November 7, 2024

Perma-Fix Environmental Services Announces Successful Startup of its First Commercial Perma-FAS System for PFAS Destruction

ATLANTA, Nov. 07, 2024 (GLOBE NEWSWIRE) -- **Perma-Fix Environmental Services, Inc. (NASDAQ: PESI) (the "Company")** announces the successful completion of the fabrication, installation, commissioning, and startup of its first full-scale commercial Perma-FAS system for PFAS (Per- and Polyfluoroalkyl Substances) destruction at the Company's Perma-Fix Florida facility. This landmark development in Perma-Fix's PFAS treatment technology marks a significant step forward in the safe, energy-efficient destruction of PFAS, commonly known as "forever chemicals."

The Perma-FAS system has successfully processed commercial PFAS-containing waste materials, beginning on October 28, with initial rapid turn analytical results showing an effective breakdown of the carbon-fluorine bond characteristics of PFAS at more than 99.99% after 6 hours of treatment. These results underscore the system's capacity to treat hazardous PFAS materials effectively, positioning Perma-Fix as a leader in addressing this environmental challenge with a unique closed-loop design that eliminates air emissions.

Designed for low-cost, eco-friendly PFAS treatment, the Perma-FAS unit operates at a peak temperature of 150°C under pressures below 100 PSI, allowing the processing of approximately 650 gallons of aqueous film-forming foam (AFFF) per treatment cycle. This sealed system, developed through extensive research and development at both bench and pilot scales, exemplifies Perma-Fix's commitment to pioneering innovative solutions that minimize environmental impact.

Perma-Fix has already secured approximately 6,000 gallons of AFFF liquids to support ongoing operations and demonstration, with anticipated receipts of an additional 20,000 gallons in the coming months. This supply will support further engineering optimization of operating parameters, post-treatment separation, and enhancing system performance and efficiency for expanded commercial applications.

"This accomplishment reflects a corporate-wide effort to bring an operational and commercially viable unit online within a remarkably short timeline following laboratory validation," stated Mark Duff, CEO of Perma-Fix. "Our team of scientists, engineers, and partners have collaborated to create an economically viable system that operates with limited energy and environmental impact. The units are also highly scalable and can be rapidly deployed at minimal cost, which allows us to ramp up capacity as needed in order to meet customer demand within the rapidly growing PFAS treatment market."

“The operational parameters of our patent-pending technology set Perma-Fix apart from the competition,” added Dr. Lou Centofanti, Founder and Executive Vice President of Perma-Fix. “Our low-temperature, low-pressure approach, combined with streamlined engineering, offers an economically feasible and straightforward method for addressing PFAS contamination.”



First Commercial Perma-FAS System for PFAS Destruction

Looking ahead, Perma-Fix’s strategy for the Perma-FAS system includes continued treatment of PFAS liquids over the coming months and targeting engineering refinements to support larger-scale systems. The next-generation units aim to increase capacity, incorporate recycling features to reduce costs, and enhance deployment efficiencies. By mid-2025, the Company expects to advance this technology into pilot-scale applications for soil, biosolids, and filter media, broadening the reach of Perma-Fix’s PFAS destruction capabilities.

With over 30 years of experience in the environmental sector, Perma-Fix provides a trusted infrastructure to meet the growing demand for PFAS destruction while managing customer risks and liabilities associated with hazardous materials.

About Perma-Fix Environmental Services

Perma-Fix Environmental Services, Inc. is a nuclear services company and leading provider of nuclear and mixed waste management services. The Company's nuclear waste services include management and treatment of radioactive and mixed waste for hospitals, research labs and institutions, federal agencies, including the U.S Department of Energy (DOE), the Department of Defense (DOD), and the commercial nuclear industry. The Company’s nuclear services group provides project management, waste management, environmental restoration, decontamination and decommissioning, new build construction, and radiological protection, safety and industrial hygiene capability to our clients. The Company operates four nuclear waste treatment facilities and provides nuclear services at DOE, DOD, and

commercial facilities, nationwide.

Please visit us at http://www.perma-fix.com.

This press release contains "forward-looking statements" which are based largely on the Company's expectations and are subject to various business risks and uncertainties, certain of which are beyond the Company's control. Forward-looking statements generally are identifiable by use of the words such as "believe", "expects", "intends", "anticipate", "plans to", "estimates", "projects", and similar expressions. Forward-looking statements include but are not limited to: receipt of an additional 20,000 gallons in the coming months; Perma-Fix's strategy; and advancement of PFAS technology in 2025. These forward-looking statements are intended to qualify for the safe harbors from liability established by the Private Securities Litigation Reform Act of 1995. While the Company believes the expectations reflected in this news release are reasonable, it can give no assurance such expectations will prove to be correct. There are a variety of factors which could cause future outcomes to differ materially from those described in this release, including, without limitation, future economic conditions; industry conditions; competitive pressures; our ability to apply and market our new technologies; acceptance of our PFAS technology by the public; third-party certification of our performance results; granting of patent on our technology by authorized agency; the government or such other party to a contract granted to us fails to abide by or comply with the contract or to deliver waste as anticipated under the contract or terminates existing contracts; Congress fails to provides funding for the DOD's and DOE's remediation projects; and the additional factors referred to under "Risk Factors" and "Special Note Regarding Forward-Looking Statements" of our 2023 Form 10-K and Form 10-Qs for quarters ended March 31, 2024 and June 30, 2024. The Company makes no commitment to disclose any revisions to forward-looking statements, or any facts, events or circumstances after the date hereof that bear upon forward-looking statements.

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A photo accompanying this announcement is available at https://www.globenewswire.com/NewsRoom/AttachmentNg/968e634a-6590-43d6-af58-5a60417a31a8

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