What We've Heard

A STAFF SUMMARY OF MAJOR THEMES IN TESTIMONY AND COMMENTS RECEIVED BY THE BLUE RIBBON COMMISSION ON AMERICA'S NUCLEAR FUTURE TO DATE

BLUE RIBBON COMMISSION
ON AMERICA'S NUCLEAR FUTURE

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Mission and Scope of the Commission

The Blue Ribbon Commission on America's Nuclear Future was formed by the Secretary of Energy at the direction of the President. The Commission was formed to conduct a comprehensive review of policies for managing the back end of the nuclear fuel cycle and recommend a new plan. The Commission's official charter is included as an attachment to this report.

The Commission has investigated and continues to investigate a wide range of issues including reactor and fuel cycle technologies, transport and storage, options for waste disposal, and institutional arrangements for managing used/spent nuclear fuel[1] and high-level wastes. The Commission also intends to make recommendations regarding the handling of the Nuclear Waste Fund and changes to the legal framework governing nuclear waste management in the United States.

The Commission has sought to ensure that its review is comprehensive, open and inclusive. The Commission and its subcommittees have heard from hundreds of individuals and organizations on a wide range of issues through formal hearings, site visits, and written letters and comments submitted through the Commission web site.

[1] Throughout this document we employ the term "used/spent" nuclear fuel. This construction, while admittedly cumbersome, is intended to recognize that both "used" and "spent" are terms that can be applied to irradiated fuel, but that each may carry different connotations for some audiences. "Used fuel" is the term that appears in the Commission's charter. However, "spent fuel" (sometimes abbreviated "SNF") is the term used in much of the literature on this topic and in many U.S. regulations and statutes concerning the back end of the nuclear fuel cycle.

The Commission and its members have visited several communities across the country that have a keen interest in the matters before the Commission. Commissioners have also visited a number of other countries to gain insights as to how the United States might proceed. The Commission is indebted to the many people who have offered their expertise, advice and guidance.

As directed by the Secretary of Energy and as reaffirmed in his February 11, 2011, letter to the Commission, the Commission is not a siting body. It will not be recommending specific locations for any component or facility of the U.S. nuclear waste management system. In particular, the Commission has heard from some witnesses who have urged that the Yucca Mountain project be reinstated. Other witnesses believe that cancellation of the Yucca Mountain project was the right thing to do and have asked the Commission to reinforce that decision. Similarly, some witnesses have urged the Commission to recommend that the mission of the US Department of Energy's (DOE's) Waste Isolation Pilot Plant (WIPP) be expanded to include disposal of some or all of our nation's spent fuel and high-level waste; others have stressed the importance of maintaining the legal commitment to use WIPP only for disposal of defense transuranic wastes. These comments fall outside of the scope of the Commission's work and it will not be making any recommendations regarding Yucca Mountain, WIPP or any other site.

Also, the Commission was not asked to make recommendations regarding the advisability or appropriate level of future U.S. reliance on nuclear power. It will of course consider a wide range of possible scenarios for the future of nuclear energy in the United States to ensure that its recommendations can accommodate a full range of possibilities.

Purpose of this Report

The Commission is charged with submitting a draft report to the Secretary of Energy before the end of July 2011. To aid the Commissioners in fulfilling that responsibility, the Commission staff has prepared this report to summarize what the Commission has heard up to this point in the process. It does not attempt to recount every comment or opinion submitted to the Commission thus far; rather, the aim here is to summarize major themes from the extensive testimony and public comment the Commission has received to date. Of course, the fact that the Commission has heard certain perspectives does not in any way mean the Commission's recommendations will adopt the points of view that have been presented.

By publishing this report, the Commission desires to:

- Provide individuals and organizations who have given input an opportunity to confirm that their key messages have been heard or to highlight something that may have been missed; and
- Give those who are following the work of the Commission, but who have not yet provided input, an opportunity to raise issues they believe may have overlooked and should consider as the Commission prepares its report.

The Commission has been constantly reminded of the long-standing erosion of trust in the federal government's ability to meet its waste cleanup obligations. It is the Commission's perception that this loss of trust stems at least in part from a feeling among many groups that they have not been heard, that their concerns have not been taken seriously, and that they have been shut out of past decision-making processes. The Commission has operated in an open and inclusive manner to ensure it has heard from as many points of view as possible and in an effort to help restore some measure of trust. In keeping with this approach, the Commission directed the staff to prepare and release this report so it can be confident that the major concerns of different stakeholders and the public have been identified before the Commission issues its draft report to the Secretary.

The Commission and its staff are interested in hearing from anyone who would like to provide comment on this report. The Commission will use the report and the comments received to help guide its examination of options as it develops a draft set of recommendations for the Secretary. Please note that this report summarizes the major themes the Commission has heard thus far; thus the treatment of the issues in the Commission's final report might be expanded or refined in light of future testimony, public comment and site visits.

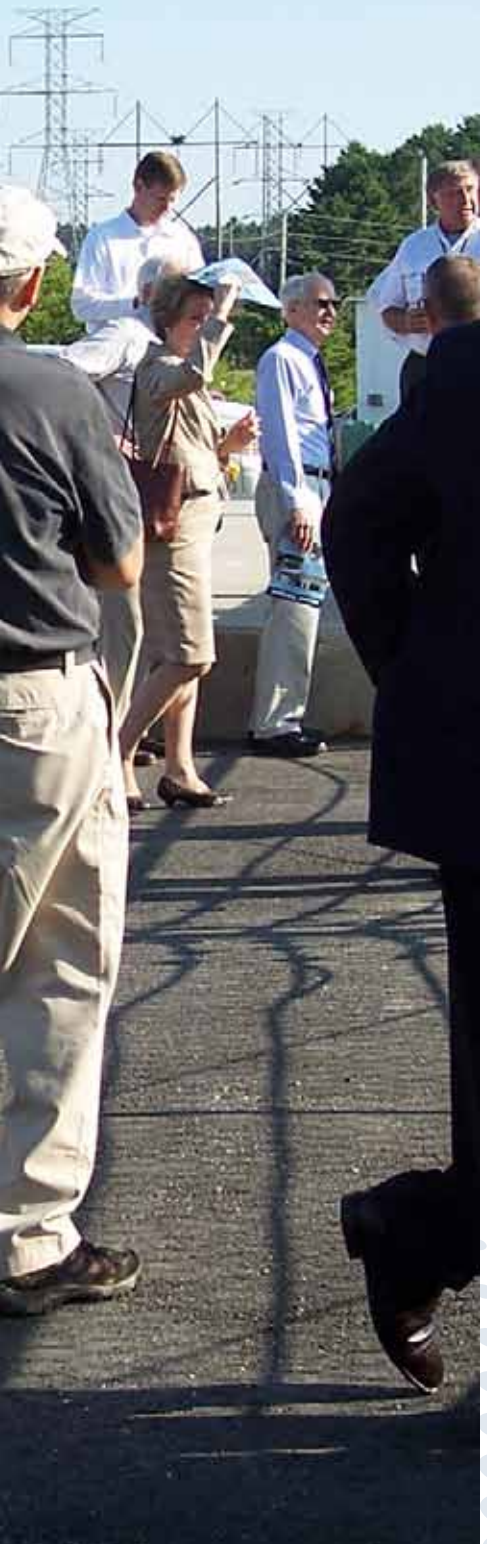
Major Themes the Blue Ribbon Commission Has Heard Thus Far...

