

**Minutes of the
Blue Ribbon Commission on America's Nuclear Future
July 14–15, 2010
Three Rivers Convention Center
Kennewick, Washington**

Commission members present:

Lee Hamilton, Co-Chair	Allison Macfarlane
Brent Scowcroft, Co-Chair	Richard Meserve
Vicky Bailey	Ernest Moniz
Albert Carnesale	Per Peterson
Pete Domenici	John Rowe
Charles Hagel	Philip Sharp
Jonathan Lash	

Commission members absent:

Mark Ayers	Susan Eisenhower
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Speakers in order of appearance:

David Brockman, Manager, Hanford Richland Operations Office, USDOE
Warren Spencer, Secretary of the Lands Committee, Yakama Nation Tribal Council
Brooklyn Baptiste, Vice President, Nez Perce Tribe
Stuart Harris, Director, Department of Science and Engineering, Confederated Tribes of the Umatilla Indian Reservation
Alyssa Buck, Wanapum Tribe
Ken Niles, Administrator, Nuclear Safety Division, Oregon Department of Energy
Susan Leckband, Chair, Hanford Advisory Board
Carl Adrian, President and CEO, Tri-City Development Council
Gerald Pollet, Executive Director, Heart of America Northwest
Sarah Minkler, Legal Intern, Heart of America Northwest
Joseph Vic Parrish, CEO, Energy Northwest
Elizabeth Scheeler, Field Representative, Office of U.S. Senator Jeff Merkley
Ed Revell, Chair, Hanford Communities
Russell Jim, Manager, Environmental Protection and Hazardous Waste Management Program, Yakama Nation
Brian Kristjansson, State Director, Office of U.S. Senator Patty Murray
David Reeploeg, Central Washington Director, Office of U.S. Senator Maria Cantwell
Brienne Miller, Legislative Director, Office of U.S. Representative Doc Hastings
Mary Sue Wilson, Senior Assistant Attorney General, State of Washington
Christine Gregoire, Governor, State of Washington

About 145 others were in attendance in the course of the two-day meeting.

The commissioners toured the Hanford Site before the meeting began. The tour included the Energy Northwest Columbia Generating Station and its dry-cask storage area, the Hanford Tank Waste Treatment and Immobilization Plant (WTP, under construction), the C Farm (underground tanks from which solid and semi-solid wastes are currently being removed), the Hanford Waste Encapsulation and Storage Facility, and the Canister Storage Building and Interim Storage Area.

July 14, 2010

Morning Session

The meeting was called to order by **Timothy A. Frazier**, Designated Federal Officer of the Commission at 1:31 p.m. **General Brent Scowcroft**, Co-chair, described the purpose and scope of the Commission's activities.

Representative Lee Hamilton, Co-chair, reviewed the agenda and described the committee structure of the Commission. The floor was opened to comments by the commissioners. There being none, **David Brockman** was introduced to deliver a welcome from the Department of Energy (DOE) Hanford Richland Operations Office.

Warren Spencer was introduced to address treaty rights and trust responsibilities. On April 9, 2010, Pres. Obama and Sec. Chu were asked for government-to-government consultation on the Yucca Mountain decision, which affects the Yakama cultural resources and health. Federal agencies have been asked to include tribal governments in decision making, but no response from Chu or Obama has been received. The Hanford land is covered by the Treaty with the Yakama, 1855. The Yakama were dispersed by the creation of the Hanford Site, which is now heavily contaminated. It must be restored to a condition that allows full exercise of treaty rights in healthy conditions. The Yakama Nation has enacted a number of tribal directives for

- Establishing an agreement with DOE to ensure treaty compliance to protect the Yakama people and the natural resources;
- Initiating a comprehensive, independent assessment of natural resources affected by Hanford operations;
- Conducting an assessment of the unique risks to tribal members and their culture;
- Putting in place measures necessary for the special protection of the resources and the Native American peoples;
- Developing in consultation with the Department of the Interior and DOE a mutually agreeable process to permit co-management of the treaty-defined resources; and
- Establishing a comprehensive effort for the removal of the buried plutonium-contaminated waste for proper disposal in a geological repository.

DOE has recognized other tribal entities. The most important document is the trust responsibilities.

