose (e.g., vehicle parking, storage of trash containers)

Submitter Information Verification

Committee: HEA-MED

Submittal Date: Wed Aug 08 17:22:11 EDT 2018

Committee Statement

Committee Statement: The term is being replaced with the term "cryogenic fluid central supply systems" in NFPA 55 and NFPA 99.

Response Message: FR-1034-NFPA 99-2018

Public Input No. 145-NFPA 99-2018 [Section No. 11.6.1.3]

Ballot Results

✔ **This item has passed ballot**

14 Eligible Voters
1 Not Returned
12 Affirmative All
1 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Connor, Charles

Affirmative All

Anicello, John J.

Beebe, Chad E.

Carr, Lisa

Cowles, Charles

Dagenais, David A.

Ferrari, Keith
Gwynn, Pamela
Lipschultz, Alan
Safdie, Ezra R.
Sandler, Lawrence S.
Scarlett, Kevin A.
Sutter, Robert M.

Affirmative with Comment

Goodman, Gerald R.

None

First Revision No. 1035-NFPA 99-2018 [Section No. 11.6.5.4]

11.6.5.4

Cylinders stored in ~~the open~~ exterior locations shall be ~~protected~~ as follows:

(1) Secured against falling or tipping

(2) Stored in a well-drained location and protected from prolonged contact with soil

~~Against extremes of weather and from the ground beneath to prevent rusting~~

~~During winter, against accumulations of ice or snow~~

(3) Prevented from reaching temperatures lower than the recommendations of the medical gas supplier

(4) ~~During summer, screened~~ Screened against continuous exposure to direct rays of the sun where the ambient temperature exceeds 52°C (125°F) ~~in those localities where extreme temperatures prevail~~

Submitter Information Verification

Committee: HEA-MED

Submittal Date: Wed Aug 08 17:26:32 EDT 2018

Committee Statement

Committee Statement: This change clearly identifies the hazards and provides clear, measurable mitigations to lower the risks as outlined below.

1. The word "open" is replaced to clarify that we are talking about locations exterior to the building.

2. The term "extremes of weather" is removed as it is unclear. Instead, four specific risks are identified: tipping due to wind, rust prevention, and low/high temperatures. Language regarding the accumulation of snow and ice is removed. Snow and ice accumulation can prevent access to cylinders and this is better handled through policy and procedure, according to the facility location and climatic conditions. Also, the terms "winter" and "summer" are removed as they are subjective - consider a warm summer day in Nome, AK and cold winter day in Miami, FL.

3. Language to secure the cylinders is added, similar to language in other sections of this code. This protects against high winds.

4. The current caution against rust is converted to language around storage locations and drainage. Current language is difficult to interpret and enforce. Rust is a chemical reaction that can begin in any location, interior or exterior, and doesn't even need contact with standing water. Practically, gas cylinders are stored and transported from the manufacturer in lots and truck beds open to the elements. Given the frequency that cylinders are replaced in most medical facilities and the lack of injury related to rusted cylinders, this has not proven to be a tangible risk. However, there are clear and actionable measures that can be taken to prevent the extremes of standing soil and prolonged contact.

5. Low temperature requirements are clarified and are similar requirements in Chapter 5 of this code. Nitrous oxide storage at low temperatures is the primary concern, not all gases will have a low temperature threshold from the supplier, therefore the phrase "as applicable".

6. Sheilding of cylinders from solar heating is clarified to provide some direction to consider the local climate. The threshold is similar to other requirements in Chapter 5, which sets two temperatures: 125 degrees and 130 degrees. The lower temperature is selected.

Response Message: FR-1035-NFPA 99-2018

Public Input No. 224-NFPA 99-2018 [Section No. 11.6.5.4]

Ballot Results

✔ **This item has passed ballot**

14 Eligible Voters
1 Not Returned
12 Affirmative All
1 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Connor, Charles

Affirmative All

Anicello, John J.

Beebe, Chad E.

Carr, Lisa

Cowles, Charles

Dagenais, David A.

Ferrari, Keith

Gwynn, Pamela

Lipschultz, Alan

Safdie, Ezra R.

Sandler, Lawrence S.

