

Water Heater for Military Field Kitchens



Up to this time, the only practical way to produce on-demand and pressurized hot water for Army tactical field kitchens was with a pump. Since power for a pump is a scarce commodity in the field, a unique water heater was developed by Yankee Scientific. It generates its own electrical power to drive a pump to deliver pressure while simultaneously heating the water. This is accomplished with thermoelectric modules that are heated by the combustion gases from a standard burner and are cooled by the flow of water through the apparatus. In addition, the water heater produces low-pressure steam. When the steam is injected into sinks filled with cold water, it condenses and heats the water very efficiently. This non-powered water heater is the result of combining the latest manufacturing methods and materials with simple and basic thermodynamic technologies. The water heater that is the centerpiece of the Army's new Advanced Field Sanitation Center incorporates most of the features and technology advancements that were developed under the initial SBIR award.



PHASE III IMPACT

The contract issued by the U.S. Army calls for 2400 Advanced Field Sanitation Centers in which the Yankee water heater is an integral component. The estimated cost is \$5,000 per system. Over the 10 year delivery period, this represents \$12,000,000 in sales.