A common thread running through what the Commission has heard to date is that the nation's inability thus far to develop a permanent repository for highly radioactive waste reflects failures that are primarily social and political, not technical. Undeniably, there are technical challenges to managing the back-end of the nuclear fuel cycle. But these difficulties have been dwarfed by the challenge of devising, implementing, and sustaining a policy and programs that are perceived to be fair, equitable, safe and sustainable.

In the sections that follow, the other major themes the Commission has heard to date are grouped under seven broad headings: **(1)** program governance and execution; **(2)** nuclear waste fee and Fund; **(3)** approach to siting; **(4)** reactor and fuel cycle technologies; **(5)** transport of used/spent fuel and high-level wastes; **(6)** storage of used/spent fuel and high-level wastes; and **(7)** disposal system for highly radioactive waste.

1 Program Governance and Execution

- The input received thus far reveals a deep and widespread erosion of trust in the ability of the federal government to meet obligations related to the disposal of used/spent nuclear fuel and high-level wastes.
  - For some, particularly the ratepayers and utilities that pay into the nuclear waste fund, this erosion of trust stems from the government's persistent inability to meet legislated milestones and other deadlines for accepting used/spent nuclear fuel and for siting a repository for used/spent fuel and high-level wastes.
  - In communities that host facilities for storing used/spent nuclear fuel and high-level wastes, this erosion of trust has been exacerbated by the Administration's decision to withdraw the license application for a proposed nuclear waste repository at Yucca Mountain. These communities express significant concern that the government has not met its commitments to begin accepting waste as required under contracts with utilities and under enforceable agreements with states that are hosting DOE waste sites.
  - For other communities and stakeholders, particularly those in Nevada and elsewhere who have opposed the Yucca Mountain repository, the erosion of trust stems from (a) the 1987 decision to focus the site evaluation effort only on the Yucca Mountain site and (b) the manner in which successive administrations and Congress have implemented the program to evaluate and develop this site.
  - In particular, the 1986 decision by the Secretary of Energy to halt the siting process for a second repository and the subsequent decision by Congress—as codified in the 1987 Nuclear Waste Policy Amendments Act—to allow only the Yucca Mountain site to be evaluated, have been cited as undermining confidence in many quarters that the site evaluation process would be conducted in a manner that was fair and objective.
  - Tribal representatives have stressed that a government-to-government relationship exists between federally-recognized tribes and the U.S. government, and that federal trust responsibilities have been systematically misunderstood or ignored by waste program managers.
  - Some community representatives have criticized the Department of Energy for a lack of transparency, ineffective communications, and inadequate outreach to the public as reasons for an erosion of trust.
  - This criticism of the Department was not universal; some community representatives complemented the Department on the steps it has taken to restore and maintain public trust in its ability to meet nuclear waste site cleanup milestones while protecting public health and safety.
- There is a widely-held view—across the full spectrum of Yucca Mountain project opponents, supporters and neutral observers—that the current program structure, in which the repository program is implemented by a federal agency (the Department of Energy) in an environment where funding and direction fluctuate unpredictably from year to year, is unsuitable going forward. Commenters have cited a number of specific problems:
  - Some witnesses expressed a view that the DOE is too large and its mission too diffuse to allow for the focus and commitment needed to effectively manage a controversial and complex project.

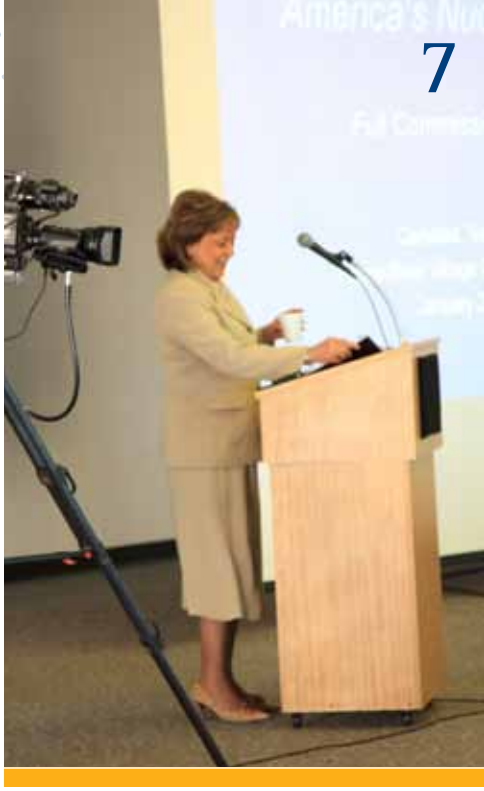


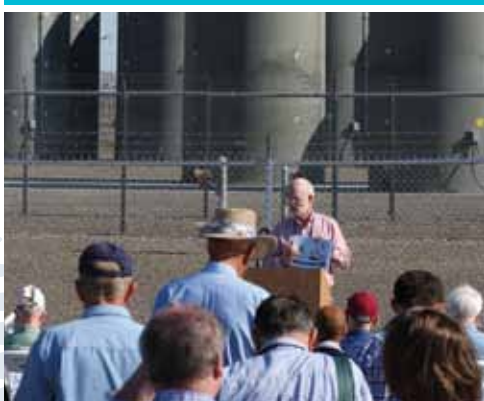
- Frequent changes and gaps in senior program leadership have been cited as a major reason for regular shifts in program strategy and operating philosophy that undermined confidence in the program.
- The inability of the nuclear waste program to have assured access to the Nuclear Waste Fund has been widely cited as inhibiting progress and making it difficult for program managers to enter into and uphold long-term commitments.

