



NUCLEAR unWASTEd NEWS

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Headline

CRS Report Assesses Global Access to Nuclear Power

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With the heralding of a coming nuclear renaissance in the Energy Policy Act of 2005 and the Bush administration's Global Nuclear Energy Partnership (GNEP), the Congressional Research Service released a report in January titled, *Managing the Nuclear Fuel Cycle: Policy Implications of Expanding Global Access to Nuclear Power*.

The 2005 Energy Policy Act outlined provisions authorizing streamlined licensing for new nuclear plants, combining construction and operating permits, and providing tax credits for nuclear power. Thirty new applications or early site permits for reactors have been filed with the Nuclear Regulatory Commission, and 150 have been planned or proposed globally. Nearly a dozen are already under construction overseas. With the U.S. Department of Energy (DOE) planning to spend billions of dollars to advance nuclear technology in the U.S., other countries have similar ideas and want access to the benefits of nuclear power.

Advances in nuclear technologies are attractive to those who seek to add energy options to the mostly fossil fuel generation the world depends on today. Concerns about climate change, however, are complicated by fears that spreading enrichment and reprocessing technologies may lead to proliferation of weapons-grade nuclear material.

Proposals of global access to nuclear power range from: offering countries access to nuclear power with a formal commitment to abstain from enrichment and reprocessing; to a de facto approach where a country does not operate fuel cycle facilities but makes no direct commitment to other nations; to nations having no restrictions at all. A change in U.S. policy, recently proposed through GNEP, would not require countries to refrain from developing domestic fuel cycle programs. It remains to be seen whether developing countries will forgo what some believe is their right to develop nuclear technology for peaceful purposes.

The Congressional Research Service report finds that the U.S. Congress will have ample control in at least four areas of current fuel cycle proposals. The first is related to expanding nuclear energy within the United States, as Congress holds the purse strings for supporting the renaissance, and has a measure of oversight in domestic nuclear programs. The second also involves funding, but of international programs to assure an adequate fuel supply. Congress will also set policy regarding implementation of the international piece of GNEP. And finally, Congress will have a role in approving nuclear cooperation agreements between nations.

[CRS Report](#)

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State Senators Propose Nuclear Plant Safety Study and Siting for Nuclear Waste Storage

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Vermont Senate President Pro Tem, Peter Shumlin, and Senator Jeannette White co-sponsored two bills this session pertaining to activity at the Vermont Yankee Nuclear Power Station.

Bill S.269 seeks to require Entergy Nuclear, the operator of Vermont Yankee, to provide an independent safety assessment of the plant before it requests approval from the Public Service Board to operate beyond its original license expiration date of 2012. While the federal Nuclear Regulatory Commission (NRC) has authority over the site's license extension, state law requires that requests for such extensions come at least four years before expiration, after which a series of public hearings and studies must be conducted to determine the economic and environmental effects of extending operations. The legislature will ultimately vote to determine the plant's fate.

Bill S.294 requires the Department of Public Service, in consultation with the Agency of Natural Resources, to present a recommended process for the optimal siting of a dry cask storage facility for spent nuclear fuel within the state. The Vermont Yankee spent fuel pool (where used fuel is taken from the reactor core to cool for several years before storage or disposal) is filling; Entergy plans to store the oldest fuel awaiting receipt by the Department of Energy (DOE) in dry casks *on-site*.

The Energy Department was contractually obligated to take spent fuel from commercial reactor sites by January 1998, but has run into legal hurdles in developing Yucca Mountain, the designated geologic repository for such waste. The director of the DOE Office of Civilian Radio-

active Waste Management responsible for the Yucca Mountain Project, Ward Sproat, spoke before the Nevada High-Level Radioactive Waste Committee last week. Sproat mentioned laying off 500-plus employees, of the roughly 2,400 working on the project, due to federal budget cuts of more than 20 percent for fiscal year 2008. Funding cuts have shifted the best achievable date for opening the repository to some yet unknown date beyond the previous 2017 goal. (NCSL staff also testified at the hearing on state radioactive waste concerns and priorities.) Because of the perpetual delays and uncertainty as to when DOE might accept Vermont Yankee's waste, Senator Shumlin believes it is time for the state to act in siting its own storage facility.

