The Centre for International Governance Innovation

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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US-Russia Agreement Could Advance GNEP, But Congressional Watchdog Challenges Program Direction

A US-Russia civilian nuclear cooperation agreement that President George W. Bush sent to the US Congress on 13 May 2008 could advance his administration's controversial Global Nuclear Energy Partnership (GNEP). The presumptive Republican presidential nominee Sen. John McCain of Arizona backed a central plank of the program in a speech in late May. But a recent report from Congress's watchdog agency, the Government Accountability Office, challenges the administration's preferred "technology path forward" for the initiative, raising questions about its future direction, while recent congressionally approved legislation stirred further doubts.

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 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.

Congress has largely sided with the critics and in 2007 sharply cut the program's proposed budget, restricting it to research (see GNEP Watch, No. 3).

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. The GNEP initiative proposes to build facilities that would retain other elements in the spent fuel along with the plutonium, making it less attractive for weapons production than pure plutonium. But critics note that this fuel would still not be as proliferation-resistant as when the spent fuel is left intact.

Bush Sends Congress Russia Nuclear Energy Pact

The agreement has been submitted to the US Congress and the Russian Duma for approval. Given the tight hold that the Kremlin maintains over Russia's political process, Duma approval is viewed as a virtual certainty, but Bush's decision to send the nuclear pact to Congress drew complaints from lawmakers of both parties, primarily because of the Kremlin's ongoing nuclear and military cooperation with Iran.

The agreement is expected to enter into force within 90 legislative days from when it was sent to Capitol Hill unless both houses of the US Congress pass a disapproval resolution. Representative Edward Markey, Jr. (Democrat-Mass.) has introduced such a resolution in the House of Representatives, citing Russia's cooperation with Iran, but it is unclear whether there is sufficient

Miles Pomper is editor of *Arms Control Today*, a monthly journal of authoritative information and analysis published by the Arms Control Association.

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support for such a disapproval resolution, particularly in the Senate (Markey, 2008).

Some congressional aides have suggested that the agreement could also fail to win approval given this year's compressed congressional calendar. Congress is expected to adjourn for much of the summer so that lawmakers can participate in the political party conventions and later in re-election campaigns; the House of Representatives, in particular, may not be in session long enough to meet the 90-day requirement unless legislators agree to a post-election 'lame duck' session.

On a practical level, experts say that the direct and short-term benefits of the agreement are likely to be limited. Most importantly, it would not significantly affect imports of Russian fuel to the United States which are governed by a separate agreement, nor would it govern other ongoing nonproliferation efforts.

Nonetheless, the measure could yield some benefits for both countries, for hopes for a global nuclear energy "renaissance" and for GNEP. The measure could help provide US companies with another source for nuclear components, labor and expertise at a time when global plans for new nuclear plants have left such resources in short supply. It could benefit Russia's atomic behemoth Atomenergoprom by allowing it to take advantage of US expertise in safely extending the life of its reactors and including US safety and control equipment in its nuclear plants, making them more attractive to foreign buyers. It would also allow Russia to re-enrich depleted uranium tails from US-origin spent fuel now in the United States and East Asia. This in turn could be one way the deal could aid Russian plans to develop an international uranium enrichment center at Angarsk, Siberia (Einhorn, 2008).

Rose Gottemoeller, who served as the US Department of Energy's (DOE) lead official on nuclear nonproliferation issues during the Clinton Administration, said in a 10 May 2008 email that while US law would not require such an agreement before the United States could participate in the Angarsk facility, Russia had made its approval a sine qua non for US participation.

According to experts, there are several ways that the agreement could benefit GNEP. For one, lawmakers have often sounded alarm bells over US interactions with Russian nuclear researchers that they view as inappropriate. A nuclear cooperation agreement would increase the confidence of nuclear researchers in both countries that they could strengthen cooperation in some areas, such as research into controversial fast reactors that rely on plutonium-based fuels, without attracting political heat from Congress.

