

DEFINITION:

A NUCLEAR WEAPON is a device in which the explosive energy is provided by the fusion or fission of atoms. The measuring unit for the produced is the kiloton (kt). One kiloton equals the power of 1,000 tons of TNT. The bomb dropped on Hiroshima was a 13-kt weapon.

The so-called "Reliable Replacement Warhead" to be developed at the Lawrence Livermore National Laboratory will be designed to have a flexible yield: it will either increase the yield of the existing W89 warhead (200 kt), or have a very low yield option to make it "easier" to use.



WHAT ARE NUCLEAR WEAPONS?



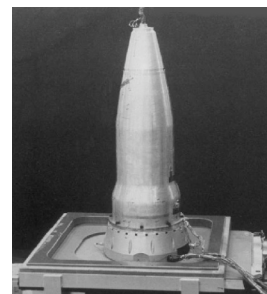
A-Bomb (fission): uses nuclear fission (the energy from the atoms splitting apart), using "heavy" atoms such as enriched uranium (235) and plutonium. The bomb dropped on Hiroshima was composed of uranium, the one dropped on Nagasaki of plutonium (picture above).

H-Bomb (fusion): called a "hydrogen" or "thermonuclear" bomb, uses nuclear fusion (the union of two atoms' nuclei into one "heavier" atom), with atoms of deuterium or lithium. In order to trigger an H-bomb, an A-bomb must be used as a detonator.

TOMORROW'S NUCLEAR WEAPONS:

Ready to go!

"Mini-nukes" and "bunker-busters": nuclear weapons miniaturized in order to be used on the battlefield. They are meant to penetrate and destroy targets buried deep underground.



The United States is developing a new warhead to replace the W89 (shown here).