

EDITORIAL

U.S. Fusion Power Breakthrough— But No Fusion Program!

by Paul Gallagher

Nov. 22—President John F. Kennedy was assassinated 58 years ago today. It is a national and human tragedy that since JFK was killed, the United States, in six decades, has not embarked on *any* scientific crash program to achieve *any* fundamentally new frontier of technology, beyond those already underway under his Presidency. Those were the human exploration of Earth-Moon space; the investigation of bio-medical properties of nuclear isotopes; the expansion of revolutionary TVA water control systems to new western dams with the intention to build the North American Water and Power Alliance “great project.”

The first of these three was allowed to atrophy; the last of the three was allowed to die with President Kennedy and its other movers, his brother Robert F. Kennedy and Sen. Frank Moss.

As Lyndon LaRouche and his movement have never stopped explaining, the next frontiers for crash programs are dominated by fusion power, super-hot plasma technologies for industry, and nuclear propulsion for space travel. We will never go beyond the Earth-Moon system without it. And developing the Earth-Moon system and then going beyond it, with nuclear and fusion propulsion for really rapid space travel, will be the “driver” for the scientific and technological breakthroughs of this century.

For years cynics have said, “Fusion power is always 30 years away.” No! *Any* fundamental technological

breakthrough has always been 30 years away, because we have had “leaders” who’d rather fight small wars and sleep on any real technological progress. The laser-industrial revolution promising in the 1970s already? Didn’t happen. Our Strategic Defense Initiative? Never got funded. Magnetic levitation rail corridors? Not here. You’ll find them in China. Computer controlled five-axle machine tools? Fast cargo systems between ports and rail? Didn’t try for them. Hypersonic vehicles? We slept on it for a decade or so. And now small, modular nuclear reactors are the latest technological breakthrough to stay always “10-20 years away.”

On behalf of a great deal of mankind, American and European leaders have been snoring the loud sleep of technological inertia for decades.

But it has been clear all along that the most important frontier for science, for higher education, for the capacities of the human species, is fusion energy.

Now the U.S. Congress has been told, on Nov. 17, that in August, Lawrence Livermore National Laboratory—almost as a secondary by-product to their military program—approached achievement of a “burning” or self-sustaining fusion plasma where the energy produced by the fusion process would exceed that required to ignite it.

Joel Dejean, an engineer, and a LaRouche Independent candidate for Congress in Houston,

commented on the hearing:

What happened in August is that they achieved, with an input energy of 1.9 megajoules ... the output energy from the fusion that occurred was 1.3 megajoules, or 70% of breakeven. And during the time when the tablet was contained by its inertia, and when the fusion was occurring between the deuterium and tritium, which are isotopes of hydrogen, that experiment generated over 10 quadrillion watts of power, in that few hundredths of a nanosecond. Now, this is a significant breakthrough, and they're proceeding with upgrades in the experiments, to actually get to breakeven, where you get more power out than you put into the experiment.

But as Dr. Tammy Ma, a plasma physicist at Lawrence Livermore's National Ignition Facility, made clear in her testimony before the House Energy Subcommittee hearing, the near-achievement of laser fusion breakeven came in the course of its ongoing scientific research into the performance of nuclear warheads. She explained that the Livermore National Lab has *no* development program for inertial

confinement fusion energy, the technology where the breakthrough was seen!

Other individuals familiar with the Lab think that the scientific work itself might soon have been shut down, had it not made this surprising leap forward in fusion research—a wake-up call, an opportunity to be seized.

In fact, the entire nation has no fusion program with serious national funds, 41 years after Congress claimed it was going to fund such a breakthrough-oriented program in the Magnetic Fusion Energy Engineering [Act](#) of 1980.

More young students are getting motivated to work on fusion energy. But they have to look to small private companies, with proprietary funding, whose work is so proprietary it's almost classified, although there appear to be some breakthroughs being achieved there as well.

This must be reversed. Wake up, fusion can be achieved! Our scientific understanding of the basic energetic process of the universe can be revolutionized through the combination of crash programs for fusion and NASA's Moon-Mars mission. Lyndon LaRouche put down this urgent revolution as one of his "four economic laws to save the nation" in a 2014 [policy paper](#). And that is what it must be.