Brooklyn Baptiste said that the Nez Perce Tribe's positions are culturally based and guaranteed by the Treaty with the Yakama, 1855. The Tribe would like to continue its relationship with DOE. DOE tries to accommodate the needs of the Tribe. The Nez Perce Tribe has the rights to hunt and fish and use the lands of ceremonial purposes on more than 13,000,000 acres. The air, groundwater, and surface waters should not be adversely affected. The tribe opposes the disposal of anything greater than Class C waste. The decision to dispose of these wastes in a geological repository should be made in a scientifically sound manner, taking into account those risk factors and acknowledging that future population dynamics, technologies, or potential uses of these materials are not known. These treaties have not always been kept, but the Commission can change that. Nuclear waste should be disposed of elsewhere. Too much has already been absorbed by the land. The Tribe stands ready to assist the Commission in its work.

Hamilton expressed appreciation of the long-term perspective.

Peterson said that it would be better if wastes were not left in shallow disposal. The geological disposal *is* a more appropriate method of disposal for some wastes. He asked if DOE is the proper agency to oversee such disposal. Baptiste replied that DOE specializes in nuclear-waste disposal. DOE has a great affect on the Tribe's view and do their best to facilitate that trust obligation. They should be in charge of a disposal site. The tribes want to be included in policy discussions. The Tribe's relationship with DOE can only grow stronger.

Lash noted that it takes a long time to clean up problems that did not take that long to create. Technologies that seemed adequate 50 years ago do not seem so today. It will be decades before

such a repository is created. He asked if the Tribe was comfortable with the wastes remaining where they are and as they are being treated now. Baptiste answered that science gets trumped by politics in the end. The Tribe advocates for aboveground storage. It feels that the current efforts are the best that can be done.

Stuart Harris stated that it is important to express in the strongest terms that all of the high-level nuclear waste should be consolidated and immobilized via vitrification and isolated in some deep geological repository until the material is rendered neutral. The Umatilla people have lived on these lands for more than 10,000 years and have paid for, in blood, the right to retain their Treaty-reserved rights throughout their homeland, including the Hanford lands. However, they will be living with the contaminated consequences for the next 10,000 years.

The Confederated Tribes of the Umatilla Indian Reservation (CTUIR) is a natural-resource trustee of all the Hanford natural resources. All resources should be

- Clean enough to safely use for traditional activities and lifeways,
- Restored to baseline conditions to support rights and resources,
- Protected from most development, and
- Made accessible to tribal members for traditional uses.

The United States urgently needs one and probably more deep geological repositories for high-level waste (HLW) and transuranic (TRU) waste, both defense and civilian. That waste cannot be left at Hanford. DOE is legally required to retrieve tank waste and remediate the entire site. Interim safe storage is an option that may be required, but it entails additional mitigation obligations. The continued storage of commercial reactor fuel in pools is not a good idea nor is the lack of a nationally standardized infrastructure. In Europe, fuel rods are reprocessed without generating large amounts of liquid waste. Capping HLW waste in tanks or in the ground is illegal and wrong; a huge amount will reach the river. This hazard will last for tens of thousands of years; pump-and-treat remediation and biological treatments are shortsighted. The waste should be dug up and immobilized with vitrification. However, the current vitrification plans are not sufficient for all the HLW at Hanford.

There must be equity between the costs of building the nuclear industry and the people who have borne and will bear the burden of being exposed to the products of nuclear technology. True lifecycle costs of leaving waste at Hanford must be included in the lifecycle risk profile. Hanford was previously rejected as a viable geological repository. The geological repository has to be basalt crystalline and must be government managed.

The CTUIR would like an opportunity to be a partner with the U.S. Government in managing the nation's legacy responsibly.

Meserve asked what concerns Harris had about vitrification. Harris responded that change-outs of melters and secondary waste produce more waste. There needs to be redundancy.

Moniz asked how one evaluates the status of the science program in guiding long-term solutions. Harris answered that the *use* of the scientific information is not the problem. Integration of management systems is the problem. The easy things have been cleaned up; what is left are the hard ones. DOE has promoted good science; the problem is in the management.

Alyssa Buck spoke about the Wanapum Tribe's exercise of its aboriginal rights. The river is the sustainer of life. The Priest Rapids Wanapum are the caretakers of the land. The Tribe has built relationships with federal, state, and local agencies. The construction of the Hanford Site took thousands of acres of Wanapum lands, and the Tribe wants to see them restored to their original condition.

Sharp commented that this country would have benefited had the values and advice of the native people been taken during and after World War II.

Ken Niles of the Oregon Department of Energy spoke on behalf of the **Governor of Oregon, Ted Kulongoski**.