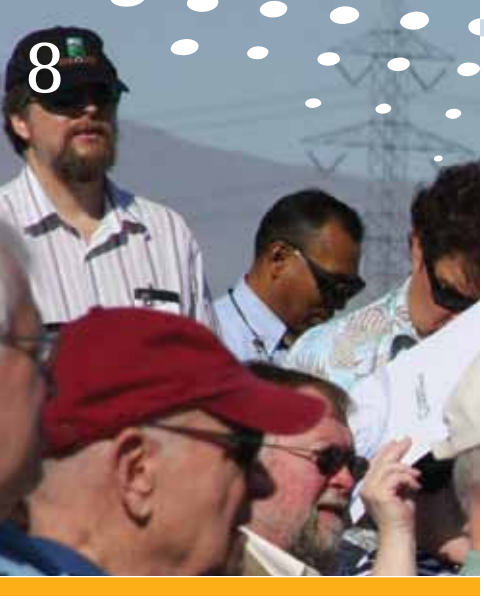
- These views about DOE's management of the Yucca Mountain project were not shared by representatives from the communities around the WIPP site.
- Most of the oral and written comments provided to the Commission express a desire to see the program to manage used/spent fuel and high-level nuclear waste removed from DOE and assigned to a new entity. There does not appear to be consensus, however, regarding either the exact nature of the entity or the scope of responsibility and authority it should wield.
- Regardless of the specific form of a new entity for implementing the nation's high-level nuclear waste program, witnesses have stressed that this entity must be structured in a way that allows it to (a) establish continuity, (b) demonstrate technical excellence, (c) be nimble enough to change course when required, (d) make and honor commitments (in the short, long, and very-long terms), (e) otherwise behave in ways that inspire trust and confidence, and (f) be insulated from undue political influence. Moreover, this level of performance must be sustained over many decades, if not longer.
- Witnesses have urged the Commission to recommend that the U.S. government take an integrated approach to nuclear waste management—one that incorporates both storage and disposal facilities as part of an integrated system.
- Witnesses have also urged that the Commission be mindful, in developing recommendations related to program governance, of the very long time horizons over which involved entities must maintain the various elements of the waste management system while concurrently maintaining the confidence of the citizenry.

2 Nuclear Waste Fee and Fund

- Significant frustration exists over the disconnect between the amount of revenue being collected through the waste fee and the much lower amount of funding that has been made available through the federal budget process to be spent on the waste program for which these revenues are intended.
- Some have expressed concern about the availability of moneys deposited in the Waste Fund, given the perilous state of the federal deficit.
- Those who have commented have been unanimous in their desire to see greater funding assurance for whatever entity is responsible for implementing the waste program going forward.
- Several witnesses have urged that the federal government cease collecting the nuclear waste fee until a new nuclear waste program is instituted.
- Many witnesses have urged that use of the Nuclear Waste Fund continue to be restricted to waste disposal activities only.
- Witnesses have expressed frustration with the waste of resources – waste of both nuclear waste fund resources and appropriated funds at Yucca Mountain, and waste of taxpayer resources in litigation.
- Witnesses have expressed skepticism about the viability of the existing NWF so-called "trust fund" and its availability to fulfill its intended purpose in the future







3 Approach to Siting

- Witnesses who have commented on this subject have noted that the process that led to the selection of the Yucca Mountain site was perceived by many as unfair, not grounded in sound science, and politically-motivated.
- Many speakers have urged that a siting process be developed in which host communities, state and tribal governments are (a) invited to participate in a consent-based process; (b) have access to the information and resources needed to fully engage key decisions and advocate effectively for their interests; and (c) retain the right to opt out. There has been no unanimity among commenters regarding the need for a state to have veto power over the siting process.
- Witnesses have further urged that the siting process must emphasize trust-building, informed consent, and community engagement, and that this emphasis should extend beyond site selection to the construction and operation of storage and disposal facilities.
- The Commission has heard testimony suggesting that willing and supportive communities, states and tribes could be identified using an open process that engages them from the outset, and that gives them a "seat at the table."
- Several commenters have recommended that the United States learn from Canada's decision to follow an adaptive, phased management approach. Specifically, the Canadian Nuclear Waste Management Organization has laid out a process that is designed to adapt to social and technical advances and is based on collaborative decision making.
- Some witnesses have expressed the view that selecting sites for controversial facilities (like centralized storage or geologic disposal facilities) and actually developing selected sites should be conducted by two separate entities. Others, however, have commented that a mid-stream change in the responsible entity would have a harmful effect on the effort to establish these facilities.

- During a visit to Finland and Sweden, the Commission heard from local government officials who have agreed to the development of deep geologic repositories in their areas. These officials expressed a great deal of confidence in the siting process and stressed that several elements were essential to build the foundation of trust needed to support a consent-based process:

  legal framework
  availability of financing
  knowledge and awareness
  openness and transparency

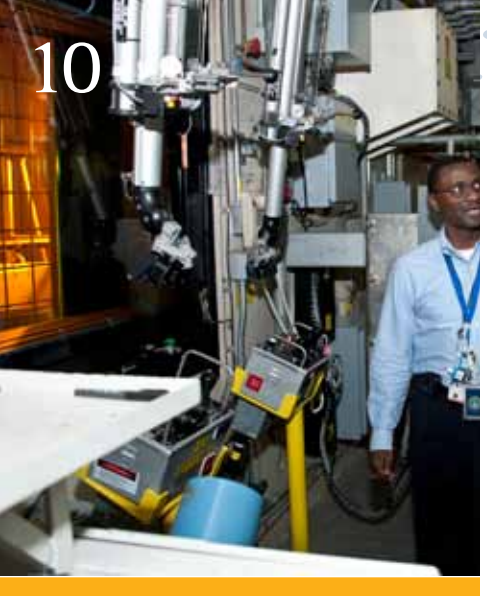
- Officials in Finland and Sweden also listed the major political considerations for local governments involved in siting decisions:

  long-term safety
  environmental impact
  health effects
  socioeconomic aspects

- Both critics and supporters of Sweden's plan for repository development cited the importance of providing funding, as a confidence-building measure, to allow local governments and non-governmental organizations to participate. Funding allows critics and local governments to obtain technical assistance that would otherwise be unaffordable for them so that they can participate in a meaningful way.

