

NUCLEAR ENERGY FUTURES

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GNEP Watch: Developments in the Global Nuclear Energy Partnership

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

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GNEP Membership May Double, but Domestic Future in Doubt

International membership in US President George W. Bush's Global Nuclear Energy Partnership (GNEP) may more than double later this year. Yet, GNEP has been so pilloried at home by the Democratic-controlled US Congress, non-proliferation groups, and outside experts that it is increasingly unclear whether it will survive Bush's presidency. In the end, its fate may be settled by the outcome of this year's US presidential elections.

Bush administration officials have claimed that GNEP, which seeks to develop new nuclear technologies and new international nuclear fuel arrangements, will cut nuclear waste and decrease the risk that an anticipated growth in the use of nuclear energy worldwide could spur nuclear weapons proliferation. Critics assert that the administration's course would exacerbate the proliferation risks posed by the spread of spent fuel reprocessing technology, be prohibitively expensive, and fail to significantly ease waste disposal challenges without any certainty that the claimed technologies will ever be developed.

Current reprocessing technologies yield pure or nearly pure plutonium that can be used in fuel for nuclear reactors or to provide fissile material for nuclear weapons. GNEP proposes eventually to build reprocessing facilities able to produce a product that would retain other elements from the spent fuel along with the plutonium, making it

less attractive for weapons production than pure plutonium. But critics note that this fuel would be much less proliferation-resistant than when the spent fuel is left intact and not reprocessed. They also point out that GNEP's near-term plans include more proliferation-prone technologies.

Big Push for New Members

Indeed, even as the Bush administration winds down, it has been seeking to further expand GNEP. On July 15, 2008, a senior administration official said that invitations are being extended to as many as 25 more countries to join GNEP by signing the partnership's statement of principles at a ministerial meeting in October 2008. If they all accept, the number of countries actively participating in the partnership would more than double. GNEP has 21 members today (See GNEP Watch, No. 5). These new members could be further supplemented if any of the 17 other countries, such as Germany, Egypt, Sweden, and South Africa that had previously been invited to join the partnership, but until now have chosen to remain as observers, opted to sign the statement of principles.

The GNEP invitations are tied to an evolving US strategy of trying to work with other nuclear supplier states to provide incentives to states that do not currently have their own uranium enrichment and spent fuel reprocessing facilities, in return for an understanding that the states will not build those sensitive facilities. Although the GNEP

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GNEP Partners and Observers

GNEP Partners	GNEP Observers	Candidate Partner and Observer Countries
<ul style="list-style-type: none"> • Australia • Bulgaria • Canada • China • France • Ghana • Hungary • Italy • Japan • Jordan • Kazakhstan • Lithuania • Poland • Republic of Korea • Romania • Russia • Senegal • Ukraine • United Kingdom • United States 	<ul style="list-style-type: none"> • The International Atomic Energy Agency (IAEA) • Generation IV International Forum (GIF) • Euratom 	<ul style="list-style-type: none"> • Argentina • Belgium • Brazil • Czech Republic • Egypt • Finland • Germany • Libya • Mexico • Morocco • Netherlands • Slovakia • South Africa • Spain • Sweden • Switzerland • Turkey

Statement of Principles (GNEP, 2008) does not require countries to give up their rights to acquire enrichment or reprocessing plants, memoranda of understanding along these lines have been signed between the United States and several Arab countries, including the United Arab Emirates and Saudi Arabia (US Department of State, 2008). Other elements include support for physical and human infrastructure development, such as training programs for nuclear personnel and regulators; new financing from international development banks; and the development of smaller “grid-appropriate” reactors better suited for the electric grids of developing countries.

This approach was generally backed by President Bush and then-Russian President Vladimir Putin a year ago (White House, 2007), but only recently have the United

States and its GNEP partners been seeking to outline more specific proposals (United States, 2008). For example, the second meeting of a GNEP working group on infrastructure development, held in Vienna, Austria on July 8-9, 2008, agreed several partnership efforts aimed at ensuring that enough capable workers are available for the anticipated global nuclear expansion (GNEP, 2008).

Criticism at Home

Despite its reception abroad, GNEP has been sharply criticized at home by independent evaluators such as the National Research Council and nonproliferation groups. The US Congress has largely sided with the critics and last year sharply cut the administration’s proposed budget for the program and restricted it to research (GNEP Watch, No. 3). Capitol Hill appears to be on a similar course this year.

On June 25, 2008, the Appropriations Committee of the House of Representatives cut specific funds for GNEP and approved only US\$120 million for the Advanced Fuel Cycle Initiative (AFCI), which funds reprocessing research integral to the program. In February 2008, the administration had requested US\$302 million for AFCI (See GNEP Watch, No. 8).