Robert Williams, spokesperson for Entergy Nuclear, believes the two bills are unnecessary. Speaking about S.269 (requiring an independent safety assessment), Williams said, "There is no indication in any of the reports of the plant's condition or performance indicators that would say the additional inspection is necessary." As to S.294 (seeking an optimal storage site), Williams stated: "Our site is obviously preferable. It's licensed for nuclear operations and it's in a high security area. The pad [for dry cask storage] is already constructed."

Senators Shumlin and White would like the terms of the independent safety assessment defined by May, before the legislature adjourns. They would like the components of the optimal siting of the in-state, dry cask storage facility defined no later than January 15, 2009. Both bills were introduced on January 8, and currently reside in their respective committees of jurisdiction.

Bill link [S.0269](#)

Bill link [S.0294](#)

[Rutland Herald news article](#)

DOE discusses combining Yucca Mountain and GNEP under a Government Corporation

3/21

Ward Sproat, director of the Department of Energy's (DOE) Yucca Mountain project, suggested recently that discussions are taking place within the department and on Capitol Hill about restructuring U.S. nuclear waste management. Yucca Mountain, the proposed location for the permanent disposal of spent nuclear fuel and high-level radioactive waste, and the Global Nuclear Energy Partnership (GNEP), envisioned to close the nuclear fuel cycle by reprocessing spent fuel for reuse, would be combined under a government corporation similar in design to the Tennessee Valley Authority.

Dennis Spurgeon, DOE Assistant Secretary for Nuclear Energy, has made presentations on the concept to congressional members and staff. Although the specifics are yet to be defined, the general concept involves establishing a "new government entity" (NGE) to take nuclear waste management from the political realm into a more structured management and funding environment. The Yucca Mountain project has struggled during the past two decades with persistent legal and political setbacks. The Nuclear Waste Fund, established to receive contributions from utility ratepayers to dispose of spent fuel, may be tapped only through congressional appropriation, which requires support from legislative leaders. Direction of the project through political appointees also has stifled progress due to a lack of management stability and continuity of knowledge. Much of the "wheel" has been recreated with each new administration.

Many questions remain as to what powers the NGE would have and how it would interact with industry to accomplish its mission. The main purpose of the entity would be to manage the back end of the fuel cycle - reprocessing spent fuel and constructing and operating a repository for final nuclear waste disposal. It is uncertain whether the NGE would be given control of the Nuclear Waste Fund - its balance now is \$20 billion - to pay for these activities.

The Nuclear Waste Policy Act of 1982, which established the fund to pay for a repository, also allows the money to be used to condition fuel for disposal. Historically, Congress has protected its control of the fund, which continues to be counted against the federal deficit despite its targeted purpose for disposal of nuclear waste.

Although action in an election year and at this stage of the congressional cycle for fiscal year 2008 is unlikely, Senators George Voinovich (R-Ohio) and Thomas Carper (D-Del.) plan to host a roundtable discussion on the NGE and use feedback to develop a future legislative proposal.

Source: "Yucca-GNEP merger discussed on Capitol Hill," *Platts NuclearFuel*, Vol. 33, No. 6 (March 24, 2008): 1, 18-19.

New Yucca Legislation Makes Waste Retrieval for 300 Years

1/28

Senator James Inhofe (OK), ranking member of the Environment and Public Works Committee, introduced a bill last week that would expedite the process of developing the Yucca Mountain nuclear waste repository in Nevada. Most notably, the Nuclear Waste Policy Amendments Act of 2008 (S.2551) would shorten the initial licensing period for the repository to 300 years, proposing that waste be retrievable from Yucca Mountain during that timeframe. This defined and limited period would render the long-delayed decision by the Environmental Protection Agency (EPA) on a million-year radiation standard for Yucca Mountain unnecessary at this time.

