

## Video Transcript: Pilot-Scale Drinking Water Treatment Design for PFAS

Total Duration: 2:03

[00:00] [MUSIC PLAYING]

[00:00:06:23]

**Speaker:** PFAS are a large group of manmade chemicals that have been used in numerous industrial and consumer products for decades.

**[VISUAL DESCRIPTION: Icons representing water resistant clothing, food packaging, paint, personal hygiene products, non-stick cookware, stain resistant furniture, fire suppression, and pesticides next to a rotating molecule representing a PFAS chemical]**

[00:00:13:08]

**Speaker:** They are commonly known as forever chemicals because they do not break down easily and can migrate through the environment, posing risks to human health. Under the Safe Water Act, EPA is establishing nationwide, legally enforceable limits for several well-researched PFAS compounds to reduce exposure for Americans served by public drinking water systems.

**[VISUAL DESCRIPTION: An animated infographic visually describing the PFAS chemical journey from industrial facilities to the environment via consumer goods, human health exposure, and wastewater treatment and then from the environment water and food which returns to human health exposure]**

[00:00:22:16]

**Speaker:** EPA is establishing nationwide, legally enforceable limits for several well-researched PFAS compounds to reduce exposure for Americans served by public drinking water systems.

**[VISUAL DESCRIPTION: Zooming out and panning sideways across two photos of different water treatment facilities followed by a hand filling a glass of water at a sink]**

[00:00:36:20]

**Speaker:** They collaborated with EA to develop and test innovative solutions for effectively identifying and mitigating PFAS contamination in drinking water.

**[VISUAL DESCRIPTION: A rotating virtual three-dimensional model of the initial drinking water pilot system design with different components represented by different colors.]**

[00:00:47:11]

**Speaker:** EA designed and installed six compact pilot systems in existing water treatment plants across four states. Each system can test six different absorbent media

simultaneously while meeting specific individual operational parameters.

**[VISUAL DESCRIPTION: Panning through a workflow diagram describing the process that influent follows through the pilot system. Bisulfite is pumped from a tank into the influent which is then pumped through cartridge filter, a contact chamber and then into six pairs of four-foot-tall columns containing adsorbent media before being discharged.]**

**[00:01:01:22]**

**Speaker:** The systems are flexible to test multiple treatment media and methods, and user friendly for easy monitoring and adjustments.

**[VISUAL DESCRIPTION: A graphical model of the pilot treatment system with leader lines pointing to and describing different components of the system]**

**[00:01:10:08]**

**Speaker:** Throughout the project, the team overcame numerous technical challenges, including the compact design, independent operation of six separate columns on each skid.

**[VISUAL DESCRIPTION: Panning from top to bottom of a photo of the drinking water testing system focused on the pairs of cylinders containing different media.]**

**[00:01:18:12]**

**Speaker:** Remote monitoring robust, designed to avoid operational difficulties and chlorination at a small scale.

**[VISUAL DESCRIPTION: Photograph of an engineer standing in front of a drinking pilot test unit during installation in a water treatment facility.]**

**[00:01:26:05]**

**Speaker:** A sophisticated human machine interface is installed on each skid and displays various system operational parameters.

**[VISUAL DESCRIPTION: Two screens from the human machine interface displaying overall status and a column system overview.]**

**[00:01:32:14]**

**Speaker:** Advanced controls and remote dashboards enable teams to track system performance in real time. These pilot tests provide crucial data on treatment efficiency, operational costs, waste management, and long-term maintenance needs.

**[VISUAL DESCRIPTION: Engineers at a desk viewing dashboards on two monitors and pointing at specific data followed by screen captures of a series of dashboards displaying average flow rates and empty bed contact time, bisulfite pump flow, and other metrics]**

**[00:01:49:14]**

**Speaker:** This information will help utility operators select appropriate treatment options, estimate costs, and comply with new safety standards.

**[VISUAL DESCRIPTION: A worker in safety gear checking information on a handheld device while standing at a railing above a water treatment plan clarifier.]**

**[00:01:57:10] [MUSIC FADES]**

**[VISUAL DESCRIPTION: EA Logo and text on screen: eaest.com]**