Smith & Loveless, Inc.

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Innovative S&L Grit Removal Technology Aids Major Upgrade at Award-Winning WTP

Hydraulic forced vortex grit chambers applied to replace plate settlers allows for more efficient sand and silt removal from river water in-take with less chemical requirement downstream

LENEXA (Kan.) – When Illinois American Water recently announced the successful $12m upgrade of its nationally-recognized East St. Louis Water Treatment Plant, it noted in particular the new grit removal system installed within the water in-take scheme, which was provided by Smith & Loveless Inc.

The East St. Louis Water Treatment Plant is an award-winning member of the American Water Works Association's Partnership for Safe Water, an exclusive group of less than 150 water treatment facilities nation-wide recognized for consistently achieving water treatment standards that go above and beyond EPA regulatory requirements. These select water utilities pledge to continually improve their treatment operations and undergo rigorous self-assessment and peer-review processes.

In line with this progressive approach, the plant sought a new method to replace poorly-performing plate-settling sedimentation tanks that often clogged because of the high levels of sand and grit entering the in-take from the plant's Mississippi River source. Careful consideration was given by the owner and its consulting engineering team to a variety of technology options, including stacked-tray and conventional grit chambers. Ultimately, the hydraulic forced vortex PISTA® Grit Removal System by Smith & Loveless was selected because of its ability to efficiently remove sand and grit without the use of recirculation water, which drives up operational costs.

According to Karen Cooper, Illinois American Water senior manager of field operations and production, the PISTA® system for water in-take also helps reduce chemical usage and maintenance.

"This recent upgrade improves not only our operational efficiencies but also our environmental footprint," Cooper said.

The selection of PISTA® hydraulic forced vortex grit chambers is not unprecedented for water intake systems even though the technology is typically applied for wastewater treatment plant headworks. Both water utilities and power plants apply it for 95 percent removal of sand and particles between 100 and 300 microns.

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About Smith & Loveless, Inc.: Founded in 1946, Smith & Loveless Inc. is a global manufacturing leader of engineered systems for the water and mining industries with installations in more than 75 nations around the world. For more information on Smith & Loveless Inc. and its products, visit www.smithandloveless.com, and follow the company on LinkedIn and Twitter.