- In both Sweden and Finland, speakers emphasized the importance of the fact that the waste management entity is not self-regulating and not a governmental agency. The Government was charged with rule making, regulation, and approval; the waste management entity files the applications, and the regulators determine compliance.

- The concept of providing compensation or incentives to potential host communities and states has been raised by many speakers, but generally with the caveat that a community will and should engage in discussions about compensation only after it has assured itself that the operations to be hosted can be conducted safely and monitored over time.



4 Reactor and Fuel Cycle Technologies

- The Commission has received testimony describing a wide range of advanced reactor technologies including gas-cooled, liquid metal-cooled, and water-cooled reactors and other advanced concepts. These reactor technologies are being investigated by private sector, academic and government research organizations.

- Most witnesses agreed that costs for currently available fuel reprocessing technologies are higher than for the once-through fuel cycle, and that conventional recycle using current reactors produces relatively small reductions in the heat generation and long-term radiotoxicity of resulting waste streams. Others believe reprocessing based on today's technology can be cost-competitive with the once-through fuel cycle. Some commenters consider the deployment of conventional reprocessing technology to be a necessary intermediate step toward the future deployment of advanced fuel cycle technologies. Other commenters expressed a preference for staying with the once-through fuel cycle or "leap-frogging" directly to advanced fuel cycles.

- Testimony from technology developers and nuclear industry regulators indicates that the timeframe required to implement any game-changing new fuel cycle technology (e.g., full recycle in fast-spectrum reactors) would be on the order of decades.

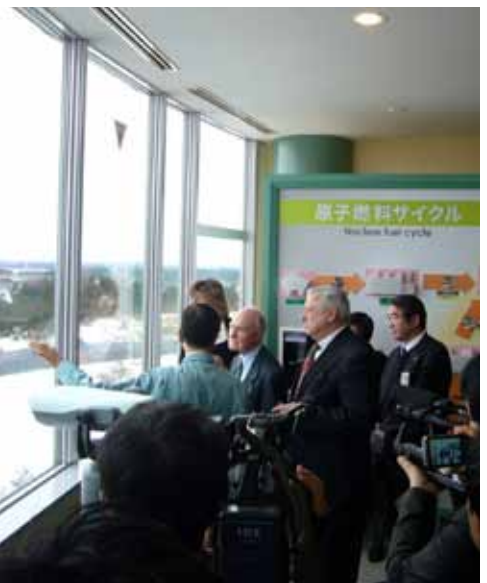
- The Commission has heard a diversity of views regarding the advantages and disadvantages of nuclear fuel cycles that incorporate advanced reactor systems and employ reprocessing or recycling technologies.

  - Commenters in the US, as well as nuclear professionals encountered during visits by several Commissioners to Japan, Russia and France, have cited a number of advantages of a closed fuel cycle (relative to the once-through fuel cycle as currently being practiced in the United States):

    i. Greater use of the energy potential of uranium and thorium resources
    ii. Reduced need for uranium mining (with corresponding reductions in the risk to workers, the public, and the environment from mining activities) and reduced need for uranium enrichment (with corresponding reductions in capital costs and in the use of enrichment technologies that can be deployed to produce to weapons-useable material)
    iii. A reduction (of uncertain magnitude) in the long-term hazard and heat generation of some radioisotopes in the waste stream
    iv. The possible reduction of long-term security risks through the consumption of weapons-usable materials
    v. The ability to condition reprocessing wastes into forms that can be specially designed for permanent disposal in particular geologic media

  - Commenters have also cited a number of disadvantages of closed fuel cycle options (again, relative to the once-through fuel cycle as currently employed in the United States):

    i. Increased near-term terrorism and proliferation risks due to the build-up of separated fissile materials (primarily plutonium)
    ii. Additional large capital investment requirements to build recycle facilities
    iii. Demonstrably higher total fuel cycle cost using current recycle technologies
    iv. Additional radioactive waste streams (low- and intermediate-level) that require disposal and that may not have a clear disposal path
    v. Increased risks of radiation exposures to workers
    vi. The potential for larger releases of radionuclides to the environment



vii. Other countries may be encouraged to reprocess if the US does
viii. Reprocessing could lead to increased transportation of waste through many communities

- Regarding concerns about nuclear weapons proliferation and nuclear security, witnesses have stated that these challenges cannot be solved solely through the application of new fuel cycle technologies. Opinions differ, however, on the degree to which advanced technology can serve as a deterrent to nuclear weapons proliferation and improve the physical security of nuclear materials and facilities.

- Several witnesses have emphasized that social as well as technical issues must be considered in making policy decisions concerning the application and management of advanced fuel cycle technologies. These witnesses argue that the federal nuclear energy research portfolio should also include both technical and social science research/activities.

- There appears to be a widespread consensus that existing and reasonably foreseeable nuclear fuel cycle technologies would not eliminate the need for a geologic disposal facility or facilities; there also appears to be consensus that current and advanced fuel cycles should be analyzed as an interconnected system in which each element must be compatible with and support the other elements.

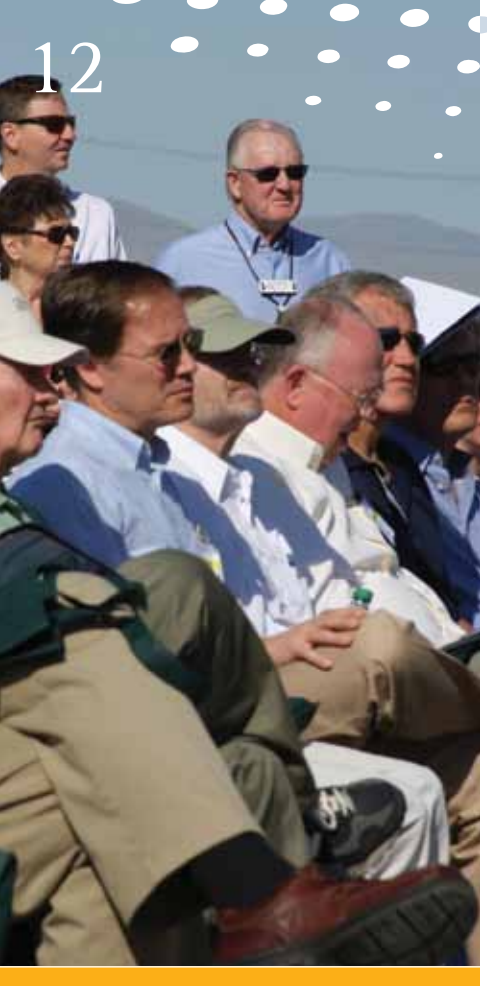
- Many commenters agree that government and industry should continue research into advanced nuclear energy technologies, but opinions differ concerning the recommended scope and annual funding commitment for such a research agenda.

