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## Recommendations from the Blue Ribbon Commission on America's Nuclear Future for a Consent-Based Approach to Siting Nuclear Waste Storage and Management Facilities

*Witnesses:*

Panel I

**Brent Scowcroft**

Lieutenant General, President, The Scowcroft Group

**Per Peterson**

Chair, Department of Nuclear Engineering, University of California, Berkeley

Panel II

**Geoffrey Fettus**

Senior Project Attorney, Natural Resources Defense Council

**David Wright**

President, National Association of Regulatory Utility Commissioners

**Eric Howes**

Director of Government and Public Affairs, Maine Yankee

**Daniel Metlay**

Senior Professional Staff, U.S. Nuclear Waste Technical Review Board

**Andrew Orrell**

Director of Nuclear Energy & Fuel Cycle Programs, Sandia National Laboratories

*Committee Members Present:*

Thomas Carper (D-DE), Chair

John Barrasso (R-WY), Ranking Member

Lamar Alexander (R-TN)

Jeff Merkley (D-OR)

Tom Udall (D-NM)

On June 7, 2012, the Senate Committee on Environment and Public Works Subcommittee on Clean Air and Nuclear Safety held a hearing to evaluate the recommendations presented by the Blue Ribbon Commission (BRC) for a consent-based approach in siting nuclear waste disposal facilities. President Obama and Secretary of Energy Steven Chu established the BRC in January 2010 to review the policy options for promoting reactor and fuel cycle technology, evaluating transportation and storage opportunities, and adopting appropriate disposal plans. The BRC report incorporates three crucial elements: a consent-based approach to siting future nuclear waste storage and disposal facilities, the establishment of an independent nuclear waste management program, and changing the manner in which fees paid into the Nuclear Waste Fund are treated in the federal budget.

Chairman Thomas Carper (D-DE) began the hearing by stating the importance of the nuclear power industry for the United States' energy future. Carper noted that there are currently 104 operating nuclear reactors producing about 20 percent of the nation's "clean and reliable" power, without harmful emissions from sulfur dioxide, nitrous oxides, mercury, or carbon dioxide. The technology of dry cask storage of nuclear waste will be reliable for the next 150-200 years, however this storage will "not last forever," said Carper. After more than 25 years since the establishment of the Nuclear Waste Policy Act (NWPA) of 1982 (P.L. 97-425), no waste disposal site has been put in place. "We need to find the ultimate resting place" for spent nuclear fuel, Carper said. He stated that consent-based siting, with meaningful partnerships and open communication between federal, state, local, and tribal leaders, is the most important step toward establishing a geologic nuclear waste repository.

In his opening statement, ranking member John Barrasso (R-WY) outlined costs associated with siting a nuclear waste depository.

Barrasso stated that after the Department of Energy (DOE) determined Yucca Mountain as the best possible waste disposal site, \$15 billion has been spent on the project. \$19 billion is the estimated taxpayer liability paid out of waste funds to the utilities because of the unmoved nuclear waste and \$30 billion is the total amount owed to utilities in the Nuclear Waste Trust Fund paid by ratepayers that must eventually be paid back with taxpayer dollars. Finally, there are unknown costs associated with creating another federal agency to manage nuclear waste as recommended by the BRC. Barrasso questioned how the nation can assure that the BRC recommendations are a "bridge to a long-term solution" as opposed to "a bridge back to square one?" He concluded that nuclear power is essential to securing America's energy future and that the nation can look to the success of other countries for guidance on how to move forward with waste disposal sites.

In his opening statement, Senator Lamar Alexander (R-TN) emphasized that nuclear waste discussions will not be successful unless there is consent among all involved parties. He commented on the progress that is being made in Congress exemplified by the provision in the Energy and Water Appropriations Bill (S. 2465) for establishment of consolidated waste sites, and through the efforts of Senators Jeff Bingaman (D-NM), Lisa Murkowski (R-AK), and others to develop a new comprehensive bill incorporating the BRC recommendations. In conclusion, Alexander stated that regardless of opinions on Yucca Mountain as a geologic waste repository, discussions for a second repository site are necessary.

Senator Tom Udall (D-NM) stated that nuclear waste policy has "a poor history in Congress." He encouraged colleagues to connect with groups such as Sandia National Laboratories and to evaluate the Waste Isolation Pilot Project (WIPP) in New Mexico as an example of consent based siting efforts.

