The Centre for International Governance Innovation

NUCLEAR ENERGY FUTURES

Research Project Publication

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

Number 11, November/December 2008

From the Nuclear Energy Futures Project director

In view of the likelihood that GNEP in its current form will be transformed, if not abolished, by an Obama administration, this will be the last edition of GNEP Watch published. Miles Pomper will, however, be producing a study in 2009 for the Nuclear Futures Project research paper series on GNEP's past and likely future trajectory. We are grateful to Miles for his professionalism and the timeliness of his reporting on this significant program.

Trevor Findlay

Obama Likely to Scale Back GNEP, But Bush Administration Recommends Ambitious Plan

President-elect Barack Obama is likely to scale back the Bush administration's Global Nuclear Energy Partnership (GNEP), despite recent announcements by the current administration intended to keep the effort moving along a more ambitious path.

Bush administration officials have asserted 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 nuclear energy use worldwide could spur nuclear weapons proliferation. Critics contend 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 building reprocessing facilities able to produce a product that would retain the plutonium plus other elements from the spent fuel, making it less attractive for weapons production than pure plutonium. However, 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.

Obama's Likely Direction

President-elect Obama sees a less promising future for nuclear energy than the current administration, because he believes the nuclear industry has failed to address

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sufficiently concerns about issues such as nuclear waste and nonproliferation (Obama, 2008; GNEP Watch, No. 9).

For example, at a June 2008 campaign appearance in Jacksonville, Florida, 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).

The Obama administration, therefore, is likely to deemphasize nuclear energy, even as it promotes alternative energy technologies and efficiency efforts as economic growth engines and climate change saviours.

Obama has also parted ways with the Bush administration on current waste disposal plans.

On November 6, 2008, Edward Sproat, head of the Energy Department's civilian nuclear waste program, told a Washington think tank audience that the administration would soon inform the US Congress that the United States either needed to increase the proposed capacity of a geologic repository in Yucca Mountain, Nevada, or look for a second such repository. By contrast, Obama has ruled out opening the Yucca Mountain repository and called for a full reexamination of other potential sites and technologies (Herbert, 2008; GNEP Watch, No. 9).

Obama's electoral victory in Nevada, coupled with his need to work with Senate Majority Leader Harry Reid from that state, makes it likely that the Department of Energy's decision to move forward with this option will be slowed if not suspended altogether. Reid has claimed that the plan to move forward with the Yucca Mountain site is based on politics, not scientific analysis.

The energy plan featured on his presidential campaign website stated: "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).

Obama is also likely to put on hold the Bush administration's efforts under GNEP to move forward in the short term with reprocessing spent nuclear fuel. Instead, he has indicated that he will charge the Department of Energy with focusing on research until more proliferation-resistant methods can be perfected (Obama, 2008).

It is unclear whether Obama will continue some of the Bush administration's less controversial efforts in the international arena. For example, GNEP has focused somewhat on developing what are called "grid-appropriate" reactors, that is, small- and medium-size reactors (250 to 500 megawatts) more suited for the limited electrical grids of developing countries than the 1000 or so megawatt reactors typically sold by the major nuclear reactor manufacturers.

Trying to find ways to bring smaller versions of today's light-water reactors to market could have a nonproliferation payoff: otherwise, those reactors, most ready for export might be more proliferation-prone reactors such as the smaller heavy-water reactors operated by India.

Energy Department Outlines GNEP Technology Options, Recommendations

Shortly before the 2008 presidential election, the Bush administration released a nearly 1,000-page draft programmatic environmental impact statement (PEIS) which offers a very different approach to dealing with spent nuclear fuel. The draft report, released on October 17, 2008, is open to public comment for 60 days. After that

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

period, the Energy Department is supposed to take the comments into account in crafting a final environmental impact statement (EIS), and then, a month or two later, issue a "record of decision" (Horner and Loveless, 2008).

The proposal lists six options for a future US nuclear fuel cycle, ranging from continuing the current once-through fuel cycle to several spent fuel reprocessing approaches, as well as quite different alternatives involving the use of thorium fuel and high-temperature gas cooled reactors. But officials indicated that they favour closed fuel cycles involving reprocessing (DOE, 2008).

The PEIS acknowledges that the transition to a fuel cycle based on spent-fuel reprocessing would be more complicated than the alternatives. However, DOE officials contend that such cycles using either current light-water reactors or future fast neutron reactors, or both, are required to minimize the need for additional geological repositories for spent fuel.

The report rules out the possibility of centralized interim storage, contending it is not legal under current law, and impractical because of "additional costs and risks associated with the handling and transport of the spent fuel from utilities to the interim storage site, and then again to a repository for disposal or to a recycling facility for processing" (DOE, 2008).

The Energy Department also left to its semi-autonomous National Nuclear Security Administration the task of judging the nonproliferation credentials of various alternatives. That report is anticipated next month.

As anticipated, the draft PEIS is far less ambitious than the administration had earlier suggested it would be, leaving to the Obama administration any decisions on a "technology path forward" (GNEP Watch, No. 6).

The administration's plans at one time called for the construction of three types of commercial-scale 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.

But after receiving criticism from such outside groups as the Government Accountability Office and the National Academy of Sciences (GNEP Watch No. 7; GNEP Watch No. 3), Bush administration officials have backed off from going forward now with construction of any facilities.

"DOE determined that to make project-specific or site-specific decisions regarding any of the three originally proposed facilities would be premature," the draft PEIS said (DOE, 2008).

Works Cited

GNEP Watch, No. 9 (2008). "GNEP Membership May Double but Domestic Future in Doubt" (August).

GNEP Watch, No. 7 (2008). "US-Russia Agreement Could Advance GNEP, but Congressional Watchdog Challenges Program Direction" (June).

GNEP Watch, No. 6 (2008). "US Administration Leaves Key GNEP Decisions to Next President" (April/May).

GNEP Watch, No. 5 (2008). "Bush Administration Seeks More Money for GNEP; Senegal and the UK Become Members" (March).

GNEP Watch, No. 3 (2007). "US Panel Urges Brake on GNEP as US-Russia Technology Deal Moves Ahead" (December).

Herbert, H. Josef (2008). "DOE would expand nuclear dump in Nevada," Associated Press. (November 6). Available at: http://ap.google.com/article/ALeqM5gM9SQa98idlhqZD0eT6fkRW5B_2wD949SMG80

Horner, Daniel and Bill Loveless (2008). "DOE Issues GNEP Document, But Doesn't Choose Course of Action," *Nucleonics Week.* (October 23).

Obama, Barack (2008). Website of US Democratic presidential nominee Barack Obama. Available at: www.barackobama.com

Reuters (2008). "Obama Criticizes McCain Nuclear Plan," Reuters. (June 24).

United States Department of Energy, Office of Nuclear Energy (DOE) (2008). *Draft Global Nuclear Energy Partnership Programmatic Environmental Impact Statement.* October.

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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