- Many commenters noted that the closed (or partially closed) fuel cycle as practiced in France and Japan would not be cost effective (or economically viable) in the US and would produce additional waste streams (low- and intermediate-level nuclear waste) as well as increase proliferation and security concerns by separating plutonium.

- Testimony indicates that economically-recoverable uranium resources are nearly certain to be available in sufficient quantity to provide fuel for current and anticipated new reactors for at least several decades.

- The Commission has heard a wide range of views on whether and how the fuel cycle decisions made by the United States will influence the fuel cycle decisions made by other nations.
  - Some believe that the U.S. decision to forego reprocessing in the 1970s had a great deal of influence over other nations; they stress that a decision to restart a commercial reprocessing program—or even launching a major research program into closed fuel cycles—would encourage others to proceed with reprocessing, providing political cover for nations that wish to reprocess as part of a nuclear weapons program.
  - Others observe that the U.S. decision to forego reprocessing did not discourage others, including important allies (e.g., the UK, France, and Japan), from pursuing reprocessing. They argue that by being involved in reprocessing, the United States would have more influence on the way other nations manage the back end of their nuclear fuel cycles. According to this view, U.S. failure to be involved means abdicating any capacity to exercise leadership.

- A number of nonproliferation experts suggested that the US consider adopting a fuel leasing and take-back program to decrease global proliferation risks.



5 Transport of Used/ Spent Fuel and High-Level Wastes

- The Commission has been presented a large amount of evidence indicating that the systems in place to transport nuclear materials in the United States have operated safely and without significant incident over several decades. The development and implementation of a transport system for delivering transuranic defense waste to the WIPP facility in New Mexico, in particular, has been cited as providing useful experience in coordinating transportation-related planning and emergency response with state, county, and local authorities.

- Witnesses have also pointed out, however, that the amount of material being shipped historically has been small when compared with the amount of material that would require transport if the United States were to begin moving waste to one or more centralized storage locations and/or disposal facilities. In addition, security threats have changed following the 9/11 attack.

- The transport of used/spent fuel following extended interim storage has been cited as presenting unknown challenges due to uncertainties about the condition of the fuel after it has been stored for potentially long periods of time. However, witnesses have pointed out that past experience—including, notably, the shipment of highly damaged fuel assemblies from the Three Mile Island 2 reactor—has shown that degraded or even destroyed fuel assemblies can be loaded, transported, unloaded, and safely stored.

- Based on testimony and public comment received to date, opinion is divided on whether the physical components of the existing transport system (e.g., casks, handling systems, vehicles, etc.), along with the system of regulations and enforcement that governs the current system, are adequate to ensure that rigorous standards of safety and security can be maintained as larger volumes of waste are shipped.

- Successful campaigns to ship DOE-owned wastes have featured close cooperation between DOE and the involved states, the provision of appropriate resources and materials, and a high level of readiness and training among key staff, including waste handlers, security personnel, and first responders.

- Several witnesses emphasized that state, tribal and local law enforcement and emergency responders usually enjoy a high level of trust and credibility in the communities they serve. Accordingly, these witnesses urged that local authorities be involved early in the planning and communication phases of a transport campaign.

- The Commission has been urged to take advantage of social science research to understand public concerns about the transportation of nuclear wastes and to develop options for addressing those concerns.

6 Storage of Used/Spent Nuclear Fuel and High-Level Wastes

- Many witnesses have urged that used/spent fuel from shutdown nuclear power stations be moved to centralized locations (options mentioned have included existing nuclear power plant sites, U.S. government sites, and newly-constructed storage facilities). Others are of the view that fuel from shutdown plants should remain where it is until it can be moved to a permanent disposal facility.

- Witnesses agree that used/spent fuel will continue to be stored at commercial nuclear power plant sites for many years as part of normal plant operations.

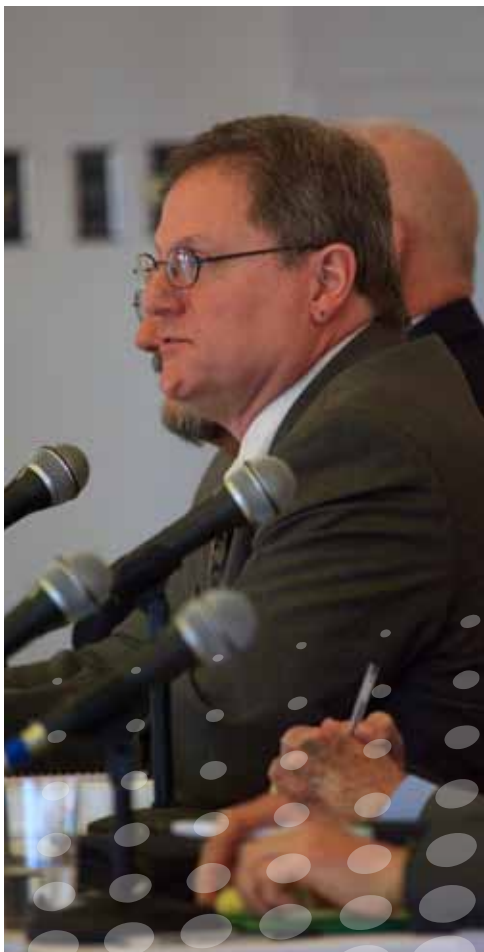
- Some have urged that the Commission recommend shutting down existing nuclear plants until a final disposal solution is found for used fuel.

- Experts from industry, the research community, and regulatory agencies believe that used/spent fuel can be stored safely at reactor sites for several decades. However, these experts have also underscored the importance of continued research and oversight to ensure that current storage methods and systems remain safe and secure.

- Several witnesses have urged that used/spent fuel be stored in hardened on-site storage (HOSS) facilities, often in conjunction with other measures, such as requiring a low-density, open-frame layout for fuel pools; protecting fuel pools; and providing for enhanced monitoring.

- The Commission has heard testimony concerning both potential advantages and disadvantages of the HOSS approach. Proponents argue that several features of a HOSS system would make it more safe and secure than current storage arrangements, particularly in the event of a severe, coordinated attack (such as the 9/11 attacks). Skeptics point to concerns that aspects of the HOSS approach—such as the use of hardened overstructures—could actually increase certain types of risk in the event of an attack.

