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GNEP Watch: Developments in the Global Nuclear Energy Partnership

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GNEP Wins More Support Abroad than at Home

A monthly report prepared by Miles Pomper in Washington DC for the CIGI Nuclear Futures Project

The US-led Global Nuclear Energy Partnership (GNEP) appears to be winning more support abroad than at home. But that support may be coming at the cost of undermining one of the program's stated rationales.

The Bush administration launched GNEP in February 2006 and claims that the initiative—which seeks to both develop new nuclear technologies and new international arrangements—will both reduce nuclear waste and decrease the risk that an anticipated growth in the use of nuclear energy worldwide could spur nuclear proliferation. It was seen as a practical means of reinforcing President George W. Bush's February 2004 call to halt the spread of uranium enrichment and spent fuel reprocessing facilities to new countries. Such facilities can provide fuel for nuclear power or fissile material for nuclear weapons.

The effort has been gaining new adherents abroad. Ministers from the initial members of the partnership—China, France, Japan, Russia, and the United States—met 16 September in Vienna for their second high-level meeting. They were joined by representatives from 11 other countries which signed the partnership's non-binding statement of principles that day. The new partnership states are Australia, Bulgaria, Ghana, Hungary, Jordan, Kazakhstan, Lithuania, Poland, Romania, Slovenia and Ukraine. The ministers also established two lower-level working groups for implementing the partnership. In addition, the United States has also recently moved forward with Russia and South Korea on bilateral initiatives related to GNEP.

Still, the partnership has not won support from some key countries in the nuclear industry. Canada was one of 22 countries that chose only to send observers to the meeting, amid a divisive domestic debate over whether membership in the group would require Ottawa to accept spent fuel made from Canadian uranium. Two other key US allies, Germany and the United Kingdom, have not signed onto GNEP.

Left unclear, moreover, is whether GNEP's growth will come at the cost of loosening the program's initial nonproliferation standards. The statement of principles signed by the members says that participating states "would not give up any rights," implicitly referring to rights to peaceful cooperation under the 1968 Nuclear Nonproliferation Treaty. Many states say these include the right of all countries to have enrichment and reprocessing capabilities.

In Washington, the US Congress is poised to slash the administration's funding request for GNEP for the coming fiscal year, which began 1 October 2007, and lawmakers are raising fundamental questions about the program's direction. Moreover, a key National Academy of Sciences (NAS) report—anticipated in mid-October—is expected to raise further questions. In response, the administration appears to be shifting course on several key program elements. Uncertainty over the program's future direction threatens to slow licensing of appropriate facilities beyond the administration's previously planned time-frame and to postpone essential decisions until after next year's US presidential elections.

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Canadian Concerns

Several weeks prior to the 16 September meeting, word leaked to the press of the impending gathering and the fact that the founding partners had invited several other countries to be candidates for the partnership. But as the days ticked away, Canadian Prime Minister Stephen Harper's government did not make clear its intentions and virtually at the last moment decided to just send an observer.

Harper told reporters that he wanted to ensure that the country's uranium and nuclear industries "are not left out of any of the international opportunities that other countries may take advantage of" and that any international agreement "fully respects the non-proliferation agreements ...and objectives that Canada and other major countries have long subscribed to."

But some Canadian environmentalists and opposition politicians decried the possibility of membership in the group. Liberal leader Stéphane Dion warned that Canada could become a 'global nuclear waste garbage dump' if it signed onto GNEP, and called for a debate in Parliament before the government committed to joining the group.

To Enrich or Not to Enrich?

Countries seemed to react differently to the new language in the statement of principles. Australia, which has the world's largest reserves of uranium, has indicated its interest in developing enrichment facilities and signed up to the partnership. South Africa, however, announced 18 September that it would not participate in GNEP, saying that despite the new language in the statement of principles it feared that the partnership's push to renounce fuel capabilities would dash its hopes of enriching its own fuel for its nuclear reactors from domestically mined uranium. South Africa had previously developed an enrichment capability as part of its nuclear weapons program, but shuttered it when the weapons program ended in 1994.

"We were concerned that some aspects of the GNEP declaration would conflict with our national policy," Buyelwa Sonjica, the country's Minerals and Energy minister told reporters in Vienna on 18 September. "It is a sovereignty issue, to deal with our own nuclear fuel reserves and fuel supply," Tseliso Maqubela, the ministry's nuclear program director told Reuters on the same day.

16 September 2007 Meeting

At the 16 September meeting, the countries established working groups to look into two areas: nuclear-related infrastructure development, particularly in developing countries and new arrangements for nuclear fuel services, such as fuel leasing and services for spent fuel management. US officials say that a particular thrust of the infrastructure effort would be to make it easier for developing countries to use nuclear energy.