Oregon is impacted by nuclear waste generation, storage, transportation, and disposal because it is only a few dozen miles down river from the Hanford Site, provides the primary transportation corridor to and from the Hanford Site, and hosts the Trojan nuclear power plant, which has 34 dry-storage casks. The Hanford Site is not an appropriate location to take on any additional waste storage or waste disposal or waste generation missions. Its planned cleanup will not be adequate, and it should not be used for consolidated storage. A transportation safety program similar to that of the Waste Isolation Pilot Project (WIPP) program is needed but will take years to develop. The Commission should look for ways in which to deal with the waste in smaller, more manageable pieces. Separate disposal of defense-generated spent nuclear fuel (SNF) and HLW from the commercial SNF waste stream. Commercial SNF that resides at shut-down and decommissioned commercial reactors throughout the nation could be consolidated. The Western Governors Association (WGA) has said that any consolidated storage site should have the approval of the governor of the state in which it resides.

Sharp asked if Oregon experienced accidents in which radionuclides were released to the environment. Niles replied that there is confidence in the shipping containers. There have been accidents around the country, but none with high-level waste. In WIPP, accidents were caused by other drivers (e.g., drunk drivers rear-ending WIPP trucks). The program calls for good drivers, good equipment, and no driving in bad weather.

Hagel noted that the Disposal Subcommittee had heard from the WGA on the previous week and asked if the nation requires a permanent disposal facility and, if so, what the requirements for a repository should be. Niles said that Oregon has not weighed in on the first question beyond calling for deep geological disposal. The focus at Hanford is stabilization for deep disposal; but progress on vitrification is not being made. One has to make some assumptions because the endgame is not known. The near-term priorities are most important: get the waste out of the tanks and vitrified. A geological repository will be needed.

Lash asked how negotiations between states and the federal government would proceed. Niles replied that he did not have the answer to that question. The Commission should talk with the people in Carlsbad who can provide some lessons. The local governments have to be involved, also.

Moniz remembered that a Nuclear Regulatory Commission (NRC) report years ago suggested that an organization outside the government be used for waste transport. Niles responded that the WIPP is the preferred model.

Macfarlane asked what the right institution was to manage a repository. Niles answered that they had not gotten into the issues of a repository.

Peterson asked whether there should be complete independence between defense and commercial waste. Niles answered that it could begin with both. Defense HLW would have no use in the future. It should be disposed of.

A break was declared at 2:54 p.m., and the meeting was called back into session at 3:15 p.m.

Susan Leckband testified that there are many trenches, ditches, ponds, pipes, tanks, etc. from past operations that require remediation, treatment, and repackaging for final disposal, both on and off the Hanford Site. The remediation requirements are huge. The public participates in a wide spectrum of cleanup decisions and provides advice. The community is concerned that Hanford will become a long-term disposal site for HLW with degradation of groundwater, the vadose zone, and the river. The citizens are concerned about an additional HLW burden on the land. The vitrification waste canisters were designed for a given geology and may not be appropriate for the Hanford geology.

Peterson agreed that the waste-acceptance criteria need to be determined expeditiously, and the uncertainty of the geology of repositories needs to be eliminated soon to allow the design of the vitrified waste.

Lash asked why it took so long in the United States. Leckband replied that there were two false starts. There is a stringent regulatory process here. In France, a vitrification plant was designed, and the government gave them all the money up front.

Carl Adrian said that the Tri-City Development Council (TRIDEC), the community re-use organization for the area, had long advocated for the Hanford Site, especially for cleanup of defense wastes. The national ecosystem set up by the National Waste Policy Act (NWPA) has been upset by the abandonment of Yucca Mountain. Hanford is getting cleaned up. Some of the cleaned-up land could be turned into energy parks. The NWPA designated Yucca Mountain as the HLW repository. Hanford has both HLW and SNF. Yucca Mountain can easily and safely handle all the nation's defense waste, and should. If Nevada will not accept nuclear waste, then why should Idaho or Washington be expected to accept it?

Sound science is critical. NRC licensing is critical to moving ahead. France and Japan have working reprocessing efforts. Any alternative to Yucca Mountain will set back the timetable by a decade. The defense wastes need to be cleaned up, and the fuel cycle should be closed. HLW and residual waste from reprocessing should go to Yucca Mountain.

The community awaits the outcome of the Commission's deliberations. TRIDEC would be happy to brief the Commission on energy parks.

Scowcroft asked how the community's thoughts varied from those of the Native Americans'. Adrian did not think that they were too far apart. What are being looked at with DOE are long-term land-use issues. It is hoped that the Native Americans will participate in those discussions.

Macfarlane asked for a recommendation about repository decision making. Adrian replied that decisions have to be based on solid science and involve states and communities.

