

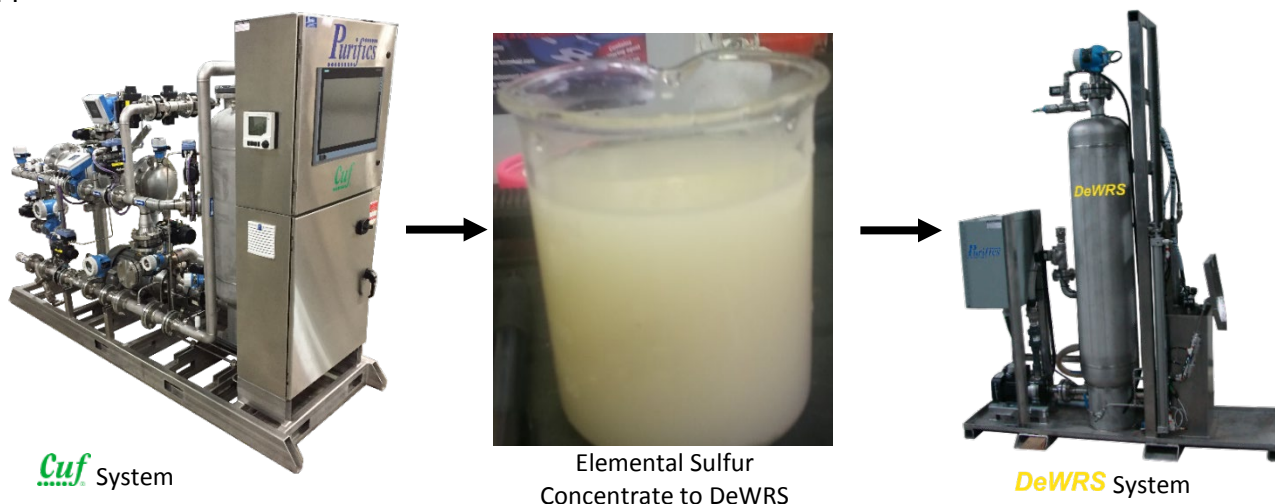
Method

Cuf (Ceramic Ultra-Filtration) Technology is used to remove H₂S from source water. In the **Cuf** High Solids Contact Reactor (HSCR), sodium hypochlorite or bleach is added to readily oxidize H₂S into insoluble elemental sulfur (S⁰). The insoluble elemental sulfur is filtered by the **Cuf** and recovered.

For drinking water applications, a single dosage of sodium hypochlorite is added in the **Cuf** process, and an on-line chlorine sensor located on the **Cuf** filtrate controls the dosing of the hypochlorite pump to maintain a desired residual chlorine concentration for disinfection. This ensures both complete removal of the H₂S and the required chlorine residual for distribution in one step.

Enhanced Performance

The **Cuf** process is highly effective at removing the H₂S. **Cuf** systems have demonstrated removal of H₂S in groundwater from 2630 ppb below detection limits of 6 ppb, well below the odor threshold which is nominally 130 ppb.



Integrating the DeWRS technology with the **Cuf** system recovers all of the elemental sulfur as a wet sludge, providing a Zero Liquid Discharge (ZLD) solution at minimal cost.

Cost Structure

The operating cost of the **Cuf** system consists of electrical energy and sodium hypochlorite addition to oxidize the sulfide ion. Each ppm of H₂S requires nominally 4.4ppm of hypochlorite to fully oxidize sulfide into elemental sulfur.

Verification

Several **Cuf** Pilot systems are available for on-site verification testing.