"Another Approach to Reducing Access to Weapons-Grade Nuclear Stockpiles"

Remarks by
Phil Sewell, Senior Vice President, USEC Inc.

10th Annual International Nuclear Materials Policy Forum
Alexandria, Virginia

December 15, 2004

I'm glad to be here and appreciate the opportunity to be part of this important session.

Every week we see news reports about nuclear proliferation issues and the possibility of bomb-grade material, or nuclear weapons themselves, getting into the hands of terrorists.

This past weekend, CNN Presents broadcast a one-hour special titled "Nuclear Terror—our worst nightmare."

It was a grim examination of these issues. Most of the authorities interviewed seemed to agree with the premise presented by one nonproliferation expert. He concluded that a nuclear device will be detonated in a major U.S. city, such as New York or Washington, or a port, such as Los Angeles—it's only a matter of time.

Given what's happening, it's clear to everyone in this field that the existing nuclear nonproliferation regime does not fully address current problems.

There is no shortage of ideas to remedy the situation and several new approaches are being articulated and discussed in this session and others.

One alternative approach for restructuring the international nonproliferation regime has been presented by the Carnegie Endowment for International Peace. Their draft report, called "Universal Compliance," is far reaching and creative. And as you would expect, it has become a magnet for both positive and negative comments.

Carnegie is to be congratulated for seeking input on this draft report, and for being constructive about the "friendly fire" they have taken from allies in the field.

The nuclear industry reacted strongly to several components in the first draft. We found them to be impractical and incompatible with the growing use of commercial nuclear power—which now produces 16 percent of the world's electricity and 20 percent of U.S. electric power.

Fixing things should not begin with breaking things that are not broken. To be specific, there are no proliferation problems with the existing global uranium enrichment industry. The real weapons proliferation concerns are presented by those who are determined to build and operate new enrichment or reprocessing facilities—and who clearly or potentially have nuclear weapons agendas in mind for that equipment.

Perhaps I am the minority, but I don't believe you should re-invent the existing industry in order to set a good example for those with less reliable and perhaps ill-conceived intentions.

Recognizing the challenges, USEC has taken the initiative to work with the IAEA on these matters. On a number of occasions we met with the IAEA to seek a cooperative approach with the nuclear industry, rather than forcing a one-size-fits-all approach.

We advanced the premise that the global nuclear industry could provide three valuable services to aid in controlling the proliferation of nuclear weapons technology. First, providing fuel supply guarantees, second, offering highly competitive pricing and third, cooperation in exploring a guarantor role for governments and the IAEA.

Three buzzword solution concepts are making the rounds of government and nonproliferation NGOs—internationalization, multinationalization and multilateralization. Frankly, they have too many syllables to be practical. And we can and will spend years coming to agreement on what they mean and then how to make them functional.

Three powerful "shorter" words, rigorously applied, can quickly address the core problems—they are safeguards, strength and sanctions.

We need to overhaul, broaden and increase the safeguards and resources of the Nuclear Suppliers Group and the NPT safeguards regime, strengthen the IAEA and other nonproliferation government activities and finally, develop meaningful sanctions that are credible and will work.

According to the experts, there is little time left for debate. 2005 will be a defining year in all of these matters.

The Isaiah Project

USEC has advanced a new and different concept—one that is intended to add to, not replace, other proposals to restructure the international nonproliferation regime. It is concerned with eliminating the most dangerous fissile materials. It is called "The Isaiah Project."

Briefly put, the Isaiah Project would be a partnership of government and the private sector to accelerate the construction of new nuclear power plants, fueled entirely or partially by fuel derived from highly enriched uranium (HEU).

The Isaiah Project would build upon the solid, demonstrated success of the Russian HEU Purchase Agreement, better known as Megatons to Megawatts.

Megatons to Megawatts is the 20-year program by the U.S. and Russian governments to turn 500 metric tons of Russian nuclear warhead material into fuel to produce electricity. Eliminating 500 metric tons of bomb-grade material is the equivalent of eliminating 20 thousand nuclear warheads.

We began commercial implementation of the program in 1994. To date, working with our Russian partner TENEX, we have eliminated 225 metric tons of Russian HEU. That's enough HEU to make 9,000 nuclear warheads—and all of this has been accomplished at no cost to the U.S. government or U.S. taxpayers.