The EPA's provision of a 10,000-year standard on the level of acceptable radiation exposure near Yucca Mountain was struck down in federal court in 2004. The court determined the time period was insufficient due to the long life of the radioactive materials to be buried at Yucca Mountain, and instead required a one-million-year standard. The Nuclear Regulatory Commission (NRC) was to use this EPA standard when determining whether the Yucca Moun-

tain facility design in the Department of Energy's (DOE) license application was adequate to protect human health through post-closure out to one-million years.

The Inhofe bill, S.2551, proposes instead that DOE submit, and the NRC analyze, three applications related to Yucca Mountain: a construction authorization, followed by an amended authorization to receive and possess spent nuclear fuel and high-level radioactive waste, and finally an application to permanently close the repository. As the construction and operation phases are to cover a 300-year period, only at the final application stage for closure would an analysis of facility adequacy to a million-year EPA standard be required.

Additional key aspects of the Nuclear Waste Policy Amendments Act of 2008 (S.2551) include:

- DOE would be required to submit a license application for construction of the Yucca Mountain repository by June 30, 2008. Non-nuclear related construction at the site (e.g. rail lines, electrical grids) could begin before the NRC authorizes DOE to build the disposal facility there.
- Within 90 days of NRC construction authorization, DOE would submit an application to amend that authorization to allow receipt and possession of waste. The NRC would have a maximum of two years to decide on that amendment.
- An amendment process would be integrated into the license every 50 years to include new information on the site and advances in technology.
- The repository would be licensed to safely use the maximum potential capacity of the repository, based on scientific and technical considerations.
- The term "high-level radioactive waste" would include (among others):
 - The highly-radioactive material resulting from the reprocessing in the United States of spent nuclear fuel, including liquid waste and any solid material derived from such liquid waste

that contains fission products in sufficient concentrations.

- Any other highly-radioactive material that the NRC determines by rule requires permanent isolation.
- The EPA (to the exclusion of states or tribes) would be responsible for issuing and enforcing air quality permits related to Yucca Mountain.
- The legal "taking of an action" related to the repository or an infrastructure activity would be considered beneficial to public interest and interstate commerce.
- The Solid Waste Disposal Act (42 U.S.C. 6961(a)) would not apply to any DOE material transported or stored in a NRC-certified container or any material located at the Yucca Mountain site for which a NRC license to manage or dispose has been issued.
- The NRC would adopt the philosophy of "waste confidence" (or reasonable assurance) that the federal government will dispose of commercial spent fuel in a safe and timely manner when determining whether to grant, amend, or renew construction or operation licenses for commercial nuclear power reactors, storage sites, or treatment facilities.
- Companies seeking NRC licenses for new reactors would sign standard contracts with DOE for the disposal of their spent fuel within 35 years.
- There would be no adjustment to the 1.0 mil per kilowatt-hour fee that utility ratepayers contribute to the Nuclear Waste Fund for the disposal of spent fuel. (There is no mention in this bill about improving DOE access to the Nuclear Waste Fund - now distributed by appropriation and limited by balanced budget requirements.)

Although Yucca Mountain was designated the country's repository for spent nuclear fuel and high-level radioactive waste by President Bush in 2002, and subsequently approved by Congress, development of the site has been stalled by persistent legal and political hurdles. Several

Yucca Mountain and GNEP cont.

bills have been proposed in the last few years to jumpstart the project, including two from Senator Pete Domenici (NM), chair of the Energy and Natural Resources Committee and Appropriations Subcommittee on Energy and Water Development (see news summaries from 5/24/07 and 10/02/06). S.2551 is co-sponsored by six senators, and portions of the legislation mirror sections of Domenici's previous bills, which never moved out of committee. Interested parties on both sides of the Yucca Mountain project are pessimistic about action on any nuclear waste legislation during this 2008 election year.

[Bill link](#) for S.2551 (must type in bill number for search)

Also referenced:

Platts NuclearFuel, "Funding cuts increase Yucca Mt. uncertainty," Vol. 33, No. 2 (January 28, 2008): 1, 8.

