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SUBJECT: Water Treatment System Start-Up Guidance after an Extended Shutdown

Filtration systems are designed to be operated on a continuous basis with only relatively short periods of down time (overnight and holidays). When a system is shut down for an extended period of time, there is a potential for microbiologic growth. To address concerns with system operation after the shutdown, please follow the below instructions. This is applicable to all Pentair filtration systems (i.e., pre-filters, carbon-based cartridges and Reverse Osmosis (RO) systems).

Periodic Flushing

In cases where the customer knows that the system will be down for an extended time and is able to get to the system on a periodic basis, follow the below flushing procedure every 3-4 days:

Filtration Systems

Flush the system for a minimum of 5 minutes by letting the outlet water run to the drain. For systems with multiple outlet ports, flush for a minimum of 5 minutes through all ports.

RO Systems

Empty the tank through the outlet port until the pump turns on. Once the pump is on, flush the system for 10 minutes by letting the outlet water run to the drain. For systems with multiple outlet ports, flush through all ports.

Shutdown for Less Than or Equal to 7 Days:

Filtration Systems

When you put the system back into operation, flush the system for a minimum of 5 minutes by letting the outlet water run to the drain and then proceed with normal operations. For the systems with multiple outlet ports, flush for a minimum of 5 minutes through all ports.

RO Systems

When you put the system back into operation, empty the tank through the outlet port until the pump turns on. Once the pump is on, flush the system for 10 minutes by letting the outlet water run to the drain and then proceed with normal operations. For the systems with multiple outlet ports, flush for a minimum of 10 minutes through all ports.



Shutdown for Greater Than 7 Days:

All Systems (Filtration and RO)

Remove all existing filtration elements that are present in the system (pre-filters, carbon filters &/or RO cartridges) and dispose. Disinfect the system as instructed in the applicable Installation and Operations Guide for that specific system.

After the disinfection process is complete, replace the filtration elements with all new pre-filters, carbon filters &/or RO cartridges. Flush the system as instructed in the applicable IO Guide to complete the procedure.

Softeners

Initiate a manual regeneration.

Shutdown for Greater Than 30 Days:

Softeners

Disinfect per the Installation and Operation Guide for that specific unit. Generally speaking, it is adding some bleach to the brine tank before initiating a manual regeneration.

Assumptions

Pentair assumes the following in providing this guidance:

- Incoming water is potable.
- There is no boil-water advisory or boil-water order issued by the applicable public health or governmental authority.
- System is being maintained within normal operating temperature and other conditions as set forth in the applicable specification sheet.

If you have concerns or cannot confirm these assumptions for the system, follow the instructions above under the section entitled "Shutdown for Greater Than 7 Days".

Always read carefully and follow all instructions in the Installation and Operations Guide. If you do not have a copy of the applicable guide, contact Pentair at 630.307.3000.