Scarlett, Kevin A.

Sutter, Robert M.

Affirmative with Comment

Goodman, Gerald R.

The word "open" is replaced to clarify that we are talking about locations exterior top the building. I assume that the word "top" is intended to be "to" and not referring to the top of the building.

First Revision No. 1024-NFPA 99-2018 [Section No. 11.7.4]

11.7.4 Maximum Quantity.

11.7.4.1

The maximum total quantity of liquid oxygen permitted in storage and in use in a patient bed location or patient care vicinity shall be 120 L (31.6 gal), provided that the patient bed location or patient care vicinity, or both, are separated from the remainder of the facility by fire barriers and horizontal assemblies having a minimum fire resistance rating of 1 hour in accordance with the adopted building code.

11.7.4.2

One liquid oxygen portable container [limited to 1.5 L (0.396 gal) capacity] per patient is permitted to be stored or used in a patient bed location or patient care vicinity without having to meet the fire separation requirements of 11.7.4.1 .

Submitter Information Verification

Committee: HEA-MED

Submittal Date: Wed Aug 08 13:31:38 EDT 2018

Committee Statement

Committee Statement: NOTE: This public input originates from Tentative Interim Amendment No. 18-2 (Log 1353) issued by the Standards Council on April 10, 2018 and per the NFPA Regs., needs to be reconsidered by the Technical Committee for the next edition of the Document.

Emergency Nature: The standard contains an error or an omission that was overlooked during the regular revision process. The NFPA Standard contains a conflict within the NFPA Standards or within another NFPA Standard. The proposed TIA intends to offer to the public a benefit that would lessen a recognized (known) hazard or ameliorate a continuing dangerous condition or situation. The proposed TIA intends to correct a circumstance in which the revised NFPA Standard has resulted in an adverse impact on a product or method that was inadvertently overlooked in the total revision process or was without adequate technical (safety) justification of the action. Without this revision to 11.7.4 facilities are being expected to either increase the fire resistant construction of all patient rooms containing even small amounts of liquid oxygen or to commit staff to continually run these small portable containers back and forth between storage areas and patient rooms every time the patient leaves or returns to the patient bed location or patient care vicinity. This is an unreasonable expectation of staff and leads to unsafe conditions of the patient venturing from these locations without their requisite oxygen source.

Response Message: FR-1024-NFPA 99-2018

Public Input No. 402-NFPA 99-2018 [Section No. 11.7.4]

Ballot Results

✔ **This item has passed ballot**

14 Eligible Voters
1 Not Returned
12 Affirmative All
1 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Connor, Charles

Affirmative All

Anicello, John J.

Beebe, Chad E.

Carr, Lisa

Cowles, Charles

Dagenais, David A.

Ferrari, Keith

Gwynn, Pamela

Lipschultz, Alan

Safdie, Ezra R.

Sandler, Lawrence S.

Scarlett, Kevin A.

Sutter, Robert M.

Affirmative with Comment

Goodman, Gerald R.

None

First Revision No. 1138-NFPA 99-2018 [Section No. A.11.3.5]

A.11.3.5

When determining the volume of storage, do not consider cylinders and containers that are in use. Only the volume of stored gas that is in excess of 8.5 m^3 (300 ft^3) is required to be located in an enclosure, since 11.3.6 already permits up to 8.5 m^3 (300 ft^3) without any special storage requirements.

Submitter Information Verification

Committee: HEA-MED
Submittal Date: Tue Sep 25 10:01:17 EDT 2018

Committee Statement

Committee Statement: added SI units
Response Message: FR-1138-NFPA 99-2018

Ballot Results

✔ **This item has passed ballot**

14 Eligible Voters
1 Not Returned
12 Affirmative All
1 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned
Connor, Charles

Affirmative All
Anicello, John J.
Beebe, Chad E.
Carr, Lisa
Cowles, Charles
Dagenais, David A.
Ferrari, Keith
Gwynn, Pamela
Lipschultz, Alan
Safdie, Ezra R.
Sandler, Lawrence S.
Scarlett, Kevin A.
Sutter, Robert M.

Affirmative with Comment

Goodman, Gerald R.