Platts NuclearFuel, "Inhofe introduces waste legislation aimed at fast-tracking Yucca project," Vol. 33, No. 2 (January 28, 2008): 9.

Katherine Ling, "Yucca Mountain: New Senate bill strives to accelerate licensing," *Environment and Energy Daily*, (January 25, 2008). ([link](#) - subscription required)

NNSA

NNSA Complex Transformation

3/27

The National Nuclear Security Administration (NNSA) has a vision to create a smaller, more secure and cost effective nuclear weapons complex. Within several years, the U.S. nuclear weapons stockpile will be reduced by roughly 50 percent from its 2001 level, making it the smallest since the 1950s.

Congress created the NNSA within the U.S. Department of Energy in 2000 to maintain the security and reliability of the U.S. nuclear weapons stockpile, reduce global access to weapons-grade materials and respond to radiological emergencies. NNSA also provides nuclear propulsion capability to the U.S. Navy.

The NNSA complex of eight major facilities in five states is too large and costly to maintain under current funding. Many facilities no longer are in use and, because the storage of nuclear material is spread among several sites across the country, the expense of securing and monitoring the material is compounded. To make better use of its funds

without compromising its mission, NNSA has studied consolidating facilities to allow management of a smaller, more efficient complex.

NNSA administrator Thomas P. D'Agostino said the plan involves "...a shift from nuclear warheads to nuclear security." It focuses on future national security requirements, such as nonproliferation and counterterrorism, while maintaining a reduced but effective nuclear stockpile.

NNSA released a draft supplemental programmatic environmental impact statement (SPEIS) in January 2008 that evaluated four alternatives for accomplishing its goals, including leaving the complex as is. The preferred alternative chosen was "distributed centers of excellence," which would involve consolidating missions and facilities within existing NNSA sites. This approach would save funds by trimming redundancies in missions, capabilities and facilities.

NNSA's plan includes:

- Consolidating special nuclear materials at five sites by the end of 2012, then reducing the area used within those five sites by 2017;

- Closing or transferring from weapons activities nearly 600 buildings and structures;
- Ending operations of two prime testing sites that support U.S. laboratories by 2015;
- Reducing the square footage of old, outdated buildings and structures that support weapons missions by one-third, from 35 million square feet to fewer than 26 million square feet;
- Operating with 20 percent to 30 percent fewer employees; and
- Dismantling nuclear weapons more quickly.

Reduction and transfer of missions will affect all eight current sites, which include Los Alamos National Laboratory in New Mexico; Lawrence Livermore National Laboratory

in California; Sandia National Laboratories in New Mexico and California; Pantex Plant in Texas; Y-12 National Security Complex in Tennessee; Kansas City Plant in Missouri; Savannah River Site in South Carolina; and Nevada Test Site in Nevada.

A public comment period on the SPEIS is open through April 10, 2008.

[Complex Transformation SPEIS links](#)
[NNSA Webpage on Transformation](#)

Katherine Ling, "DOE looks to future of weapons complex," *Environment and Energy Daily* (Dec. 18, 2008). [[link](#) - subscription required]

NUCLEAR unWASTEd NEWS

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The purpose of this newsletter is to provide legislators, staff and interested parties with information on high-level radioactive waste and environmental management cleanup.

Articles in this newsletter have been researched by NCSL staff. Resources include *E&E News/Greenwire online*, *Nuclear Waste News*, *Nuclear Fuel*, *Platts Nuclear Fuel*, legislative research office contacts and other sources.

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NCSL Online Resources

[NCSL Nuclear Waste Cleanup Webpage](#)

<http://www.ncsl.org/programs/environ/cleanup/cleanup.htm>

[State Legislation Database on Nuclear Waste Issues](#)

<http://www.ncsl.org/programs/environ/nucwaste.cfm>

[State Legislation Database on Environmental Justice Issues](#)

<http://www.ncsl.org/programs/environ/envjustice.cfm>