Gerald Pollet stated that Heart of America Northwest is trying to protect the Columbia River for 50 miles. The river has strontium-90 entering the water at a concentration that is 1500 times the drinking water standard. Tribes have treaty rights to fish that river and drink the groundwater, a practice that would now produce a 15% fatal cancer rate.

The Global Nuclear Energy Partnership (GNEP) plan called for shallow land burial of wastes, which is unacceptable. DOE proposes to leave massive amounts of radioactive waste in the ground; this is a cover-up rather than a cleanup. After cleanup, uranium-238 in the groundwater is projected to be present in concentrations that would be 50 times the drinking water standard (at which one adult in 10,000 dies of cancer). There would still be plumes of uranium from tank leaks, residues, and discharges. And plutonium and radioiodine contamination would produce concentrations that are greater than 160 and 50 times the drinking water standard, respectively.

Sarah Minkler was introduced by Pollet to describe current legal actions. Heart of America Northwest is filing a complaint against a 2004 DOE record of decision that implies that DOE will transport additional waste to Hanford and store it there without consultation with local authorities. For future generations, shipping additional waste to Hanford would be unwise before cleaning up what is already there.

Pollet continued: In 1986, a statewide referendum halted the effort to put Hanford forward as a Yucca Mountain alternative. There is 16 times more plutonium in the soil than DOE has admitted and plans to ship to WIPP. A repository is needed for low-activity vitrified waste from Hanford so damage to the groundwater can be avoided.

Domenici asked what the organization was. Pollet responded, Heart of America Northwest; it is against bringing in additional waste; it is for cleaning up; it is against taking until 2040 to close the single-shell tanks; it was against putting radioactive waste in unlined trenches. It has three hydrogeologists, produces reports on cleaning up the environment, and seeks to guarantee a healthy workforce.

Domenici asked if he supported the use of good science in decision making. Pollet replied, absolutely, everyone does.

Macfarlane asked where the figures that he cited came from. Pollet responded that they came from the DOE Draft Tank-Closure Waste Management Environmental Impact Statement.

Macfarlane asked where the iodine and plutonium came from. Pollet and said they came from vitrified waste and “off-site” waste brought in from outside. The sources of plutonium are tank discharges and 43 miles of unlined trenches. He did not know what comes from the tank heels (the residues in the tanks after they are pumped out).

Hagel asked if he had submitted his specific recommendations on Hanford to DOE. Pollet responded that the recommendations had been sent in a series of reports through the Hanford Advisory Board, and good discussions have been held with the site management. DOE wants to emplace caps on trenches rather than characterizing and digging up the contents. On tank wastes, the recommendation was that retrieval of single-shell-tank waste should proceed more quickly than currently planned. Hagel asked what he had meant by “cover-up.” Pollet answered that DOE has 43 miles of unlined trenches. DOE wants to just cover those trenches. But radioisotopes will continue to leach out of those trenches. There are still problems with secrecy at Hanford. This Commission has done a terrific job in transparency.

Joseph Vic Parrish was asked to speak on behalf of the nuclear industry. His company, Energy Northwest, operates the Columbia Generating Station, which has operated safely and reliably for 25 years. Since the station began operation in 1984, its ratepayers have paid approximately \$290 million to the nuclear waste fund. More than \$34 billion has been paid by electricity ratepayers nationwide since the fund was started in 1982. These funds were to be used to remove the used fuel from commercial nuclear power plants, starting more than 12 years ago.

Commercial used fuel management requires public trust and confidence. The Commission’s report should note that transportation is safe and secure, storage is safe and secure, and that technological improvements will allow the plutonium to be used as an energy fuel in the future.

The nuclear industry recommends that nuclear-waste policy principles must be durable, they must include a disposal plan, they should incorporate improvements over time, they have to ensure non-proliferation, and they should leverage experience to earn the public’s trust.

The nuclear industry also recommended that there should be actionable items for radioactive material management, robust integrated program management based upon enduring policies, reasonable cost benefits, the clear possibility of achievable geological disposal, and the establishment of centralized interim storage. Disposal efforts should be stepwise, public trust should be built, Yucca Mountain licensing should be pursued, SNF from shut-down reactors should be centralized, the statutory and contractual obligations with DOE to accept SNF should be met, and SNF management should be transferred to a quasi-independent program management that has access to the Nuclear Waste Fund. Consistent, sustained political and policy support is a must. Research, development, and demonstration (RD&D) should be pursued in recycling. Systems should be operated in a non-proliferating manner. There should be integrated management and disposal efforts of SNF and HLW.

