

WHAT'S NEW AT SCWA

SCWA 1,4-Dioxane Pilot Project Approved by New York State

The Suffolk County Water Authority has received approval from the New York State Department of Health to proceed with a pilot project that could lead to effective treatment of an emerging contaminant of concern on Long Island. The state's action means SCWA can build and utilize the state's first full-scale Advanced Oxidation Process (AOP) designed for the removal of 1,4-dioxane, a synthetic chemical used as a solvent and chlorinated solvent stabilizer for industrial chemicals. Though there is no chemical-specific federal or state regulation of 1,4-dioxane—and no approved treatment for its removal—the chemical has been detected in Long Island groundwater at various locations. “This project continues a tradition at SCWA of proactively developing innovative ways of removing contaminants from groundwater,” said SCWA Chief Executive Officer Jeffrey W. Szabo. “Our expectations are that this process could be the solution regulators have been looking for to address this emerging contaminant of concern.” In Advanced Oxidation Process, water passes through a reactor, where hydrogen peroxide reacts with ultraviolet light to form a high energy oxidant, or hydroxyl radical. The hydroxyl radicals are responsible for the destruction of 1,4-dioxane.



ADVANCED OXIDATION PROCESS (AOP) REACTOR

EPA's 2016 PFOA & PFOS Drinking Water Health Advisories

PFOA and PFOS are fluorinated organic chemicals that are part of a larger group of chemicals referred to as perfluoroalkyl substances (PFASs). PFOA and PFOS have been the most extensively produced and studied of these chemicals. They have been used to make carpets, clothing, fabrics for furniture, paper packaging for food and other materials that are resistant to water, grease or stains such as non-stick cookware. They are also used for firefighting at airfields and in a number of industrial processes. To provide Americans, including the most sensitive populations, with a margin of protection from a life-time of exposure to PFOA and PFOS from drinking water, EPA established the health advisory levels at 70 parts per trillion on May 19, 2016. When both PFOA and PFOS are found in drinking water, the combined concentrations of PFOA and PFOS should be compared with the 70 parts per trillion health advisory level. EPA's health advisories are based on the best available peer-reviewed studies of the effects of PFOA and PFOS on laboratory animals (rats and mice) and were also informed by epidemiological studies of human populations that have been exposed to PFASs. These studies indicate that exposure to PFOA and PFOS over certain levels may result in adverse health effects, including developmental effects to fetuses during pregnancy or to breastfed infants (e.g. low birth weight, accelerated puberty, skeletal variations), cancer (e.g. testicular, kidney), liver effects (e.g. tissue damage), immune effects (e.g. antibody production and immunity), thyroid effects and other effects (e.g. cholesterol changes). The health advisory levels are calculated based on the drinking water intake of lactating women, who drink more water than other people and can pass these chemicals along to nursing infants through breast milk. Since January 2013, the SCWA Laboratory has been testing for these compounds. Where positive detects were found, the Authority has been very pro-active with treatment. In some cases wells were blended together to lower concentration levels, and where levels were not acceptable for SCWA standards, the wells were taken out of service. We are currently installing granular activated carbon (GAC) filtration units at certain sites to treat for these compounds. For more information on PFOA & PFOS, please visit the following website: <https://www.epa.gov/ground-water-and-drinking-water/drinking-water-health-advisories-pfoa-and-pfos>