Russia has been moving ahead with fast reactors and has long-term plans to grant them a significant role in its nuclear infrastructure. Last November, US and Russian negotiators tentatively agreed to recast a 2000 pact requiring each country to dispose of 34 metric tons of weapons-grade plutonium so that Russia could use these new facilities in the effort (see GNEP Watch, No. 3). The agreement has drawn criticism from Congress and concern that Russia was gearing up to reprocess additional civilian fuel from Asian countries.

Moreover, on 12 May 2008, the Senate Armed Services Committee approved a provision in a fiscal year 2009 defence authorization bill that would bar US funds intended for nonproliferation programs from being used for GNEP. A House version of the defense authorization bill, passed on 22 May 2008, likewise would not support

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.

the administration's request for US$6.9 million in fiscal 2009 nonproliferation funds to go to GNEP under the auspices of the National Nuclear Security Administration (NNSA), a semi-autonomous agency under DOE. Bush has requested US$302 million for the Advanced Fuel Cycle Initiative in fiscal year 2009, which begins on 1 October 2008.

In marking up the bill on 15 May, the House Armed Services Committee wrote in its accompanying report, "the committee finds NNSA's proposed nonproliferation arguments for GNEP unpersuasive and is not convinced that GNEP will achieve its stated nonproliferation objectives. Rather, the committee is concerned about proliferation risks associated with GNEP. For these reasons, the committee does not support any funding for GNEP activities from within any NNSA Defense Nuclear Nonproliferation program line." In particular, lawmakers have recently accused DOE of previously and wrongly using nonproliferation funds to support GNEP research in Russia.

A nuclear cooperation agreement would permit US researchers to take advantage of Russian expertise and facilities, for example by testing potential new fuels in Russian reactors. The pact also would allow Russia to store and potentially reprocess spent US-origin nuclear fuel irradiated in reactors in countries such as South Korea, if Washington gave permission (Einhorn, 2008).

Indeed, much of the initial impetus for the agreement came nearly a decade ago when Russia, then in the midst of economic crisis, viewed the storage of foreign spent fuel as an economic opportunity worth as much as US$20 billion and passed a law permitting it to occur (Einhorn, 2008; Ingram, 2006; Bleek, 2001). However, with Russia's economy now booming thanks to soaring oil and gas revenues, Russian officials have shown little desire to store such fuel in the near term although they have indicated the possibility of doing so in the future (Pomper, 2006). In fact, in new reprocessing contracts with foreign customers Russia has stipulated that it would not accept spent fuel for permanent storage but would only be willing to hold it while it separated out the plutonium (IPFM, 2007). Such reprocessing allows plutonium to be used in fuel for nuclear reactors or as fissile material in a nuclear weapons program.

Moreover, unlike other agreements the United States has concluded with Japan and the European nuclear consortium Euratom, the agreement would not allow Russia to reprocess US-origin spent fuel to obtain plutonium, without obtaining US consent. Should the executive branch give this permission, US law only requires that Congress be notified 15 legislative days in advance (Einhorn, 2008).

Nor does the agreement permit transfers of "sensitive nuclear technology"-technology that could be used for weapons production such as uranium enrichment and plutonium reprocessing-without the administration submitting an amendment to the pact to Congress. In that case, lawmakers would have the same 90 days of legislative consideration, which the underlying agreement is now subject to (Einhorn, 2008).

Aside from the Markey legislation and other measures to block the deal, critics have discussed alternatives such as attaching conditions to the measure or restricting money to implement it. Representative Harold Berman, a California Democrat and chairman of the House Foreign Affairs Committee, suggested in a 13 May 2008 email that he might seek "additional legislation." One possibility would be for Congress to adopt a resolution of approval conditional on its approval of the agreement as it did in 1985 when it approved a peaceful nuclear cooperation agreement with China.

McCain Supports Reprocessing

Clarifying remarks he made during a previous speech on nuclear nonproliferation, Senator McCain said 28 May 2008 that he supports reprocessing spent fuel. In a visit to Nevada, home state of the long-delayed Yucca Mountain, the US high-level nuclear waste repository, McCain responded to questions about a 27 May speech in which he called for finding a location for an international spent fuel repository. He asserted in the speech that "It is even possible that such an international centre could make it unnecessary to open the proposed spent nuclear fuel storage facility at Yucca Mountain in Nevada" but then quickly backed away from his remarks.