All great accomplishments need vision and leadership. The Commission can do that for a system for nuclear waste that will endure.

Hamilton asked what he meant by quasi-independent program management. Parrish replied, a public-private enterprise.

Lash said that he had not seen any principles on environment and fairness. Parrish answered that there is a significant responsibility to make decisions today based on impacts of the future. Definite actions need to be taken.

Carnesale asked for an example of a good public-private organization. Parrish pointed to Energy Northwest and the United States Enrichment Corporation (USEC). Carnesale said that there was a worry about material being stolen and asked what had been meant by good efforts in other countries. Parrish suggested gaining control of material out there and burning it in reactors to prevent diversion.

Macfarlane asked who should pay for a reprocessing program. Parrish said that one has to look at what is the cheapest way to do it. Macfarlane asked if he would recommend PUREX.

Parrish noted that the French decided to do it a long time ago, but one cannot make the economics work today.

Peterson asked what the potential of small, modular reactors (SMRs) was from an industry perspective. Parrish replied that Energy Northwest had looked at the technologies. There are needs and reasons to build both large and small reactors. Energy demand comes in small bits. SMRs would match Energy Northwest's load growth. There are things that one can do with SMRs to manage the fuel efficiently.

Domenici noted that quasi-independent management would be innovative and different and suggested the Tennessee Valley Authority (TVA) as a model.

Rowe asked if the industry would be able to afford a search for a new replacement for Yucca Mountain. Parrish replied, no.

Elizabeth Scheeler read a statement from **Senator Jeff Merkley** of Oregon that stressed the need for the cleanup of the Hanford Site, especially because of the additional plutonium recently estimated to be in the Site. Cleanup of the Hanford Site should be in the forefront of the Commission's deliberations.

There being no further business, the meeting was adjourned for the day at 4:27 p.m.

Thursday morning July 15, 2010

The meeting was called into session at 8:01 a.m. by Timothy A. Frazier. Co-chair Brent Scowcroft introduced **Ed Revell** from the Hanford Communities. The nuclear waste at Hanford, under law, must be moved off-site to a geological repository. Much has been done in the cleanup of the site. Stimulus funding has made a big difference in speeding up the cleanup. 2300 tons of SNF have been processed and prepared for disposal at Yucca Mountain. More than \$40 million a year is spent on security at the Canister Storage Building and Interim Storage Area alone, draining cleanup funds. Hanford has 53,000,000 gallons of highly toxic radioactive waste. It will be vitrified and put in containers. Low-level waste will be buried at Hanford, but the HLW (10% of the volume and 90% of the radioactivity) is to be shipped to a geological repository. West Valley (New York) and the Savannah River Site (South Carolina) have similar vitrified HLW. The cost of searching for a Yucca Mountain replacement would further drain cleanup funds. The community was heartened that the NRC's Atomic Safety and Licensing Board (ASLB) ruled that DOE could not take back its license application. Hanford should not be put on the list of potential replacements for Yucca Mountain; it already has too much contamination. The community is looking forward to completing the cleanup of Hanford. It is hoped to convert part of the Hanford Site to an energy park.

It is essential that the Commission and DOE fully involve local government officials in their decision-making through a collaborative process and relationship. The Hanford Communities call on the Commission to consider local community issues and concerns throughout the decision-making processes and to abide with recommendations and decisions based on a science-based, informative process, not politics. Closing the fuel cycle should be taken into consideration; recycling and/or reprocessing of SNF must be examined as an option. The Hanford Communities are frustrated with having to start over in finding a replacement for Yucca Mountain after 30 years and billions of dollars. What assurance is there that another 30 years and billions of dollars would lead to a geological repository?

Rowe stated that changing the standards affects costs and schedules; a set of standards is needed for use in an array of siting decisions.

Meserve asked if there any situations in which Hanford would accept an interim storage facility. Revell answered, only if it knew for certain that it would truly be interim.

Peterson asked if defense wastes should be cleaned up first and whether irreversibility should be avoided in dealing with commercial SNF. Revell answered that he would feel comfortable with defense wastes getting a priority.

Lash said that there has to be willingness on the part of the state and local governments and asked who speaks for the localities and how one goes about forming partnerships with those entities. Revell responded that the leaders of the local DOE community leaders are in contact with DOE management. Setting up such meetings and workshops with other community leaders would be helpful.

Domenici asked whether a community would be more open today than in the past. Revell said that some would be more open than others. Communities that are remote and have high unemployment may be the best candidates.

Russell Jim was invited to speak about the Yakama Environmental and Waste Management Program. The natural foods and medicines that the Yakama have been consuming for millennia are their preventive medicine.