The important word here is "eliminated," because that is immeasurably safer and more cost-effective than safeguarding it.

We eliminate the HEU by recycling it into power plant fuel purchased by USEC for use in commercial power plants—Today about 10 percent of America's electricity is generated using that warhead-derived fuel. Right now it is providing the lighting for this nonproliferation conference.

Later today, another discussion about Megatons to Megawatts will be presented by my friend and associate Michael Aboimov of TENEX, our Russian partner in implementing the program.

So, we can see that turning HEU warhead material into fuel works. We can see that it can be done commercially. We can see that it is an effective tool in nonproliferation efforts.

The Isaiah Project would take these efforts a notch higher by eliminating HEU in the new generation of U.S. commercial power reactors that are being actively studied.

Many people ask, "why not blend down more HEU and introduce it into the market right now?" The answer is pretty simple.

The introduction of substantial amounts of new fuel into the market, without increased demand, could put severe downward pressure on the enrichment market—resulting in unintended consequences.

First, it could undermine the Megatons to Megawatts program, which is financially sustained by stable market prices.

Second, it would dry up the investment needed for new billion-dollar enrichment facilities. These new, highly efficient production facilities will be <u>essential</u> to ensure continuing supplies of competitive fuel for both the "current" and the "new" generation of reactors.

The construction of a new generation of commercial nuclear power plants will obviously increase the <u>demand</u> for nuclear fuel. This increased fuel demand could provide a cost effective way of <u>increasing</u> the amount of nuclear bomb-grade material that could be eliminated by using it as down-blended fuel in these new commercial reactors.

U.S. government support for the Isaiah Project will help secure a commitment by the private sector to build one or more new generating nuclear power stations. This support could be

achieved directly by a number of incentives—primarily by the government providing excess stockpile HEU to be blended down for use as fuel in an Isaiah reactor or reactors.

Some rough calculations for a 1,000 MW power reactor suggest that :

- The initial core for an Isaiah reactor could use LEU derived from three metric tons of highly enriched uranium.
- That would facilitate the elimination of 100 nuclear warheads just from the first fuel core loading.
- Each refueling would contain LEU from about 25 additional warheads.
- And over a projected lifetime for the Isaiah reactor, about 2,000 nuclear warheads could be eliminated.

Could an Isaiah power reactor attract the necessary U.S. government support? I believe the answer is yes. A convincing case can be made that this is in the national interest, given three distinct advantages.

First, it would enhance domestic energy security. Second, building more emission-free nuclear power plants can help mitigate global warming. And third, Isaiah nuclear reactors could provide enhanced global security by eliminating nuclear weapons material. That's a triple success.

And there could be another dividend. U.S. action to build Isaiah reactors could stimulate other nuclear weapons states to institute their own Isaiah reactor program to achieve the same results for their own national interest.

Let's also think long-term. Forecasts for significant growth in electric power demand in the near future clearly indicate the need to construct many more power plants to meet that demand. We expect nuclear power will be part of that construction.

The Isaiah approach could help to stimulate industry to build one, five, ten, or any number of power reactors. And a portion of the fuel for those reactors would come from nuclear

weapons material. The increased demand for nuclear fuel could accommodate the recycling of more weapons-grade nuclear warhead material.

The addition of thousands of megawatts of electricity being generated by eliminating thousands of nuclear warheads is a vision that can become a reality.

We propose that an Isaiah Project partnership of government and the private sector be vigorously pursued. We are actively exploring methods to advance the concept ourselves. We are serious about this. We are committed to advance this effort.

The Isaiah Project would also benefit from support by members of the nonproliferation community. It is a practical and proven approach. It can permanently eliminate substantial amounts of HEU. It will help alleviate global warming and will promote domestic energy security. We believe this is a shared goal and we welcome your support for the Isaiah Project.

While complete elimination of nuclear warhead HEU may be a dream, why be stuck with the current nightmare? They say a journey of a thousand miles begins with a single step. To date, we have taken 9,000 steps to make the world safer, and the Isaiah reactors could make this journey even more meaningful.

Isaiah reactors can provide a new avenue for weapons nonproliferation efforts and provide abundant, affordable, reliable and sustainable electric power. And based on extensive research, the public would strongly support such efforts.

And finally, to paraphrase Isaiah himself, let's get on with beating more bombs into fuel rods.

This is a proposal worth considering and supporting.

Thank you.