

To: The Next President

From: Senator Evan Bayh

Re: Creating a Nuclear-Fuel Bank

The 21st century has ushered in unprecedented demand for energy around the world. Given the rapid rates of growth in such developing countries as China and India, prices for traditional sources of energy are likely to remain high. Supplies of oil, gas, and coal are finite, so countries increasingly are looking elsewhere for affordable and clean sources of energy. Nuclear energy, which generates tremendous power with no greenhouse-gas emissions, is an obvious place to look.

But there's a catch: As nuclear generating plants sprout up around the world over the coming decades, many new states will get their hands on nuclear technology and materials. This will exponentially raise the risk of fissile or bomb-making material being acquired by rogue nations or terrorist groups. As a member of the Senate Intelligence Committee, I know all too well that terrorist networks continue to pursue the acquisition of a nuclear weapon and would not hesitate to use it.



We can ill afford to allow rising demand for nuclear energy to become a pretext for rogue nations seeking to acquire a nuclear military capability. Yet that is precisely what is happening right now in Iran. And if that nation succeeds in defying the international community's legitimate demands that it desist from developing nuclear capacities, other countries will follow suit.

That's why I urge you, Mr. President, to put nuclear nonproliferation at the top of your energy-security agenda. I believe the threshold question is this: How do we respond to valid and growing demands for civilian nuclear energy worldwide without permitting more countries to acquire nuclear weapons?

The answer, in my view, is to set up an international nuclear-fuel bank that would supply fuel to any country that agrees not to develop its own enriching and reprocessing facilities.

The fuel bank works like this: Developing nations seeking civilian nuclear power for peaceful purposes are given access to a reliable and affordable supply of nuclear fuel. In return, they must agree to forgo enriching uranium themselves. They must also submit to rigorous inspections of their civilian reactors to guard against North Korean and Iranian-style cheating.

This approach makes both economic and national-security sense. We have learned a lot about the economics of nuclear power since the Treaty on the Nonproliferation of Nuclear Weapons (often referred to as the Nonproliferation Treaty, or NPT) was negotiated more than three decades ago. For starters, there is an enormous surplus of uranium in existing enrichment facilities worldwide. Due to bigger economies of scale, it is now much cheaper for countries lacking enrichment capacity to purchase fuel

from a central repository than to mine, enrich, and reprocess it themselves.

Even a small enrichment facility would cost at least \$1 billion to build and more than \$100 million to operate each year. But an international nuclear-fuel bank could supply the same amount of fuel at market prices for roughly \$15 million a year.¹

An international nuclear-fuel bank would thus provide affordable fuel to countries genuinely interested in pursuing civilian nuclear power. It would allow countries to draw fuel for use in their own civilian nuclear reactors and then return the spent fuel for safe reprocessing under the oversight of the International Atomic Energy Agency (IAEA).

By removing incentives for developing countries to create their own fissile materials, we would reduce the prospect of nuclear weapons falling into the hands of the world's most dangerous regimes.

Such a bank would help to close what many regard as a dangerous loophole in the NPT. The treaty has been widely interpreted to allow non-nuclear weapons states to develop uranium enrichment and spent-fuel reprocessing facilities if their use is intended exclusively for civilian nuclear energy.

The problem, according to leading defense experts Ashton Carter and Stephen LaMontagne, is that "enrichment and reprocessing facilities allow states to cross into a proliferation 'red zone,' putting them dangerously close to a nuclear weapons capacity."²

The loophole in question lies in the NPT's Article IV, which recognizes the "inalienable right of all Parties to the Treaty to develop research, production, and use of nuclear energy for peaceful purposes." Iran claims to be exercising this "inalienable right" today

as it enriches uranium for what it says are strictly civilian uses.

We should not forget, however, that North Korea used precisely the same tactic to realize its nuclear ambitions, and we are perilously close to seeing history repeat itself—this time with an oil-rich nation that is deeply hostile to the United States and actively supporting international terrorist groups.

Once this genie gets out of the bottle, there is no putting it back. At a minimum, allowing Iran to obtain a nuclear warhead would be a regionally destabilizing event certain to spark a Middle East arms race. At worst, it would be a global security catastrophe in which Tehran obtains the means to blackmail its European neighbors and threaten Israel's destruction.