The Hanford Site is located on land to which the Yakama Nation has perpetual rights under the Treaty of 1855. DOE has a fiduciary responsibility to protect the resources of the site. The land was loaned temporarily during World War II. The Yakama were told that they could return after the war. That return has yet to occur. The NWPA requires government-to-government consultation with the Yakama on siting nuclear-waste facilities. There is no worse nuclear waste legacy than at Hanford. More than one-third of the tanks have failed. The NRC was petitioned to define high-level wastes. DOE plans to treat and vitrify the waste. 90% of Hanford's storage capacity was set aside for commercial SNF, leaving only 10% for the Hanford HLW, as evidenced in the NRC license application. All of Hanford's spent fuel and HLW must be shipped off-site to a geological repository. Near-surface storage of HLW is still planned at Hanford. The terms of the NWPA are being undermined and contravened at Hanford by reclassification of the high-level wastes. This action would create huge sacrifice zones at Hanford, challenging the health, safety, and way of life of the Yakama. Liquid wastes arising from reprocessing should be classified as HLW and not, in any account, remain on the Hanford Site. The Commission should address this issue. The reprocessing of commercial SNF could also add to the HLW. The pre-1970 waste must be treated equally with that produced after 1970. The Commission should start developing a specific solution to these problems. The law requires that drinking water standards should be met. Shallow burial is not acceptable.

Rowe asked how it was that many tribes can claim ownership of the Hanford Site but that they share the area. Jim replied, yes, we shared the resources and stole each other's women and horses. [Laughter]

Petersen pointed out that, under the NWPA, there is a limit of 70,000 metric tons on the first national repository and that a second repository was expected to be sited in the East. He asked if it were appropriate to have such artificial limits rather than focusing on scientific criteria in setting safety standards. Jim replied that the answer to that question was very complex and that he would be available to talk about that off-line.

Brian Kristjansson entered a statement on behalf of **U.S. Senator Patty Murray** from Washington. Twenty years after halting plutonium production, the focus is on cleaning up the Hanford Site. There has been progress. The federal government must meet its cleanup responsibilities, and the HLW must be moved off the site. The senator was disappointed that the Obama administration had taken Yucca Mountain off the table. For the past 30 years, Congress, independent studies, and every previous administration have voted for, pointed to, and funded Yucca Mountain. Billions of dollars have been spent treating and packaging nuclear waste for Yucca Mountain. While the nation waits for the courts to decide if the Yucca Mountain license application can be withdrawn, HLW will back up on the Hanford Site. Without a plan for a repository, it makes it difficult to plan the Hanford Site cleanup. The senator vowed to fight any attempt to make the Hanford Site a permanent repository.

David Reeploeg entered a statement on behalf of **U.S. Senator Maria Cantwell** from Washington. A plan is needed that addresses all levels of nuclear waste. Political decisions must be based on sound scientific analyses. Past efforts have failed to address the whole problem. A comprehensive approach is needed. Hanford must be cleaned up in a timely manner.

Brianne Miller entered a statement on behalf of **U.S. Representative Doc Hastings** from Washington. The Commission has been given an impossible mission. The amount of waste at the Hanford Site is unparalleled. That waste, under law, must be removed from the Hanford Site. The federal government must meet its cleanup responsibilities. The underground tanks' treatment plant is progressing well. The withdrawal of the Yucca Mountain license application has been denied by the NRC. Are *all* alternatives for a geological repository available to the Commission? More defense wastes were slated to go to Yucca Mountain from the Hanford Site than from any other place. A waste treatment plant is being built today. The defense wastes cannot be left onsite. With no repository for commercial SNF, the Obama administration is playing into the hands of opponents of commercial nuclear power. If one site is arbitrarily taken off the table, obviously all of the other sites are on the table. Hanford already has a great amount of nuclear waste. Has Hanford also been taken off the table?

It is recommended that the Commission go to all of the other defense-cleanup sites, visit Yucca Mountain, and talk with the experts on the ground. Include in the Commission's report the scientific reasons why Yucca Mountain is not possible. Talk with those building the waste treatment plant. Request a full accounting of the federal government's legal liabilities and obligations regarding both defense waste and commercial SNF given the additional delay in opening a repository. Clarify for the public if the Commission is studying all geological media. Let the people here know if Hanford has been unilaterally taken off the table in the same way Yucca Mountain has. And take the time to fully answer the questions posed by this community. The Congressman and his staff would be happy to meet with the Commission or provide any additional information.