- Incorporating interim storage—either at the site where the waste was generated or at a centralized location—has been cited as potentially having several benefits as one element of a comprehensive fuel cycle strategy:
  - Storage can be accomplished safely and securely, as demonstrated over decades at nuclear plant sites and government facilities in the US and at a centralized storage facility visited by Commissioners in Sweden.
  - Storage is comparatively inexpensive and preserves options if future technology advances allow for the large-scale, economic re-use of used/spent nuclear fuel.
  - Storage allows the fuel to cool and thereby reduces the siting and design challenges for a disposal facility and/or increases the capacity of such a facility.



- Proposals to construct new reactors have been opposed on the basis that no plan exists for long-term waste management and disposal—the existence of a facility for storing used/spent fuel away from the reactor could help to address this objection.
- Removing fuel from shutdown reactor sites would allow those sites to be returned to beneficial uses.
- Moving used/spent fuel to an interim storage site would enable the federal government to start fulfilling its contractual obligations to handle the disposition of used fuel and would limit taxpayers' growing liability for the government's continued failure to meet those obligations.
- Any needed repackaging/sorting of fuel for final disposal could be accomplished at centralized interim storage facilities, thereby avoiding the need for extensive handling at many reactor sites.
- Centralized storage helps achieve economies of scale for safety, security, and operations—particularly at decommissioned reactor sites where there is no operating reactor to bear most of the costs of such measures.

- A number of disadvantages have been cited in connection with developing one or more centralized interim storage facilities:
  - The possibility that needing to handle and move used/spent fuel at least twice—once from the plant site to centralized storage, and then again from centralized storage to a disposal facility—would increase the risk of accidents and the potential for workers to be exposed to radiation during handling and transport operations
  - The concern that a centralized storage facility could become a de facto repository and inhibit progress toward the development of one or more permanent disposal facilities
  - Some fear that centralized storage would centralize decision-making on how to best store and ultimately dispose of the waste, thereby eliminating the participation of the many congressional districts and stakeholders that are presently involved

7 Disposal System for High-Level Waste

- Witnesses from across the country, including especially many individuals from communities that are hosting shutdown reactors or DOE waste storage sites, have emphasized that the federal government has a moral and legal obligation to meet its commitments to remove used/spent fuel and high-level wastes.

- While experts generally agree that there is no immediate disposal "crisis" (in other words, current storage arrangements are generally viewed as acceptable from a risk standpoint), there is also broad consensus that progress toward a permanent disposal solution is needed (1) to build confidence in our nation's ability to responsibly manage the nuclear fuel cycle and (2) because of the long lead-times needed to site and license facilities. In line with this view, several witnesses have stated that getting a disposal program back on track should be the highest priority of the Commission.

- The consensus view—not only in the United States but internationally—is that long-term isolation of certain radioactive wastes is needed, regardless of the specific reactor and fuel cycle technologies in use.

- Similarly, there appears to be broad agreement that placing such wastes in deep geological structures is the preferred approach for assuring their long-term isolation from the accessible environment.

  - Mined repositories in suitable geologic formations have been recommended as the most widely-accepted approach; Commissioners who participated in visits to Finland, Sweden, Japan and France heard about active programs to develop deep, mined geologic repositories in those nations.

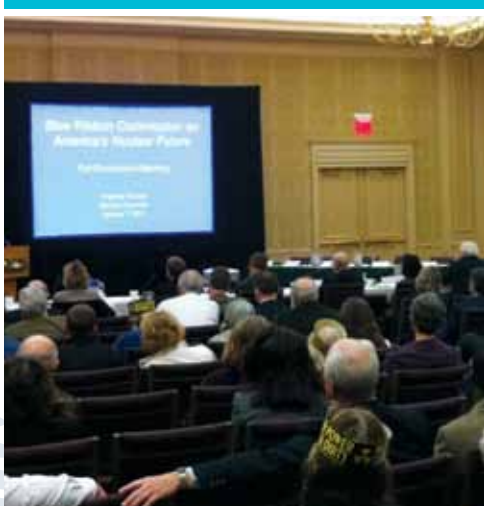
  - The use of deep boreholes to dispose of waste packages has been raised by several commenters as a promising option that bears further investigation.

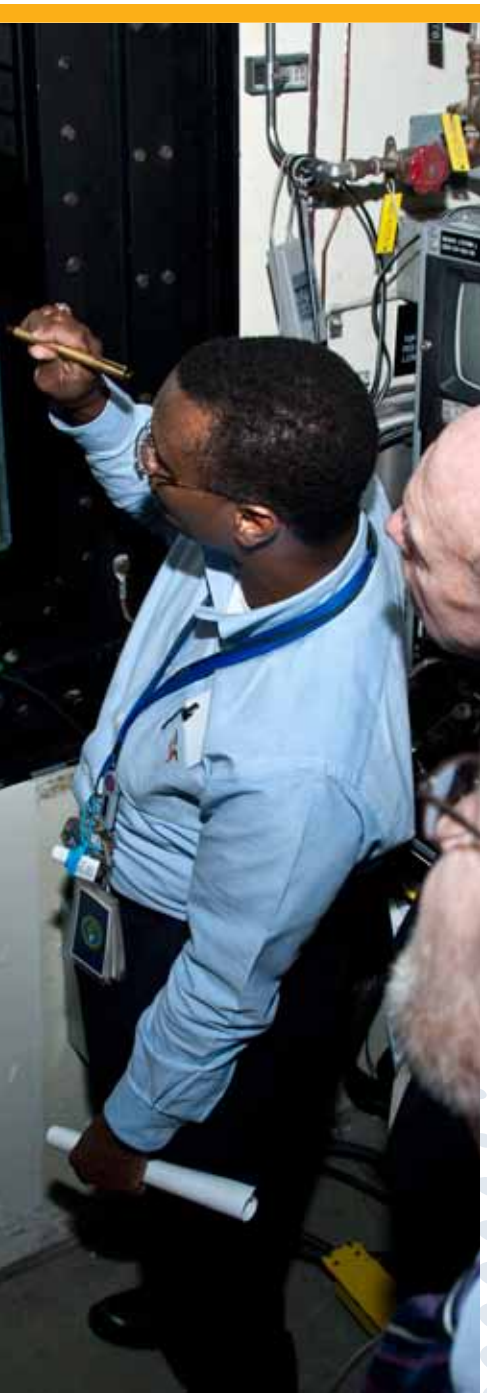
  - Other disposal options that have been brought to the Commission's attention include the placement of wastes on uninhabited or man-made islands, or in magma chambers.

