

<b>Procurement Description*</b>	ARRA Funded: High Temperature Molten Salt Furnaces – Sandia National Laboratories' Solar Technologies organization has a need for up to three (3) High Temperature Molten Salt Furnaces
<b>Statement of Work*</b>	Sandia National Laboratories' National Thermal Test organization has a need for high temperature complete turn-key molten salt furnaces which includes molten salt tanks, high temperature electric heaters, salt coolers, insulation, electrical control panels, and various temperature control/monitoring components. The furnaces will be designed and constructed in accordance with NFPA-86 (2007) Standards for Ovens and Furnaces, NFPA-79 (2007) Electrical Standard for Industrial Machinery, and NFPA-70 (2008) National Electric Code. The furnaces shall be double wall construction. The inner shell walls (pot) shall be constructed of 347 stainless steel. The outer steel walls shall be constructed of carbon steel and designed to support miscellaneous equipment mounted on top of the furnace such as 150 HP – 350 HP range molten salt pump, multiple immersion electric heaters, molten salt immersion air cooler and various instrumentation openings in the top of the furnace. The void between the inner shell and outer shell shall contain insulation. The approximate furnaces size shall range between 4,000 – 7,000 gal. The furnaces shall be capable of handling molten a salt mixture of 60% sodium nitrate and 40% potassium nitrate. The molten salt operating temperature will be a maximum of 1382°F and shall be capable of daily temperature swings between 572°F and 1200°F. The tops shall be flat and capable of supporting 16-20 openings of various sizes which will be flange connections to various pieces of equipment such as molten salt pumps, electric immersion heaters, immersion coolers and miscellaneous instrumentation.
<b>Mandatory Requirements*</b>	The system shall: The furnace manufacturer must show at least 15 years of experience in the design and manufacturing of furnaces for the molten salt industry at temperatures ranging from 800°F to 1200°F. The furnace manufacturer shall be capable of manufacturing the furnace vessel and immersion heaters including UL Listed electrical control panel. The furnace manufacturer shall also be capable of either manufacturing or acquiring additional equipment such as; the immersion cooler, molten salt circulating pump, temperature sensors and level controllers for a completed, fully functional packaged furnace including factory testing prior to final delivery to Sandia National Laboratories – Albuquerque, New Mexico. Some disassembly of equipment prior to shipping is acceptable; however, the manufacturer or manufacturer's representative shall be responsible for final field assembly.
DOE funding statement	"Sandia National Laboratories is a multi-program laboratory managed and operated by Sandia Corporation, a wholly owned subsidiary of Lockheed Martin Corporation, for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000."