

Rocket to Mars to be nuclear powered

Nuclear-electric rocket to power ship to Mars

Liquid hydrogen is flash-vaporised by pumping it through the core of a nuclear reactor

Fuel rods, made from two perforated pipes, are packed with small uranium pellets

Liquid hydrogen

Enriched uranium pellets

Nuclear-thermal rocket to leave earth orbit

Liquid hydrogen

Nuclear reactor

Fuel rods

Nozzle

Thrust from hydrogen gas is up to three times that of conventional fuel

Hydrogen gas

Chain reaction from uranium heats hydrogen to over 2,700°C but makes it slightly radioactive

Boosters lift rocket into low earth orbit