In his testimony, BRC commission member Lieutenant General Brent Scowcroft emphasized the significance of reaching a unanimous conclusion for the BRC recommendations given the diverse perspectives of the contributing members. Although the decision made by the Administration to halt work at Yucca Mountain is the most recent indicator of a "troubled policy" and "unmet commitments" to the American people, Scowcroft said the BRC is "confident we can turn this around." Scowcroft stated that the current approach to radioactive material disposal has weakened state and public confidence in federal regulations, been very costly, and undermined the international standing of the U.S. as a leader in nuclear safety, expertise, and non-proliferation. With a 65,000 metric ton inventory of spent nuclear fuels, growing at a rate of 2,000 metric tones per year, and a statutory limit on Yucca Mountain at 70,000 metric tons, Scowcroft stressed that complacency to the current trajectory of nuclear management is "not an option." He followed by outlining the first four key elements of the BRC recommendations to ensure the U.S. remains at the forefront of international nuclear developments. The first suggestion is to reject top-down efforts and use a consent-based approach for determining a nuclear waste repository, which has proven successful for the WIPP, as well as for Spain, Finland, and Sweden. Secondly, the BRC recommends an establishment of a separate institution dedicated solely to implementing a nuclear waste management program. The institution should be empowered with the authority, leadership, and financial resources needed to succeed. The third recommendation of the BRC is to reauthorize access to funds from the nuclear facility rates. Scowcroft explained that the Nuclear Waste Policy Act Amendment of 1982 (42 U.S.C. § 10131) required nuclear power facilities to pay a fee for every kilowatt-hour of nuclear power generated that enters a waste disposal fund. Due to legislation, about \$750 million of these funds are now inaccessible. The final recommendation Scowcroft described calls for prompt action to evaluate one or more deep-geologic disposal sites as the "scientifically preferred approach" for nuclear waste storage.

Per Petersen, Chair of the Department of Nuclear Engineering at University of California-Berkeley and BRC commission member, described the remaining BRC suggestions in his testimony. He recommended that federal agencies such as the Environmental Protection Agency (EPA) develop a set of 'generic' safety standards that can be applied to all future nuclear waste sites. The sixth recommendation concerns preparations for transport of nuclear wastes to consolidated waste facilities. Petersen said the BRC recommends the government support research and development into nuclear waste transportation options, involve state, local, and tribal authorities in dialogues concerning transport, and prioritize transport of stranded fuels from decommissioned nuclear plants. Petersen stated that the seventh BRC submission is that the government makes investments into advancing nuclear energy and light water reactor technologies because improved technologies will promote environmental sustainability and energy security. The final recommendation calls for the U.S. to adopt an international leadership role in nuclear safety, non-proliferation, security and counter-terrorism concerns. Petersen commented that the U.S. should "lead by engagement and example" by having domestic policies to support an international nuclear agenda.

Chairman Carper began the first question and answer period by asking what qualities should or should not be exploited from the experiences of New Mexico with the WIPP. Petersen responded that the federal government gave the state leadership over the program, which was essential in giving state authorities and the general public confidence that the facility could be operated safely. He said WIPP was successful because it funded an Environmental Evaluation Group with roots in university systems, allowing for independent sources of scientific advice. WIPP had a licensed safety standard established before the repository was selected. Finally, WIPP had assured funding. Petersen concluded that it is critical for the government to reclassify facility fee receipts in order to offset possible losses in appropriations and prevent competition between nuclear waste facilities and other discretionary spending priorities.

Senator Udall asked the panel if a state should be granted the authority to accept or reject a nuclear waste site within their own borders. Scowcroft compared Yucca Mountain to the WIPP in New Mexico and said the difference is that New Mexico had a consent-based approach. He said to be successful the federal, state, and local communities must work together. Petersen added that state authority is currently “the major issue” and states must have the power to be able to modify or opt-out of a nuclear waste facility if they foresee any safety problems.

Alexander asked the panel to clarify the definition of “consent-based” and describe the use of incentives to encourage states to participate in the nuclear waste site discussions. Scowcroft said the research laboratories, facilities, and jobs associated with a nuclear waste disposal site must be made attractive to local communities. In countries such as Sweden, communities are bidding against each other to host nuclear waste facilities rather than rejecting sites. Senator Alexander then questioned the BRC recommendation for nuclear waste consolidation sites. Petersen responded that the federal government should move forward with consolidated storage in parallel with geologic repository sites. Snowcroft added that after evaluating the time, cost, and transportation factors, the BRC concluded that there should be precautionary steps toward identifying consolidated storage possibilities because all the costs would be outweighed by the benefits.

Ranking Member Barrasso asked the two BRC members to describe the key common elements that made nuclear waste projects in Spain, Finland, and Sweden successful. Snowcroft commented that the prospects for a nuclear waste site were attractive and viewed as “an opportunity for the community” rather than a “penalty” forced upon them. Senator Carper concluded the first panel discussion and remarked that a nuclear waste repository could provide jobs, generate tax revenues, and be environmentally sound, and should not be regarded as a “dump.”

Geoffrey Fettus of the National Resources Defense Council (NRDC) began the second panel with a discussion on the NRDC opinions of the BRC recommendations. Fettus said the NRDC supported efforts to develop generic site screening and management standards before sites are considered. Additionally, Fettus commended BRC recommendations to create generic environmental and health standards and suggested the lack of such standards caused the loss of public support for the Yucca Mountain repository. He testified that the EPA should have regulatory authority over clean up standards at nuclear waste facilities and the state should obtain regulatory oversight, within the Nuclear Regulatory Commission’s jurisdiction, as has been done with WIPP. Fettus stated that the BRC was “too tentative” in addressing clean up standards and suggested that Congress amend the Atomic Energy Act (42 U.S.C. §2011 et seq.), which exempts radioactive materials from environmental laws and makes nuclear waste “a privilege pollutant.” Fettus concluded that future generations “will face our current predicament” unless Congress can implement an environmental and public health safety policy “that cannot be manipulated.”

