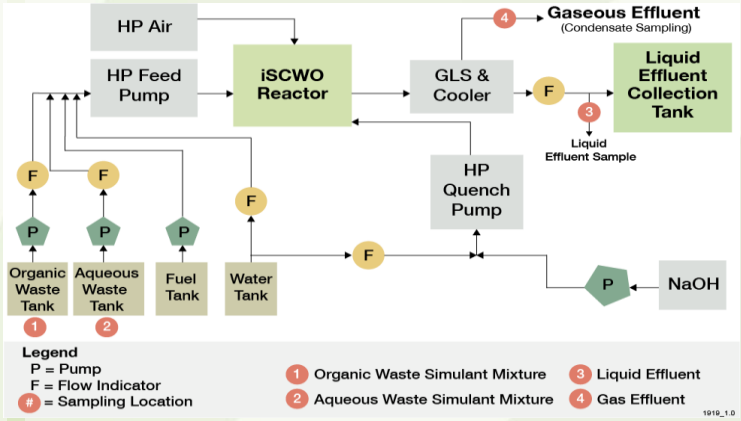
National Defense Center for Energy and Environment

THE DESTRUCTION OF PFAS USING SUPERCRITICAL WATER OXIDATION

PROJECT OVERVIEW

Contaminated groundwater, or a simulant solution, containing up to 16 species of polyfluoroalkyl substances (PFAS) will be fed into an industrial Supercritical Water Oxidation (iSCWO) system located at General Atomics in San Diego. Subsequently, a short-term PFAS destruction test will demonstrate the complete destruction of PFAS by collecting real-time process data in addition to gas and liquid samples. The samples collected during this test will be analyzed by a certified independent laboratory to verify the destruction of PFAS and release of non-hazardous materials. The results will be released to the stakeholders via a technical report for their review and analysis on how well the iSCWO system destroyed the PFAS contaminants.



BENEFITS

Numerous DoD installations are either storing or incinerating PFAS-impacted water, which can be incredibly costly, on the scale of $9-10/gallon or more. If proven successful, supercritical water oxidation can provide a cost competitive alternative to these methods, with the potential for improvement upon scale-up. Additionally, it can be implemented on-site at various DoD locations for the immediate destruction and cleanup of PFAS.

PATH FORWARD

iSCWO has been proven to be effective at treating several varieties of contaminated water and pure organic sources. After the successful demonstration of the destruction of PFAS, the TRL of this technology for this application will advance from 6 to 8, and increase again once the technology is permanently deployed.

iSCWO Test System at General Atomics

DoD Executive Agent

Office of the Assistant Secretary of the Army for Installations, Energy, and Environment

FOR FURTHER INFORMATION

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