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October 19, 2020

Dear Mr. Onwiler,

Thank you for the opportunity for us to voice our opinion regarding the Air / Vapor Elimination device under consideration by the NCWM. As a group of manufacturers and consultants acting in the best interest of the industry, we strongly advise that consideration for this device be withdrawn. After reviewing the product design, it is a product in search of a problem that doesn't exist in our domestic water systems.

As illustrated in the patent, the Air / Vapor Elimination device under consideration is supposed to eliminate air in the water. Not sure how that really can happen because the device does not have a way to discharge air. Fortunately, our US water systems are not subject to air in the water lines. Utility personnel understand that air inside water lines can cause problems to mechanical devices in the distribution system, so successful programs have already been adapted to eliminate this concern.

If deployed, the Air / Vapor Elimination device will induce an additional pressure loss just downstream of the meter, which will reduce pressure to the end water customer. The reduced pressure will result in decreased delivered flow rates at these end users or require the utility to increase system pressure to maintain the status quo with their water customers. If the goal is to keep pressure constant, more energy is needed. Since energy costs are typically the utility's highest expense, the increased operational costs are significantly outweighed by any minimal benefit a utility may receive from deployment of this device.

In the end, this type of device doesn't add value for US utilities or their end customers. Please take the input provided by the following water industry manufacturers and consultants and withdraw consideration for the Air / Vapor Elimination device. If there are any additional questions, please let us know.

Sincerely,

John Fillinger, Director Utility Marketing, Badger Meter, Inc.

Martin Cole, Vice President of Engineering, Meter Technology Werks

Don Faber, Principal Engineer, Faber and Associates

Scott Swanson, Meter Assembly Manager, Sensus

Jeremy McCraven, Manufacturing Engineering Manager, Mueller

George De Jarlais, Principal Engineer, Badger Meter, Inc.

Mike Clements, President, Next Century Meter

Cc: D. Flockens

L. Minnich