

SBIR 06.2 PHASE I - AWARD DETAILS	
ORGANIZATION	NSC
TOPIC NUMBER	A06-173
CONTRACT NUMBER	
YEAR OF AWARD	
AWARD START DATE	
AWARD COMPLETION DATE	
PROPOSAL NUMBER	A062-173-0882
TITLE	A High-Temperature Battlefield Fuel Vaporization Membrane
PROJECT MANAGER	Michael D. Jaeger (603) 643-3800 mdj@create.com
COMPANY	Create Inc. P.O. Box 71 Hanover NH 03755 Minority Owned: No Veteran Owned: No Number of Employees: 114
KEYWORDS	JP-8 fuel vaporization, microporous membrane, catalytic heating
ABSTRACT	The Army seeks to standardize all equipment on its battlefield logistics fuel, JP-8. JP-8 is difficult to use for small-scale, low-power applications, however, since its low vapor pressure and complex composition inhibit complete vaporization. Existing methods for vaporizing logistics fuels require electric power, moving parts, or high temperatures. To address this need, Create proposes to develop a low-cost, lightweight membrane that enables complete, controllable vaporization of JP-8 at the flow rates needed by low-power combustion devices. We will demonstrate the feasibility of the fuel vaporization approach in this Phase I project, and in Phase II we will develop and test membrane prototypes in small heating devices of interest to the Army. The technology will be particularly applicable to lightweight heating devices employing catalytic combustion.
BENEFITS	Create's heavy fuel vaporization membrane technology has immediate application to food and beverage heaters, personal warming devices, and small-scale heat driven devices such as refrigerators. The technology will enable the Army to use their standard JP-8 battlefield fuel for these applications and thus eliminate a variety of logistics issues associated with other field technologies. The outdoor recreation industry uses similar small-scale heating devices. Heavy fuel vaporization is also applicable to biofuels.