As Carter and LaMontagne point out, the NPT is clear that the right it confers to peaceful atomic power can only be exercised in conformity with the nonproliferation obligations that Iran and other nuclear aspirants assumed when they signed it. They add:

“The solution to the red zone problem is to provide states with a multinational alternative to an indigenous nuclear fuel cycle. This will involve creating a multinational supply regime to provide enrichment and spent fuel removal services to states that abstain from domestic enrichment and reprocessing, submit to strict safeguards (such as those stipulated IAEA Additional Protocol), and reaffirm their intention not to pursue nuclear weapons.”³

Last year, I co-authored legislation with Sen. Richard Lugar (R-Ind.) that would create exactly this kind of “multinational supply regime.” Recently, several provisions of that

legislation were signed into law. The centerpiece of our approach was the first major federal investment in the creation of an international civilian nuclear-fuel bank.

The establishment of a fuel bank would cut short the debate over nuclear-technology development rights. Every nation would have access to civilian nuclear power so long as they are willing to abide by conditions that protect global security. Countries that refuse fuel-bank services would come under immediate suspicion about their weapons intentions.

Iran contends that it is pursuing a civilian nuclear program to reduce domestic oil consumption and sell its excess oil on the global market. If this claim is true, then surely Iran would leap at the opportunity for a more affordable supply of nuclear fuel. After all, fuel-bank services would provide it with a faster and cheaper path toward achieving its stated objective of a purely civilian nuclear program.

Of course, if Tehran's pursuit of civilian nuclear power is a disingenuous ruse, as I strongly suspect, then its true ambitions will be revealed. This evidence will make it easier to rally world opinion for more aggressive international action against Iran before it's too late.

Last winter, the Senate appropriated \$50 million for the Department of Energy to implement the fuel-bank concept. Mr. President, your administration's challenge will be to encourage the other major nuclear powers to join an international consortium that would guarantee the fuel bank has adequate supplies as well as the ability to reprocess and store waste.

These points are crucial. Without credible assurances of an uninterrupted and affordable supply of fuel, it will be difficult to per-

suaude potential customers that they should not develop domestic enrichment and re-processing programs.

In addition, as the controversy over the Yucca Mountain repository has made clear to Americans, it is exceedingly difficult to forge an environmental and political consensus around ways to safely reprocess and store spent fuel. Storage is also hugely expensive. Under the fuel-bank idea, customers would pay a small surcharge to get rid of their wastes.

We must also strengthen the IAEA safeguards system. The labs that examine nuclear samples collected by the international inspectors are horribly outdated. Their scientists are using 1970s equipment amid dangerous working conditions. I was shocked to learn that IAEA personnel are actually limited in the time they can spend analyzing evidence in the nuclear area of the labs, due to a dilapidated air-purification system.

We must make critical investments to see that these facilities are improved. As more countries expand their nuclear-power infrastructure, the IAEA will be responsible for inspecting a growing number of samples. It needs first-rate facilities and modern equipment to carry out this critical work. If the cop on the beat does not have the tools to

patrol the streets, then no one in the neighborhood will be safe.

Finally, there is another important step your administration can take to shore up the world's rickety nonproliferation framework: Demonstrate to all that the United States intends to hold up its end of the nuclear bargain. Under the original NPT arrangement, non-nuclear states agreed to forgo nuclear weapons in exchange for a commitment by the nuclear "haves" to move toward disarmament. Instead, as the Cold War intensified, the superpowers dramatically built up their nuclear arsenals. Eventually, under Presidents Ronald Reagan and George H.W. Bush, the United States and U.S.S.R. struck deals to reduce their nuclear stockpiles.

In this decade, President George W. Bush actually moved in the opposite direction, rejecting the Comprehensive Test Ban Treaty (CTBT). Until the United States works to pass the CTBT, we will be hindered in our ability to lead by example on this critical national-security issue.

Too often in Washington, we wait for crises to develop before taking action. Mr. President, America must not make the mistake of embracing a reactive posture on this issue. When it comes to preventing the spread of nuclear weapons, the consequences of inaction are costs we can ill afford to pay.

Endnotes

1. Ashton Carter and Stephen LaMontagne, "Containing the Nuclear Red Zone Threat," *The American Interest*, Spring 2006.
2. *Ibid.*
3. *Ibid.*

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