  - Commenters have stressed that any system for deep geological disposal must include both natural and engineered barriers.

- The successful siting, licensing, and operation of the WIPP facility in southern New Mexico has been referenced as providing many valuable lessons that can be applied to the development of geologic disposal capability for used/spent fuel and high level waste. (As noted in a previous bullet, WIPP is a deep geologic repository—in salt—that is being used for the disposal of defense transuranic wastes.)

- Based on comments submitted to the Commission, witnesses are divided concerning whether and to what extent disposal facilities should be designed to ensure that disposal decisions are reversible and that waste can be retrieved, not only during the period of operations but after the facility is closed.





- Whatever disposal approach is ultimately selected, it must be socially acceptable, technically sound, environmentally responsible, economically feasible and sustainable across generations. As was highlighted to Commissioners during visits to Finland, Sweden, Japan and France, it is extremely important to keep in mind that individual and public perception of risk, and public views concerning the acceptability of various kinds of risk, can be markedly different from the perception and views of the "technical community."

- Many witnesses commented that there is no technical reason to require commercial wastes and defense wastes to be disposed of in the same facility; in fact, some of them have suggested that it may make sense to pursue different disposal paths for different types of wastes.

- Others have noted that treating defense and civilian wastes differently would (a) be inconsistent with the principle that wastes should be classified based on the hazards they present rather than based on how they were generated and (b) risk creating a class of orphan wastes.

- The Commission has heard a diversity of views on the proper division of roles and responsibilities between the Environmental Protection Agency (EPA), the Nuclear Regulatory Commission (NRC), and state, tribal and local governments in regulating a disposal facility or facilities and related storage, transport, and post-closure monitoring activities.
  - Many commenters have urged that state and tribal governments be given a meaningful role in screening candidate repository sites and regulating repository operations.
  - Several witnesses and members of the public expressed frustration over what they saw as the undue difficulty of participating in the NRC's adjudicatory licensing process.

- Problems of coordination between EPA and the NRC in developing repository standards have been widely cited as having contributed to negative perceptions of, and loss of confidence in, the Yucca Mountain project.

- Several experienced observers have noted that the standards developed for one or more geological repositories in the United States must be clearly articulated and understood by the public or they will undermine confidence in the site selection and licensing process.
  - The final EPA standard for Yucca Mountain, which required that repository performance be projected and regulated out to a time horizon of one million years, was viewed by many citizens and technical experts as unreliable and therefore meaningless.

- A number of witnesses expressed dissatisfaction with the current U.S. radioactive waste classification system and called for a risk-informed overhaul of the system.

Commission Charter

Department of Energy
Washington, DC 20585

Blue Ribbon Commission on America's Nuclear Future
U.S. Department of Energy

Advisory Committee Charter

1. **Committee's Official Designation.** Blue Ribbon Commission on America's Nuclear Future (the Commission).

2. **Authority.** The Commission is being established in accordance with the provisions of the Federal Advisory Committee Act (FACA), as amended, 5 U.S.C. App. 2, and as directed by the President's Memorandum for the Secretary of Energy dated January 20, 2010: Blue Ribbon Commission on America's Nuclear Future. This charter establishes the Commission under the authority of the U.S. Department of Energy (DOE).

3. **Objectives and Scope of Activities.** The Secretary of Energy, acting at the direction of the President, is establishing the Commission to conduct a comprehensive review of policies for managing the back end of the nuclear fuel cycle, including all alternatives for the storage, processing, and disposal of civilian and defense used nuclear fuel, high-level waste, and materials derived from nuclear activities. Specifically, the Commission will provide advice, evaluate alternatives, and make recommendations for a new plan to address these issues, including:

   a) Evaluation of existing fuel cycle technologies and R&D programs. Criteria for evaluation should include cost, safety, resource utilization and sustainability, and the promotion of nuclear nonproliferation and counter-terrorism goals.

   b) Options for safe storage of used nuclear fuel while final disposition pathways are selected and deployed;

   c) Options for permanent disposal of used fuel and/or high-level nuclear waste, including deep geological disposal;

   d) Options to make legal and commercial arrangements for the management of used nuclear fuel and nuclear waste in a manner that takes the current and potential full fuel cycles into account;

   e) Options for decision-making processes for management and disposal that are flexible, adaptive, and responsive;

   f) Options to ensure that decisions on management of used nuclear fuel and nuclear waste are open and transparent, with broad participation;

g) The possible need for additional legislation or amendments to existing laws, including the Nuclear Waste Policy Act of 1982, as amended; and

h) Any such additional matters as the Secretary determines to be appropriate for consideration.

The Commission will produce a draft report to the Secretary and a final report within the time frames contained in paragraph 4.

4. **Description of Duties.** The duties of the Commission are solely advisory and are as stated in Paragraph 3 above.

A draft report shall be submitted within 18 months of the date of the Presidential memorandum directing establishment of this Commission; a final report shall be submitted within 24 months of the date of that memorandum. The reports shall include:

a) Consideration of a wide range of technological and policy alternatives, and should analyze the scientific, environmental, budgetary, financial, and management issues, among others, surrounding each alternative it considers. The reports will also include a set of recommendations regarding policy and management, and any advisable changes in law.

b) Recommendations on the fees currently being charged to nuclear energy ratepayers and the recommended disposition of the available balances consistent with the recommendations of the Commission regarding the management of used nuclear fuel; and

c) Such other matters as the Secretary determines to be appropriate.

5. **Official to Whom the Committee Reports.** The Commission reports to the Secretary of Energy.

6. **Agency Responsible for Providing the Necessary Support.** DOE will be responsible for financial and administrative support. Within DOE, this support will be provided by the Office of the Assistant Secretary for Nuclear Energy or other Departmental element as required. The Commission will draw on the expertise of other federal agencies as appropriate.

7. **Estimated Annual Operating Cost and Staff Years.** The estimated annual operating cost of direct support to, including travel of, the Commission and its subcommittees is $5,000,000 and requires approximately 8.0 full-time employees.

8. **Designated Federal Officer.** A full-time DOE employee, appointed in accordance with agency procedures, will serve as the Designated Federal Officer

(DFO). The DFO will approve or call all of the Commission and subcommittee meetings, approve all meeting agendas, attend all Commission and subcommittee meetings, adjourn any meeting when the DFO determines adjournment to be in the public interest. Subcommittee directors who are full-time Department of Energy employees, as appointed by the DFO, may serve as DFOs for subcommittee meetings.