David Wright, President of the National Association of Regulatory Utility Commissioners (NARUC), began his testimony by quoting a colleague in Florida who said, “The government has our money, we have their waste.” He continued to outline the points NARUC supported within the BRC recommendations, including reformation of the Nuclear Waste Fund, a consent-based site selection process, the establishment of a separate entity to carry out nuclear waste processes, continued transportation research, and the need for a flexible repository capable of adapting to any new information, technologies, and political developments. Wright said the points made by the BRC can be accomplished using the revenue streams “already dedicated for this purpose” and public education outreach programs to prevent acceptance of a “no-action alternative.”

Eric Howes, Director of Public and Government Affairs for Maine Yankee, a decommissioning plant coalition (DPC), endorsed the BRC recommendation to make transportation of nuclear waste from permanently shut down nuclear power plants to consolidated storage facilities a first priority. He suggested that Congress restore funding for regional transportation planning groups in the fiscal year (FY) 2013 budget request. Howes emphasized the importance of developing interim storage facilities in addition to siting a long-term repository to reduce costs for tax payers, maximize security effectiveness, and encourage nuclear waste research efforts.

Daniel Metlay, representing the U.S. Nuclear Waste Technical Review Board, followed with a description of international experiences for storing and disposing of high-level nuclear wastes. He said that over the last 40 years only three efforts have succeeded, all of which relied on volunteerism, a consent-based process, and selection strategies that involved technical and non-technical considerations. In Sweden two municipalities have agreed to nuclear waste facilities, in France a community volunteered to host an underground nuclear repository research facility, and in the United Kingdom and Canada communities have initiated discussions about a national nuclear waste management programs. Metlay stated that internationally site selection approaches are characterized by their “diversity and variety.” The most receptive communities are the ones with nuclear power plants already in place and who are offered generous benefit packages. Metlay concluded that host communities must acquiesce to site investigation, implementers must engage hosts with a strong, long-term presence, and host communities must have a realistic way to withdraw from the siting process for the siting process to move forward. Metlay emphasized that “public trust in the institutions” and “confidence in the credibility” of the selection process is necessary to be successful.

In his testimony, Andrew Orrell of Sandia National Laboratories presented his “prerequisites” for a successful site selection process.

He stated that the U.S. contains many geologic formations technically suitable for interim and long-term storage facilities, however the nation is faced with many social and political challenges. He emphasized that the “placement of trust and credibility” in the nuclear waste disposal process is an essential prerequisite. The uncertainty around who will serve as a federal representative in this process, the comingling of defense and commercial nuclear waste, and the lack of a comprehensive generic safety standard must be resolved before finalizing site selection. He concluded that the public must have complete confidence in the selected geologic repository and the entire disposal program in order to establish a successful consent-based process.

Senator Carper began the second panel questioning by asking Metlay to comment on the role of the former Office of the Nuclear Waste Negotiator, an independent establishment of the executive branch, in site selection processes. Metlay told Carper that the 1987 amendments to the NWSA required negotiations between the federal government and Native American tribes before chartering a repository or interim storage facility; however, Congress eliminated this requirement following unsuccessful and inefficient operation. Metlay stated that Offices of Negotiation have proven unsuccessful in other nations as well. Carper then asked the panel what Congress’ first actions should be to move forward with a consent-based site selection process. Fettus suggested Congress continue with hearings and avoid starting the site-selection process before environmental, health, and selection standards have been established. Wright responded that the federal court needs to clarify the purpose and allocation of the Nuclear Waste Fund fees and begin transportation preparations immediately. Metlay said countries that have been successful siting a nuclear waste facility have “solved the problem of power distribution” between the federal, state, and local governments. Orrell replied that Congress should start by renewing the disposal standards and regulations.

Senator Alexander asked the panel how aggressively the Department of Energy should move forward with identifying and transporting stranded fuels to consolidation sites. Wright said this would be advantageous because it proves nuclear waste can be transported and it reduces government exposure to liability cases. Fettus disagreed with this statement and said premature selection of a site would risk selection of a site that is ill-suited for nuclear waste disposal and that does not follow a consent-based process.

Senator Udall asked what necessary progress would be needed in the permanent site selection process before opening an interim site. Fettus replied that the nation must be much further in the process than at present. Orrell added that the consent and desires of the state “will decide the rate of progress.” Fettus agreed that the adopting a consent-based process “has to be first” in order to site an appropriate and non-controversial nuclear waste repository.

An archived webcast and full witness testimonies can be found on the Senate Committee on Environment and Public Works web site.

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