Mary Sue Wilson entered a statement for **Rob McKenna**, Attorney General of the State of Washington.

In 1982, Congress enacted the NWPA to address the nation's problem of accumulated SNF and HLW. By an accepted, formal, scientific method, Yucca Mountain was the highest-ranked site. In 2010, there is only one legal process in place for developing a geological repository: the NWPA. A license application is pending before the NRC. This Commission must not disregard this process.

Between 1944 and 1989, the United States produced plutonium at Hanford, creating enormous amounts of radioactive and mixed radioactive and hazardous wastes. A safe geological repository is vital to the long-term disposal of these wastes. The State of Washington has done its part in nuclear weapons production and continues to pay the price. Yucca Mountain must be considered by this Commission, and the license application must not be withdrawn. Only Congress can take Yucca Mountain off the table. The Commission should recognize the 30-year process conducted under the NWPA. DOE should honor the ruling of the ASLB. It is critical that DOE not delay the cleanup and disposal of the Hanford wastes.

Meserve asked if the Attorney General has concerns about the reclassification of HLW. Wilson replied, yes; the Secretary of Energy does not have the authority to reclassify waste; that must be done by Congress. The concern is about the HLW that remains in the tanks (the heels).

The subcommittees were asked to report on their activities.

Domenici reported that the Reactor and Fuel-Cycle Technology Subcommittee has begun its work in earnest. The first meeting was held the prior Monday and Tuesday. It heard from Assistant Secretary Pete Miller and others about the DOE's roadmap for reactor development and from the Electric Power Research Institute (EPRI) about the industry's perspectives on the fuel cycle. The Subcommittee expects to have two more meetings in Washington, D.C., on

technological options and their implications by the end of the year. This is a strong nation, and it will find an answer on how to deal with the waste.

Meserve reported on the Transportation and Storage Subcommittee, which is dealing with topics that are faster upon us. The Subcommittee has been holding conference calls and developing a work plan. The first meeting will be held at a shut-down plant at the Maine Yankee site on August 10. All Commission members are welcome at the meeting. More progress will be reported at the September meeting of the Commission. Sharp added that the Subcommittee is conducting its meetings in as transparent a method as possible. Lash commented that, at the Columbia Generating Station, the question of dry-cask transportation arose. Rail would be the best option for that site, but the Governor of Oregon referred strictly to road transportation. In a follow-up discussion, it was stated that the planning process for rail transport was not as excellent as that for road transport. The Transportation and Storage Subcommittee should look into what would be needed to explore the use of rail transport. Rowe said that there is an overpowering need for integrity and credibility in the process. A great many people feel fundamentally betrayed by the process. No one believes the process has worked well for 50 years. The Disposal Subcommittee realizes that replacing Yucca Mountain would take decades. It is terribly important for the integrity of the nuclear industry to have some of the spent fuel moved. Anyone building a new plant needs credibility when saying that the site will not become a permanent waste storage site. Tangible results on the transportation front are needed in a meaningful timeframe. Petersen pointed out that the State of California has looked at nuclear waste transport in detail and suggested that the Commission and its subcommittees need to listen to California's findings.

Hagel reported on the Disposal Subcommittee, which had met the previous week in Washington, D.C. The Disposal Subcommittee recognized the confidence and trust building that is needed. There is no trust and confidence in the process now. The witnesses were asked by the Subcommittee to comment on how to develop disposal facilities, whether they were needed, and what options were available. A major lesson learned is that without political buy-in, one will not have a productive experience. Lash noted that the Subcommittee had heard from the Carlsbad community and from the counties around Yucca Mountain. Carlsbad supported their facility. Nevada was a stark contrast. Trust based on full information and cooperation is needed. Canada found itself with a siting process that did not work. They set up a corporation to consult with Canadians to ask what is ethical and how to meet the needs of the nation. The process produced trust and credibility, and they are now in a siting process. The Disposal Subcommittee would like to emulate that process and to consult with local governments, interest groups, and industries to develop a set of recommendations and standards. The Subcommittee will come back to the full Commission with a draft in January. It expects to visit places that have successfully sited waste-storage facilities.

Carnesale noted that many are concerned that Yucca Mountain is not on the table. However, this is not a siting commission. All places are on the table. We will not be selecting among them. People have made plans on the expectation that Yucca Mountain would operate. The reports of the subcommittees should give those people assurance that this Commission is open to all possibilities.

Rowe said that the siting process might consider elements of a Dutch auction in assessing the economic and other incentives required by a willing host community.