9. **Estimated Number and Frequency of Meetings.** The Commission is expected to meet as frequently as needed and approved by the DFO, but not less than twice a year.

   The Commission will hold open meetings unless the Secretary of Energy, or his designee, determines that a meeting or a portion of a meeting may be closed to the public as permitted by law. Interested persons may attend meetings of, and file comments with, the Commission, and, within time constraints and Commission procedures, may appear before the Commission.

   Members of the Commission serve without compensation. However, each appointed non-Federal member may be reimbursed for per diem and travel expenses incurred while attending Commission meetings in accordance with the Federal Travel Regulations.

10. **Duration and Termination.** The Commission is subject to biennial review and will terminate 24 months from the date of the Presidential memorandum discussed above, unless, prior to that time, the charter is renewed in accordance with Section 14 of the FACA.

11. **Membership and Designation.** Commission members shall be experts in their respective fields and appointed as special Government employees based on their knowledge and expertise of the topics expected to be addressed by the Commission, or representatives of entities including, among others, research facilities, academic and policy-centered institutions, industry, labor organizations, environmental organizations, and others, should the Commission's task require such representation. Members shall be appointed by the Secretary of Energy. The approximate number of Commission members will be 15 persons. The Chair or Co-Chairs shall be appointed by the Secretary of Energy.

12. **Subcommittees.**

    a) To facilitate functioning of the Commission, both standing and ad hoc subcommittees may be formed.

    b) The objectives of the subcommittees are to undertake fact-finding and analysis on specific topics and to provide appropriate information and recommendations to the Commission.

c) The Secretary or his designee, in consultation with the Chair or Co-Chairs, will appoint members of subcommittees. Members from outside the Commission may be appointed to any subcommittee to assure the expertise necessary to conduct subcommittee business.

d) The Secretary or his designee, in consultation with the Chair or co-Chairs will appoint Subcommittees.

e) The DOE Committee Management Officer (CMO) will be notified upon establishment of each subcommittee.

13. Recordkeeping. The records of the Commission and any subcommittee shall be handled in accordance with General Records Schedule 26, Item 2 and approved agency records disposition schedule. These records shall be available for public inspection and copying, subject to the Freedom of Information Act, 5 U.S.C. 552.

14. Filing Date.

Date filed with Congress: _____March 1, 2010_____

Signed

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Carol A. Matthews
Committee Management Officer

BRC Meetings and Site Visits

March 25 & 26, 2010 | Washington DC
Full Commission Meeting

May 25 & 26, 2010 | Washington, DC
Full Commission Meeting

July 7, 2010 | Washington, DC
Disposal Subcommittee Meeting

July 12 & 13, 2010 | Idaho Falls, ID
Reactor & Fuel Cycle Technologies Subcommittee Meeting

July 14 & 15, 2010 | Hanford Site/Kennewick, WA
Full Commission Meeting

August 10, 2010 | Maine Yankee Site/Wiscasset, ME
Transportation & Storage Subcommittee Meeting

August 19, 2010 | Washington, DC
Transportation & Storage Subcommittee Meeting

August 30-31, 2010 | Washington, DC
Reactor & Fuel Cycle Technologies Subcommittee Meeting

September 1, 2010 | Washington, DC
Disposal Subcommittee Meeting

September 21 & 22, 2010 | Washington, DC
Full Commission Meeting

September 23, 2010 | Washington, DC
Transportation & Storage Subcommittee Meeting

October 12, 2010 | Washington, DC
Reactor & Fuel Cycle Technologies Subcommittee Meeting

October 21 & 22, 2010 | Finland
Disposal Subcommittee Site Visits and Meetings

October 23, 25 & 25 | Sweden
Disposal Subcommittee Site Visits and Meetings

November 2, 2010 | Chicago, IL
Transportation & Storage Subcommittee Meeting

November 4, 2010 | Washington, DC
Disposal Subcommittee Meeting

November 15 & 16, 2010 | Washington, DC
Full Commission Meeting

January 6 & 7, 2011 | Aiken, SC and Augusta, GA
Savannah River Site Visit and Meeting

January 26, 27 & 28, 2011 | Carlsbad and Albuquerque, NM
Waste Isolation Pilot Plant Site Visit and Meetings

February 1 & 2, 2011 | Washington, DC
Full Commission Meeting

February 3, 2011 | Washington, DC
Classified (Closed) Meeting

February 8-11, 2011 | Japan
Site Visits and Meetings

February 17 & 18 | Russia
Meetings

February 20, 21 & 22 | France
Site Visits and Meetings

The Members

of the Blue Ribbon Commission on America's Nuclear Future are:

Lee Hamilton, Co-Chair - Director of The Center on Congress at Indiana University; former Member, U.S. House of Representatives (D-IN)

Brent Scowcroft, Co-Chair - President of The Scowcroft Group; former National Security Advisor to Presidents Gerald Ford and George H.W. Bush

Mark Ayers, President, Building and Construction Trades Department, AFL-CIO

Vicky Bailey, Former Commissioner, Federal Energy Regulatory Commission; former Indiana PUC Commissioner; former DOE Assistant Secretary for Policy and International Affairs

Albert Carnesale, Chancellor Emeritus and Professor, UCLA

Pete V. Domenici, Senior Fellow, Bipartisan Policy Center; former U.S. Senator (R-NM)

Susan Eisenhower, President, Eisenhower Group, Inc.

Chuck Hagel, Distinguished Professor, Georgetown University; former U.S. Senator (R-NE)

Jonathan Lash, President, World Resources Institute

Allison Macfarlane, Associate Professor of Environmental Science and Policy, George Mason University

Richard A. Meserve, President, Carnegie Institution for Science; former Chairman, U.S. Nuclear Regulatory Commission

Ernie Moniz, Professor of Physics and Cecil & Ida Green Distinguished Professor, Massachusetts Institute of Technology

Per Peterson, Professor and Chair, Dept. of Nuclear Engineering, Univ. of California – Berkeley

John Rowe, Chairman and Chief Executive Officer, Exelon Corporation

Phil Sharp, President, Resources for the Future; former Member, U.S. House of Representatives (D-IN)

The Commission welcomes your comments on this report.
Please send comments to BRC@nuclear.energy.gov

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BLUE RIBBON COMMISSION
ON AMERICA'S NUCLEAR FUTURE