

# 30 Years Of Lies, Myths Behind Nuclear Industry

Rational debate over the nation's continued use and possible expansion of nuclear power has degenerated since the near-disaster at the Three Mile Island generating plant in Pennsylvania into a silent standoff between those who recognize a need for non-fossil fuel sources, and those who fear a real catastrophe is imminent.

It is a situation in which President Carter and his energy advisers blithely ignore serious defects and inherent dangers in a nuclear deployment policy virtually unchanged in the past 30 years. It is a course backing an industry created with billions of dollars in public funds, sustaining a small cadre of private investors, and rarely taking the public interest into account.

Yet, the president is probably justified in his insistence on continued development of nuclear power. While errors have been made in the formation and expansion of the nuclear industry, no responsible administration could advocate the sudden elimination of an integral part of the nation's economic and energy system at a time when there are no readily available substitutes.

But the critics can neither be dismissed nor ignored. The nuclear industry has contributed to the deaths of hundreds

of American citizens during its unchallenged growth period and the potential for more deaths multiplies with the continued spread of uncontrollable nuclear wastes and the release of radiation from nuclear plants and industries.

While the critics of nuclear power have myopically ignored fiscal realities and energy needs, the fact remains that since the onset of the nuclear age at the end of World War II the nuclear establishment—military and civilian—has repeatedly lied about the benefits, dispersal, and safety of nuclear technology.

The near-disaster at Three Mile Island freed a host of long-suppressed official reports showing coverups of health analyses of soldiers and innocent civilians irradiated, diseased, and killed by nuclear fallout—accidental and deliberate—since 1950. Why believe the government now?

The latest episode involves the furor over the "discovery" and threatened "exposure" of the "secret" of the hydrogen bomb by an obscure northwestern magazine. In addition to securing a federal court injunction against the publication on the grounds of national security and initiating Congressional hearings on the possible danger to the U.S. from hostile Third World and Communist nations, the government is warning inquiring journalists they will be jailed for

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the peacetime equivalent of treason if they uncover and print the secrets.

To begin with, there is no such secret. The world's first hydrogen bomb was exploded by the Soviet Union on Aug. 8, 1953—nearly a year before the United States was able to do so. The Russians utilized formulae for a lithium hydride bomb contained in *The history of the Atom Bomb*, published by the Austrian physicist Hans Thirring in 1946.

Basically, it works this way: A core of uranium-235, plutonium-23 or a combination of the two is squeezed into supercritical density by a special purpose, chemical high explosive which surrounds the core and implodes it. Before detonation, the core is a ball of metal the size of a grapefruit. The implosion squeezes it down to the size of an apple.

A burst of neutrons starts a chain reaction in the supercritical core, resulting in a fission, or A-bomb type explosion. Before the bomb has a chance to fly apart, it generates temperatures in

excess of 100 million degrees Celsius, causing the fusion of tritium and deuterium into helium.

For convenient storage in the bomb, the tritium and deuterium are chemically bonded to other elements, such as lithium-6, but the high temperatures of uncontrolled fission sever all chemical bonds and leave individual atoms standing naked.

Fusion releases energy comparable to that of fission, but most of the fusion energy is carried off by high speed neutrons which can travel as much as half a mile through air, or several inches through solid material before giving up their energy. If the neutrons are not somehow captured and used, the result is a very mushy explosion and a great waste of neutrons. In the early days of nuclear power, such an explosion would have been called a fizzle: today it is called a neutron bomb. *Unless a designer intends to make a neutron bomb, the neutrons must be put to work in the bomb.*

One way to do this is through the "booster principle", in which the rapidly expanding, fissile core of the atomic bomb is bombarded to cause additional fissions. It is done by simply placing deuterium and tritium in the core, and boosts the fissile yield ten fold.

For weapons of more than 500 kilo-

tons (the Hiroshima bomb was about 17), the boosted fission weapon is used as a detonator to trigger a more complex superbomb, which is ignited by the escaping neutron.

The fusion-boosted trigger, or core, is surrounded by alternating layers of lithium-6 deuteride and uranium-238. Lithium-6 deuteride is a grey powder which can be pressed into pieces of ceramic material resembling porcelain salad bowls. The bowls fit one inside the other. Between each pair of ceramic salad bowls is a piece of uranium-238 sheet metal which has been cut and pressed into the shape of a stainless steel mixing bowl.

The concentric salad bowls and mixing bowls complement each other. The uranium mixing bowls absorb high energy fusion neutrons from the trigger and undergo fission, which does two things: it showers the lithium-6 deuteride 'salad bowls' with energy fission neutrons that convert the lithium-6 into tritium, and it generates the temperatures necessary to insure that fusion will take place between the tritium produced on the spot and the deuterium (which is the other half of lithium-6 deuteride).

In turn, the fusion of tritium and deuterium creates the high energy neutrons that are needed for the fission of uranium-238.

*The assets and deficiencies of the three superbomb ingredients complement each other in ways suggesting God intended from the beginning to tempt the human race with suicide when it became sufficiently technological to understand the nuclear process.*

While some may deem it irresponsible to tell the public the non-secret behind the hydrogen bomb, it must be emphasized that:

- There are only five places where one may obtain weaponsgrade uranium or plutonium: in the capitals of Washington, London, Paris, Moscow, and Peking.

- Idi Amin and others as demented can not have such a weapon built. Nor could the high school genius next door without some 20,000 to 30,000 trained technicians (including about 5,000 physicists), more than a million miles of piping, several hundred thousand tons of lead and concrete, and about \$5 billion.

It is time the nuclear industry became demythologized. Nuclear energy technology is complicated, dangerous, controllable, and, ultimately necessary. But one cannot begin to convince the skeptics until the existing supercilious and deceitful attitudes—and, perhaps, those espousing them—are replaced.

Until then, what can one do with a liar but throw out everything he represents.