In marking up its version of the legislation on July 10, 2008, the Senate Appropriations Committee approved US\$230 million for AFCI and called for making the development and qualification of recycled fuel a priority and for a “balanced portfolio” of reprocessing R&D that could be utilized for both fast and current thermal reactors. It did not approve any funds for the grid-appropriate reactors.

The bills now must be approved by the full House and Senate and reconciled in a House-Senate conference committee before being sent to the president for signature. Lawmakers have previously expressed skepticism about

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. Chaired by CIGI Distinguished Fellow Louise Fréchette, the project is a partnership between CIGI and the Canadian Centre for Treaty Compliance (CCTC) at the Norman Paterson School of International Affairs, Carleton University, Ottawa. The project is directed by CIGI Senior Fellow and CCTC Director Trevor Findlay. For more information on CIGI’s Nuclear Energy Futures Project visit: www.cigionline.org/cigi/Research/globalse/nuclear

GNEP's nonproliferation benefits in considering pending authorization bills (see GNEP Watch, No. 7). (Authorization bills establish a policy framework and funding ceilings for programs, while appropriations bills dictate the actual funds that Congress spends on programs.)

However, it is not clear if Congress will approve the authorization bills or the spending measures before adjourning in a few months.

In particular, Senate Democratic Leader Harry Reid of Nevada has said several times that it is unlikely Congress will pass any fiscal 2009 spending bills this year beyond those for the defence budget and that, instead, Congress will approve a continuing resolution to fund the government at current levels until a new administration takes over. Democrats not only hope to win the White House but believe that they will have stronger majorities in both chambers after the November elections.

GNEP and the US Presidential Campaign

The congressional debate over GNEP comes as broader nuclear energy issues have taken on increased salience in the US presidential campaign. Soaring prices of fossil fuels and rising concerns over global climate change have given a boost to nuclear energy, a low-carbon source of electricity. And the US Department of Energy (DOE) has come under increasing fire from US nuclear operators for its failure to take spent fuel off their hands, while charging them a 0.1 cent per kilowatt/hour user fee for just that purpose.

Both presumptive presidential nominees are vying to win Nevada, a crucial swing state where state politicians, particularly Senator Reid, have long stymied federal efforts to place spent US nuclear fuel in a planned permanent repository at Yucca Mountain.

GNEP's supporters have promoted GNEP as a potential solution to this dilemma. They claim that if it is successful, including in its promotion of fast-neutron reactors to fission plutonium and other long-lived transuranic elements, the products of this reprocessing technology would use far less permanent repository space than the current once-through fuel cycle, since the transuranic elements generate most of the radioactive heat during the first 2000 years after emplacement. They concede, however, that such an outcome would only be possible after decades of research, development, and deployment of a new generation of more costly fast-neutron reactors and would require the construction of additional storage facilities to store shorter-lived fission products for hundreds of years.

Nuclear energy has emerged as an important plank in Republican presidential candidate Senator John McCain's energy strategy. He has pledged that if elected he will "set this nation on a course to building 45 new reactors by the year 2030, with the ultimate goal of 100 new plants to power the homes and factories and cities of America." He has also supported spent fuel reprocessing (see GNEP Watch, No. 7).

Like Senator McCain, Democratic presidential candidate Senator Barack Obama has not offered specific views on GNEP in the campaign. But he has made clear his view generally on nuclear power. While not opposed in principle to an expansion of nuclear power, Senator Obama claims he would not support expansion until concerns about spent fuel storage, nuclear security, public information, and nonproliferation are sufficiently addressed. He used a June 24 speech in Nevada to try and score points with local residents and slammed Senator McCain on the nuclear waste issue.

"He wants to build 45 new nuclear reactors when they don't have a plan to store the waste anywhere besides right here," he said (Obama, 2008).

Similarly, responding to a question in Jacksonville, Florida on June 20, Senator Obama said, "I think that nuclear power should be in the mix when it comes to energy." But he added, "I don't think it's our optimal energy source because we haven't figured out how to store the waste safely or recycle the waste" (Reuters, 2008).

He has said that he favors accelerating federal research and development efforts to explore whether nuclear waste can be stored safely for reuse.

Senator Obama's energy plan indicates that while such research efforts continue, he favors interim storage solutions rather than the near-term and less proliferation-resistant reprocessing indicated in the administration's GNEP plan. The plan states that "Obama will also lead federal efforts to look for a safe, long-term disposal solution based on objective, scientific analysis. In the meantime, Obama will develop requirements to ensure that the waste stored at current reactor sites is contained using the most advanced dry-cask storage technology available" (Obama, 2008).

The Democratic senator thus seems to be lining up with members of his party and outside critics in rejecting some of the fundamental tenets of GNEP. And, perhaps not surprisingly, Senator McCain seems to be urging more of a continuation of the approach backed by the Bush administration.

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