TO: Joint Committee on Recreational Water Facilities

FROM: Mr. Tom Vyles, Chair of the Joint Committee

DATE: March 6, 2020

SUBJECT: Proposed revision to NSF/ANSI/CAN 50 – Equipment and Chemicals for Swimming Pools, Spas, Hot Tubs and Other Recreational Water Facilities (50i160r2)

Revision 2 of NSF/ANSI/CAN 50, issue 160 is being forwarded to the Joint Committee for consideration. Please review the proposal and submit your ballot by March 27, 2020 via the NSF Online Workspace <www.standards.nsf.org>.

When adding comments, please identify the section number/name for your comment and add all comments under one comment number where possible. If you need additional space, please upload a word or pdf version of your comments online via the browse function.

Purpose
This ballot will affirm changes to Section 7, revising language relating to pump flow rate outputs.

Background
Section 24 – Flow metering devices was added to NSF/ANSI 50-2017 to have a positive impact on public health by providing test methods for flow meters. Some pump manufacturers are now incorporating a flow rate display on their pump that infers a flow rate based on impeller RPM. These displays can be misleading.

To ensure listed products are providing accurate flow rate data, the standard could be revised to require any pumps listed under NSF 50 section 7 be tested / certified to the applicable flow meter accuracy performance test methods and the pump be rated as Level 0-5 like a flowmeter.

The proposed language was sent to straw ballot with the RWF Task Group on Flow Meters, received no negative votes, and was sent to JC approval ballot. A comment received there noted that the proposed data plate requirements, as written, could be interpreted to apply to all pumps, not just pumps with an output flow rate display. The issue proponent agreed, and this r2 ballot contains additional language adding clarification.
If you have any questions about the technical content of the ballot, you may contact me in care of:

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7 Centrifugal pumps

This section contains requirements for centrifugal pumps used to circulate swimming pool or spa / hot tub water in commercial and residential applications. The requirements for strainers shall apply to strainers that are integral with the pump and to strainers supplied as separate equipment for use in conjunction with a centrifugal pump.

7.6 Pump performance curve

7.6.1 For each pump model or model series, the manufacturer shall provide a pump performance curve that plots the pump's total dynamic head versus the discharge flow rate. The manufacturer shall also have a curve available that plots the net positive suction head (NPSH) or total dynamic suction lift (TDSL), brake horsepower, and pump efficiency in relation to the performance curve. Pumps with a rating of 5 HP (3.7 kW) or less are not required to have a NPSH curve.

For pumps utilizing motors rated for multiple voltages, if the pump performance curve varies between rated voltages, such as may occur between 230 V and 208 V, the manufacturer shall provide a pump performance curve for each rated motor voltage.

7.6.2 The actual pump curve, as determined in accordance with Section N-3.1, shall be within a range of - 3% to + 5% of the total dynamic head or - 5% to + 5% of the flow, whichever is greater, indicated by the performance curve. Data taken above 90% full flow shall not be judged to the acceptance criteria.

Pumps with more than one operating speed shall be tested as documented below:

- fixed multispeed pump or motor assemblies, test at each speed; or
- variable speed pump or motor assemblies, test at 100%, 50%, and the lowest speed.
7.6.3 For pumps that provide a flow rate output (such as a visual flow rate in LPM / GPM or other manner), the pump shall be tested in accordance with the following flow meter requirements of Section 24:

- Section 24.8 Flow rate measurement accuracy,
- Section 24.9 Flow rate metering device testing and accuracy levels, and
- Section 24.12 Life testing

7.7 Operation and installation instructions

7.7.1 The manufacturer shall provide a manual with each pump. The manual shall include written instructions for the proper installation, operation, and maintenance of the pump. Instructions shall include a parts list and diagrams to facilitate the identification and ordering of replacement parts. If the parts list does not uniquely identify each part for ordering, the manufacturer shall also supply the appropriate specification numbers and serial numbers, and the impeller diameter.

7.7.2 A pump manufactured without an integral strainer shall state in its installation instructions, on a data plate, or on an attached label that the pump is to be installed with a strainer conforming to the requirements in this Standard.

7.8 Self-priming pumps

A pump designated as self-priming shall be capable of repriming itself when operated under a suction lift without the addition of more liquid. Self-priming capability shall be verified in accordance with Section N-3.3.

7.9 Data plate

7.9.1 A pump shall have a data plate that is permanent; easy to read; and securely attached, cast, or stamped into the pump at a location readily accessible after installation. The data plate shall contain the following information:

- manufacturer’s name and contact information (address, phone number, website, or prime supplier);
- pump model number;
- pump serial number, date code, or specification number;
- whether the unit has been evaluated for swimming pools or spas / hot tubs, if not evaluated for both applications; and
- designation as a self-priming or non-self-priming pump. If the pump is self-priming, the maximum vertical lift height shall be specified.

7.9.2 For pumps that provide a flow rate display, the data plate shall contain the following information:

- working flow rate range (i.e., 20 – 100 US GPM / 76 – 379 LPM) if not visible elsewhere on the product; and
- accuracy level (i.e., Level 1 or L1) if not visible elsewhere on the product.