



NC DEPARTMENT OF
**HEALTH AND
HUMAN SERVICES**

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May 4, 2026

MEMORANDUM

TO: Registered Environmental Health (EH) Specialists, EH Program Supervisors, EH Managers, Public Swimming Pool Owners, Operators and Designers.

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

SUBJECT: Public Swimming Pool Guidance and Clarifications for the 2026 Pool Season:
1. Flow Reductions, Gauges, and Flow Meters
2. Monitoring Cyanuric Acid (CYA)

The Division of Public Health, Environmental Health (EH) Section's Public Swimming Pool Program is issuing the following guidance to assist pool owners, operators, designers and local health departments as they prepare for the 2026 pool season.

QUESTION 1:

Do all flow meters need to be accurate to 5% in 2026?

ANSWER:

No. Not all flow meters are required to meet 5% accuracy.

Only flow meters that are used for flow reduction must be accurate to within 5%.

"Flow reduction" in North Carolina means that the measured flow of the pumping system is used to determine compliance with the federal Virginia Graeme Baker Pool and Spa Safety Act (VGBA).

The 5% accuracy requirement is established in Section 4.5 of ANSI/PHTA/ICC-7, which is incorporated by reference into the VGBA and 15A NCAC 18A .2500 "Rules Governing Public Swimming Pools."

If a pumping system does not have a flow reduction, a flow meter used for the filtration system is only required to be accurate within 10% per 15A NCAC 18A .2518(g). This includes pumping systems that have other "flow restrictions" that are not "flow reductions" required for VGBA compliance. "Flow restrictions" are permit conditions based on limiting factors of the pumping system such as the maximum filter flow rate.

Additionally, the Division of Public Health (DPH) interprets the option to verify flow reduction in Rule .2539(d)(1) using a "flow meter installed in accordance with manufacturer's instructions confirming that the water flow does not exceed the gallon per minute flow rating of the drain covers" as inclusive of properly installed and functioning pressure gauges used to measure Total Dynamic Head (TDH), in lieu of a flow meter accurate to 5%.

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Summary:

- **5% accuracy flow meters** – Required only when the meter is used to demonstrate VGBA compliance through a flow reduction.
- **10% accuracy flow meters** – Acceptable for standard filtration system flow measurement when no flow reduction is implemented.
- **TDH gauges** – May be used in place of a 5% accurate flow meter as an alternative method for determining maximum system flow for VGBA compliance.

QUESTION 2:

If gauges are used to determine the maximum system flow, is an engineer required to submit documentation to the Local Health Department (LHD)?

ANSWER:

No, the public pool rules do not require an engineer to submit documentation for a flow reduction that uses gauge readings to establish maximum system flow.

QUESTION 3:

How should Local Health Departments (LHDs) be monitoring cyanuric acid (CYA) at permitted pools?

ANSWER:

Local Health Department monitoring of CYA may include:

- Reviewing stored chemicals for stabilized chlorine or CYA-containing products
- Observing chemical feeders and treatment systems to determine whether stabilized chlorine is being used
- Reviewing operator records
- Testing CYA when necessary

These monitoring steps should also occur at indoor pools to reveal if stabilized chlorine is being used.

The EH Section recommends that LHDs monitor CYA levels in 2026 with an emphasis on education and training for EH specialists and operators.

DISCUSSION AND RATIONALE

Cyanuric acid (CYA) is used in outdoor pools to prevent rapid (UV) degradation of chlorine. However, elevated CYA levels slow chlorine's ability to inactivate pathogens.

Current science provides a more comprehensive understanding of CYA management. Current science is reflected in the CDC Model Aquatic Health Code (MAHC), 5th Edition (2024):

1. Toxicity threshold: Approximately 300ppm CYA.
2. Disinfection effectiveness: A maximum 45:1 CYA: Free Chlorine (FC) ratio is established to promote effective disinfection as CYA concentrations increase. Increasing DPD-Free Chlorine concentrations¹ proportionally as CYA levels increase promotes proper disinfection by ensuring a consistent Hypochlorous acid (HOCl) concentration is available in the pool water for disinfection.
3. Diarrheal incident response: CYA must be reduced to ≤ 15 ppm to allow effective hyperchlorination for *Cryptosporidium* inactivation.
4. Maintaining water clarity: Maintaining proper water clarity becomes increasingly more difficult as CYA rises above 100ppm. For this reason, the MAHC establishes a maximum "management limit" of 90ppm

CYA but does not require immediate closure of the venue at this CYA level alone unless the 45:1 CYA:FC ratio or the 300ppm toxicity threshold is exceeded (items 1 or 2 above).

(¹DPD Free Chlorine means free chlorine concentrations from DPD-based test methods. This measurement will include cyanurate-bound available chlorine as well as free available chlorine.)

RESPONSE AND INTERPRETATION

For 2026, the 100ppm maximum CYA concentration in Rule .2535(4) should be viewed as a goal for operators and the point at which discussions begin regarding CYA remediation.

During this educational year, if CYA is discovered to be above 100ppm, the public pool may remain open if the following conditions are met that ensures this does not pose a clear risk to health or safety:

- CYA:FC ratio $\leq$ 45:1
- Water clarity complies with Rule .2535(2)
- CYA $\leq$ 300ppm

(Note: Turbidimetric CYA testing above 100ppm may require dilution of the sample, with the result multiplied by the dilution factor.)

Immediate suspension is appropriate if any of the following conditions occur and cannot be immediately corrected:

- CYA $\geq$ 300ppm – Imminent Hazard / Immediate suspension in accordance with GS 130A-23(d)
- CYA > 100ppm and the CYA:FC ratio exceeds 45:1 - Imminent Hazard / Immediate suspension in accordance with GS 130A-23(d)
- Other water quality violations are present – Immediate suspension for failure to maintain water quality standards in accordance with GS 130A-23(d)

REMINDERS

- **Pool operators** are required to maintain weekly documentation of CYA. (Rule .2535(11)(d))
- **Pool operators** must have access to CYA testing (kit or lab). (Rule .2535(10))
- **Pool operators** should take reasonable steps to maintain CYA $\leq$ 100ppm as water chemistry is easier to manage at lower CYA levels. (Rule .2535(4) and MAHC)
- **Pool operators** must reduce CYA to $\leq$ 15ppm for effective hyperchlorination during liquid stool fecal contamination response to ensure destruction of Cryptosporidium. (Rule .2535(13) and MAHC)
- **REHSs** should document CYA concentration in the inspection report, including the source (operator records, operator test, or REHS test).
- **REHS** verification testing of CYA is recommended when CYA appears high, records are missing, or water quality concerns exist.

REFERENCES

- Centers for Disease Control and Prevention (CDC), Model Aquatic Health Code (MAHC), 5th Edition, 2024, and Annex
- ANSI/PHTA/ICC-7 2020
- 15A NCAC 18A .2500

NOTE: Position statements and memorandums are policy documents to clarify how to interpret or enforce a law or rule. They are not enforceable on their own but are intended to promote uniform interpretation and enforcement of the underlying law or rule.