"I support Yucca Mountain once it goes through all the processes it needs to go through," McCain said. "But I also support reprocessing. A little straight talk, we have to do both."

McCain did not comment directly on the fate of GNEP were he to be elected president. Nor has there been any direct comment from the presumed Democratic nominee, Senator Barack Obama of Illinois.

Steering Committee Sets Future GNEP International Agenda

GNEP member states held their second steering group meeting 14-15 May 2008 in Amman, Jordan. The steering group represents the middle tier of GNEP's international structure, which includes an executive committee at the ministerial level and working groups in specific functional areas.

Much of the meeting involved highlighting areas for discussion at the next executive committee meeting in September 2008. These included identifying further areas of cooperation for GNEP, what resources member countries could provide, and which new states might be invited to join the partnership. It also included recommending that a third working group be formed to focus on the development of "grid-appropriate reactors," less powerful reactors better suited to developing countries or those with small and medium electric power grids. GNEP's current working groups on infrastructure development and reliable nuclear fuel services, which held their first meetings in March and April 2008 respectively (see GNEP Watch, No. 6), presented program plans to the steering group that outlined their initial activities, short-term plans, and their views of the long-term challenges in their respective areas relative to nuclear power's global expansion (GNEP, 2008).

GAO Report Challenges GNEP Technology Plans

In April 2008, US Department of Energy officials made clear that US Secretary of Energy Samuel Bodman would effectively leave to the next administration key decisions affecting the future technology course for GNEP (see GNEP Watch, No. 6).

Nonetheless, an April 2008 report from the watchdog Government Accountability Office (GAO), released on 22 May 2008, took issue with technology plans for GNEP said to be currently favored by DOE. The current plans, according to the GAO report and interviews with DOE officials, call for moving forward quickly with slight variations of current technology in order to build more economical and commercial-scale facilities. By comparison, the initiative's original plans call for building smaller engineering-scale facilities to research and develop more advanced technologies (GAO, 2008).

"DOE's accelerated approach of building commercial-scale facilities would likely require using unproven evolutions of existing technologies that would reduce radioactive waste and mitigate proliferation risks to a much lesser degree than anticipated from more advanced technologies," the report said. It added that "DOE is unlikely to attract enough industry investment to avoid the need for a large amount of government funding for full-scale facilities." Therefore, the report recommends "that DOE reassess its preference for an accelerated approach to implementing GNEP."

But the report also found that the engineering approach had its drawbacks. Like the current approach, the engineering-scale approach called for the construction of three types of facilities: a reprocessing plant to separate plutonium and other materials from spent reactor fuel and convert them into a new fuel, an advanced reactor to use the new fuel, and a research and development facility.

The GAO report concluded that the DOE had erred in planning to build an engineering-scale reprocessing plant before developing reprocessed fuel and other technologies that would be needed to know the design specifications for such a plant. The report recommended that DOE defer building such a plan until "conducting sufficient testing and development of recycled fuel to ensure that the output of such a plant is suitable for recycling." In many ways, therefore, the report echoes criticisms made by an influential National Research Council report released in fall 2007 (See GNEP Watch, no. 3).

The Centre for International Governance Innovation was founded in 2002 by Jim Balsillie, co-CEO of RIM (Research In Motion), and collaborates with and gratefully acknowledges support from a number of strategic partners, in particular the Government of Canada and the Government of Ontario. CIGI gratefully acknowledges the contribution of the Government of Canada to its endowment Fund. / Le Centre pour l'innovation dans la gouvernance internationale a été fondé en 2002 par Jim Balsillie, co-chef de la direction de RIM (Research In Motion). Il collabore avec de nombreux partenaires stratégiques et exprime sa reconnaissance du soutien reçu de ceux-ci, notamment de l'appui reçu du gouvernement du Canada et de celui du gouvernement de l'Ontario. Le CIGI exprime sa reconnaissance envers le gouvernment du Canada pour sa contribution à son Fonds de dotation.

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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.

57 Erb Street West
Waterloo, Ontario, Canada N2L 6C2
tel +1.519.885.2444 fax +1.519.885.5450
www.cigionline.org