Dennis Spurgeon, Assistant Secretary for Nuclear Energy in the Department of Energy, said in a 6 September speech to the World Nuclear Association that "GNEP will facilitate the development, demonstration, and deployment of grid-appropriate reactors that will include numerous features such as: fuel designs that could last the entire life of the reactor, effective and inexpensive safeguard techniques, standardized modular designs, and fully passive safety systems." He also said that one GNEP objective would be "safeguarding by design, the explicit inclusion of safeguards features from the beginning of new nuclear facility design and construction."

About GNEP Watch

GNEP Watch reports on current developments in the Global Nuclear Energy Partnership (GNEP). GNEP is a US government-led international initiative aimed at encouraging the expansion of domestic and international nuclear energy production while working toward the reduction of proliferation and environmental risks.

CIGI Nuclear Energy Futures Project

The Nuclear Energy Futures project investigates the implications of the purported nuclear energy revival for nuclear safety, security and nonproliferation over the coming two decades and will propose recommendations for consideration by the international community, particularly in the area of global governance.

US-South Korea Agreement

In August 2007, the United States and South Korea agreed to cooperate on the development of "Generation IV" nuclear reactors and new reprocessing technologies aimed at supporting worldwide growth in the use of nuclear energy with improved safety and nonproliferation features. The United States is also working closely with France, Japan, South Africa and the United Kingdom on research and development in these technologies.

In particular, this effort, tied to GNEP, seeks to create fast reactors that would burn a new type of nuclear fuel that would combine plutonium and other transuranic elements and to develop recycling facilities to produce this material from spent nuclear fuel. The intention is to produce the fuel without separating pure plutonium, which can be used as fissile material in nuclear weapons.

The specific designs subject to the US-South Korean agreement involve a sodium-cooled fast reactor with improved safety features as well as pyroprocessing facilities intended to limit the purity of separated plutonium. Interesting enough, however, it is not clear what fuel South Korea will use for pyroprocessing. To date, the United States has blocked South Korea's ability to reprocess spent US-origin fuel for fear of fueling a South Korean nuclear weapons program. South Korea's experiments have used natural uranium. South Korea is believed to have had a nuclear weapons program in the 1970s and later conducted experiments in violation of its safeguards agreement with the IAEA.

US-Russia Agreement

The United States and Russia are also moving forward with a nuclear cooperation agreement which could enhance the ability of the two countries to cooperate under GNEP. At a July 2007 summit, Bush and President Vladimir V. Putin initialed a "123" agreement, named for the relevant section of the US Atomic Energy Act. Russian officials have said such an agreement is needed to facilitate the two countries working together on issues such as spent fuel reprocessing.

Earlier this decade, Russian officials had sought such an agreement because it would be required before Russia could import US-origin spent fuel from countries such as Taiwan, South Korea, and Switzerland, which have been eager to pay Russia for taking this material off their hands. While Russia has publicly toned down its support for such a measure recently amid rising prosperity and criticism from environmentalists, energy ministry officials privately say it remains a long-term option. It would also jibe with GNEP's intention to create a system of nuclear "fuel leasing," where GNEP countries would supply nuclear fuel (including enriched uranium) to the world market and would also develop spent fuel reprocessing and burning facilities to minimize and reuse spent nuclear fuel.

A senior Russian nuclear official later said that the two countries hope to sign the agreement by the end of the year. Once signed, the measure would likely win legislative approval in both countries, although concern over Russia's nuclear cooperation with Iran could prove an obstacle in the US Congress.

Problems in Washington

Congress is also proving a more direct obstacle to the Bush administration's hopes for GNEP. Both the House of Representatives and a Senate committee have slashed funding for the program and hampered the administration goal of advancing it beyond the research and development stage.

The administration had requested US$395 million for the Advanced Fuel Cycle Initiative which underpins the GNEP program. But the House would only provide US$120 million in its version of spending legislation for fiscal year 2008, which began on 1 October 2007, while the Senate would provide US$242 million.

The House has been particularly critical of the program. In its June report, the House Appropriations Committee said it "does not support the Department's rushed, poorly defined, expansive, and expensive Global Nuclear Energy Partnership (GNEP) proposal, particularly the administration's intention to move quickly to commercial-scale reprocessing facilities." Both it and the Senate bill called for the administration to focus instead on research, a goal likely to be echoed in the upcoming NAS report. The House panel also said that the nonproliferation aspects of GNEP are "unpersuasive and largely contradictory."

The back-and-forth between the administration and Capitol Hill means that neither the administration nor Congress has yet to settle on the scale of a potential reprocessing facility nor exactly what kind of reprocessing technology it should use, possibly delaying a resolution of the issue until the next administration. The United States could move fairly quickly to deploy

off-the-shelf technologies, but these would make it easier to divert spent nuclear fuel to weapons. By contrast, Energy Department officials acknowledge that potentially more proliferation-resistant technologies are not yet ready for use.

In order to gather more information on potential options, the Energy Department in August 2007 commissioned studies from four industry teams on GNEP: Areva Federal Services, EnergySolutions, GE-Hitachi Nuclear America, and General Atomics.

For more information on CIGI's
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