None

First Revision No. 1038-NFPA 99-2018 [Section No. A.11.7.3.1]

A.11.7.3.1

The seller has a responsibility to provide written instructions to the user in accordance with 11.7.2. In fulfilling this responsibility, the seller should explain to the user the use of the equipment being delivered and precautions that are to be taken. The seller's written instructions are intended to make the user aware of the hazards of the material and to provide recommendations that will address the location, restraint, movement, and refill of ~~ambulatory~~ portable containers when these containers are to be refilled by the user. However, the user has the responsibility to receive, read, and understand the written material regarding storage and use of liquid oxygen and the containers and equipment that are furnished by the seller. In addition to specific information or instructions provided by the seller or equipment manufacturer regarding the storage or use of the equipment and of the liquid oxygen or the containers used, the user remains responsible to see that the containers are used or maintained in accordance with the seller's instructions to ensure that they are as follows:

(1) Located and maintained in accordance with the requirements of 11.7.3.2

(2) Restrained in accordance with the requirements of 11.7.3.3

(3) Handled or transported in accordance with the requirements of 11.7.3.4

(4) Refilled in accordance with the requirements of 11.7.3.6 and the manufacturer's instructions when liquid oxygen ~~ambulatory~~ portable containers are to be refilled by the user

CGA P-2.7, *Guide for the Safe Storage, Handling, and Use of Small Portable Liquid Oxygen Systems in Health Care Facilities*, describes the recommended precautions and safety procedures to be followed when liquid oxygen systems are used within health care facilities. Mishandling of oxygen presents potential hazards to both trained and untrained persons. ~~It is, therefore~~ Therefore, it is important that personnel who assume responsibility for oxygen equipment and its use be familiar with the hazards of oxygen, the operational characteristic of the equipment, and the precautions to be observed while using it.

Submitter Information Verification

Committee: HEA-MED

Submittal Date: Wed Aug 08 18:09:53 EDT 2018

Committee Statement

Committee Statement: The term liquid oxygen ambulatory containers was taken out because it is meant for home care which is outside of the scope of this document.

Response Message: FR-1038-NFPA 99-2018

Ballot Results

This item has passed ballot

14 Eligible Voters
1 Not Returned
12 Affirmative All
1 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Connor, Charles

Affirmative All

Anicello, John J.

Beebe, Chad E.

Carr, Lisa

Cowles, Charles

Dagenais, David A.

Ferrari, Keith

Gwynn, Pamela

Lipschultz, Alan

Safdie, Ezra R.

Sandler, Lawrence S.

Scarlett, Kevin A.

Sutter, Robert M.

Affirmative with Comment

Goodman, Gerald R.

None

First Revision No. 1139-NFPA 99-2018 [Section No. A.11.7.3.5]

A.11.7.3.5

CGA P-2.7, *Guide for the Safe Storage, Handling, and Use of Small Portable Liquid Oxygen Systems in Health Care Facilities*, describes the recommended precautions and safety procedures to be followed when liquid oxygen systems are used within health care facilities, such as a 1.5 m (5 ft) separation from electrical appliances during filling and use.

Mishandling of oxygen presents potential hazards to both trained and untrained persons. It is therefore important that personnel who assume responsibility for oxygen equipment and its use be familiar with the hazards of oxygen, the operational characteristic of the equipment, and the precautions to be observed while using it.

Submitter Information Verification

Committee: HEA-MED
Submittal Date: Tue Sep 25 10:07:35 EDT 2018

Committee Statement

Committee Statement: Added SI units
Response Message: FR-1139-NFPA 99-2018

Ballot Results

✔ **This item has passed ballot**

14 Eligible Voters
1 Not Returned
12 Affirmative All
1 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Connor, Charles

Affirmative All

Anicello, John J.
Beebe, Chad E.
Carr, Lisa
Cowles, Charles
Dagenais, David A.
Ferrari, Keith
Gwynn, Pamela
Lipschultz, Alan
Safdie, Ezra R.
Sandler, Lawrence S.

Scarlett, Kevin A.

Sutter, Robert M.

Affirmative with Comment

Goodman, Gerald R.

None