



NC DEPARTMENT OF
**HEALTH AND
HUMAN SERVICES**

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March 4, 2025

MEMORANDUM

TO: Registered Environmental Health Specialist, Program Supervisors, and Managers

FROM: Chad Gambill, REHS, Field Supervisor
Pools, Tattoos, and State Institutions Program

SUBJECT: 2025 allowance for public swimming pool flow reductions using a properly sized and installed flow meter accurate to 10%

DISCUSSION AND RATIONALE:

The Pools, Tattoos, and State Institutions Program (“Program”) has received questions and concerns from local health departments and industry personnel regarding the ANSI/PHTA/ICC-7 2020 standard (“2020 standard”) which required a flow meter to be accurate to 5% when used to determine the maximum system flow rate of a pool pumping system for VGBA compliance. The 2020 standard, which became effective November 2020, is a revision of the previous standard, ANSI/APSP/ICC-7 2013 (“2013 standard”). The 2013 standard allowed the determination of maximum system flow rates for VGBA compliance using flow meters accurate to 10%. 15A NCAC 18A .2518 incorporates by reference the ANSI/PHTA/ICC-7 and ANSI/APSP/ICC-16 standards into the NC Rules Governing Public Swimming Pools.

It has come to the Program’s attention that many pools received flow reductions in recent years utilizing a flow meter accurate to 10% as allowed by the 2013 standard. These flow reductions were necessitated by several factors:

- Limited or no availability of flow meters with a 5% accuracy for larger pipe sizes.
- No availability of tools and pump curves necessary to utilize alternative option of obtaining a maximum system flow using TDH measurements from vacuum and pressure gauges for single speed pumps connected to a variable frequency drive.

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AN EQUAL OPPORTUNITY / AFFIRMATIVE ACTION EMPLOYER

- The ANSI/APSP/ICC-16 2017 (VGBA 2017) standard that became effective in May ,2021 effectively lowered the flow rates for many drain cover models manufactured after May 24, 2021. As supplies of VGB 2008 covers dwindled, an increasing number of pools needed a flow reduction when installing VGBA 2017 replacement covers.
- Department of Energy standards for dedicated purpose pool pumps went into effect in July 2021 resulting in the increased proliferation of more efficient variable speed pump technology with higher maximum flow rates. With this variable speed technology, pump manufacturers can design pumps with the ability to adjust flows as needed. This allows manufacturers to produce fewer models with broader flow ranges to meet pool industry needs but also results in pool builders needing a flow reduction for the selected pump when doing pump replacements.

RESPONSE AND INTERPRETATION:

Based on research and input from industry experts, it has become clear that immediate compliance with the 5% flow meter requirement will be impossible for many North Carolina pools and will be disruptive to the North Carolina pool industry. **For 2025, the Program recommends continuing to accept flow reductions using a flow meter accurate to at least 10%.** Flow meters must be properly sized and installed according to the manufacturer’s specifications as allowed in the 2013 standard. Because the flow meter margin of error is adequately covered by the engineering factor of safety for listed drain cover flow ratings, we do not recommend adding the margin of error back to measured flow rates for VGBA compliance. Work with industry on this problem is ongoing.

The referenced PHTA standards are available to read or purchase at *PHTA.org*. Standards and previous versions of standards can also be viewed at *codes.iccsafe.org*.

This guidance replaces any guidance given in previous written or verbal communications. The information in this guidance document is not enforceable on its own but is intended to promote uniform interpretation and enforcement of the underlying rules.

References:

ANSI/PHTA/ICC- 7 2020
ANSI/APSP/ICC-7 2013
ANSI/APSP/ICC-16 2017
15A NCAC 18A .2500
PHTA “The Virginia Graeme Baker Pool and Spa Safety Act Resource Guide” - revised 3/2022