NFPA 99-2024 and Proposed 2027 Editions
Health Care Facilities Code
TIA Log No.: 1901
Reference: 5.1.12.4.10.5
Comment Closing Date: May 22, 2026
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www.nfpa.org/99

1. Revise section 5.1.12.4.10.5 to read as follows:

Wording for the 2024 Edition:

5.1.12.4.10.5 Oxygen and medical air outlets serving Category 1 spaces shall allow a transient flow rate of 170 SLPM (6 SCFM) for 3 seconds ~~and a pressure drop of not more than 70 kPa (10 psi) gauge~~.

Wording for the Proposed 2027 Edition:

5.1.12.4.10.5 Each oxygen and medical air outlet serving Category 1 spaces shall allow a transient flow rate of 170 SLPM (6 SCFM) for 3 seconds ~~with a pressure drop not to exceed 70 kPa (10 psi) gauge as tested individually~~.

Substantiation: The addition of the 70 kPa (10 psi) operational flow pressure drop for category 1 oxygen and medical air outlets is unattainable for manufactured assemblies with flexible connectors. This is due to a combination of multiple primary valves, smaller diameter and overall length of hoses.

When we reviewed this as a committee, our focus was primarily on wall assemblies, and we did not fully consider that the requirement would be unachievable for hose assemblies and flexible connectors. After multiple tests on new installations, it became apparent that headwalls, gas columns, and surgical booms consistently fail to meet this requirement.

While the intent behind the change was sound, its potential impact on health care operations is significant and potentially harmful. The committee needs to conduct additional study on this issue, including a detailed evaluation of acceptable pressure-drop limits, and propose appropriate thresholds based on realistic system performance.

The concern is that the fixed limit of 10 psi may not be appropriate. The previous code did not specify a limit, so accurate performance data was not available when the committee originally considered this issue. Testing now shows that many articulated systems routinely experience a pressure drop of about 11 psi, which would cause them to fail under the new requirement.

The 10 psi was based on the submitters substantiation: “I assume that this section of code was intended to accommodate the potential use of ventilators in Category 1 spaces. Most ventilators require a minimum pressure of roughly 30-40 psi (depending on the manufacturer) to operate. Why not set a minimum requirement for the operational pressure/flow test to insure proper ventilator operation in that zone by way of adequate pipe sizing.” We didn’t adequately look into the claim “depending on manufacture” to see if ventilator manufacture to justify the 10psi. We know that ventilators are used in these conditions every single day, and there have been no

reports indicating ventilator failures related to this issue. This reflects tens of thousands of successful use cases each year.

Emergency Nature: 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 for the action.

Without this change manufactured assemblies with flexible connectors will either have to be commissioned not meeting the requirements of this code or not used at all. The assemblies are preferred by most clinical staff in operating rooms, cath labs and intensive care units and could affect patient care. For Example: surgical booms are used in operating rooms constantly, appearing in almost every surgery, especially within modern or renovated ORs. As critical infrastructure for managing medical gases, power, and equipment, they are standard in high-functioning, integrated rooms. This change could ultimately force the removal of these systems, creating additional hazards for patients undergoing surgery by eliminating critical infrastructure from the locations where it is most essential and introducing additional hazards. It would also require clinicians to rely on wall-mounted connections, introducing new risks such as tripping hazards, accidental contamination, and the potential for cross-use or misconnections during procedures.

Anyone may submit a comment by the closing date indicated above. Please identify the TIA number, state whether you SUPPORT or OPPOSE the TIA along with your comment, and forward to the Secretary, Standards Council. **SUBMIT A COMMENT**