Domenici commented that WIPP taught him that one must rely on science, not fiction. In the transportation plan for WIPP, science was stretched to fiction. It took a group of leaders to bring real common sense to the scientific facts. This Commission will need to do something similar.

A break was declared at 10:21 a.m. The meeting was reconvened at 10:41 a.m.

Governor Christine Gregoire of Washington was introduced. She supported the consideration of the issues of nuclear waste. The town of Hanford was torn down to establish the Army's atomic frontier. Awareness of nuclear hazards increased, and the Hanford Site was seen as the most contaminated site in the world. She has been involved in the Hanford cleanup for two

decades. The cleanup schedule was set. The tripartite agreement focused on emptying the single-shell tanks, 66 of which were confirmed leakers. Seven have been emptied. That was a great accomplishment, but much still needs to be done. The waste must be vitrified and put in a geological repository. Deadlines have come and gone. The State of Washington filed suit against the federal government because the budget allowed cleaning up only one tank per year. An agreement has been reached for the cleanup of the single-shell tanks by 2040. All tank wastes are to be treated by 2047. She was encouraged that Sec. Chu was moving forward and getting the job done. This waste is a real threat to the communities. The Columbia River goes through 51 miles of the Hanford Site and passes 42 cities downstream. Progress has been made. \$2 billion has been infused into the process by the American Recovery and Reinvestment Act (ARRA). The amount of plutonium has been seriously underestimated. The federal government has made a pledge to completely clean up the site. A slowdown or stoppage is unacceptable.

Until there is a deep geological repository, aboveground storage is necessary. The most dangerous waste will require a deep geological repository. The \$12.3 billion waste treatment plant now under construction was designed to process the waste for Yucca Mountain. She was gratified by the ASLB's denial of the request by DOE to withdraw its license application. Only by showing resolve can the nation move into a nuclear future. However, the populace must be ensured that that nuclear future is environmentally responsible and economically feasible. SMRs may help economic viability, and nuclear fits well with the need to decrease carbon dioxide emissions. Responsible plans for waste management must be in place before nuclear plants are built. She was confident that the Hanford workers can complete the cleanup and advance the nuclear industry and that the Commission's results will lead to a bright future for America.

Macfarlane asked how trustful the Governor was of the new agreement and how one develops trust over long periods. Gregoire replied that, as science and testing advanced, it was found that the original timelines were impossible to meet, so the parties were pragmatic and reset the timelines. Trust will be garnered if science is followed and effective and meaningful goals are set. One cannot plan and plan and plan. One has to get the job done. The plume has to be stopped at the source: the tanks.

Peterson said that he was confident that this nation has the capability to address these problems. Getting the first seven tanks clean shows that it can be done. He asked whether, when it comes to demonstrating capability, the efforts to dispose defense HLW should be prioritized to show that it can be done. Gregoire replied, yes, and it is a moral responsibility. The people of Washington have been patient, but the federal government must leave a clean, safe site now. The nation would like to see that it can be done.

Scowcroft asked how she would characterize the economic impact of the Hanford Site on surrounding communities and the state. Gregoire replied that, during the era of plutonium production, the entire economy of the Tri-Cities area depended on plutonium-production activities. The tripartite agreement was seen as an economic loss. Cleanup has injected a great economic benefit. However, if the plume reaches the Columbia River, the economy of the state will plummet. We can show and share with the rest of the world how to deal with nuclear waste.

Lash noted that the Governor had dealt with DOE as a generator, manager, cleaner up, and storer of waste and asked if there were a need for another institution than DOE to manage waste disposal. Gregoire replied that every time there is a new secretary of energy, the discussions go back to square one. This secretary has come up to speed quickly and shown more commitment to decommissioning the Hanford Site. He came out to the site right away, made a commitment, and followed up on that commitment. Hanford is not the right place for a repository because of the water table. She did not believe that a new site will be picked anytime soon, but Hanford cannot wait; it is time to move on.

Meserve noted that there was a lot of SNF at shut-down reactors and that an interim site is needed. He asked what the State of Washington's view would be about hosting such an interim storage site. Gregoire replied that there has been tension during the past two decades. No progress

has been made, and the State has been told that more waste is being prepared to be brought to Hanford. The cleanup needs to be demonstrated. One way to guarantee that such a site were truly temporary would be to move forward with the construction of a permanent facility. There would be a good argument for monitored, retrievable storage, but the people would be very skeptical.

Rowe said that safety standards for a deep geological repository went from 10,000 years to 1 million years and asked how one formulates a safety standard that is intended to be permanent but is not vainglorious in itself. Gregoire answered that this country has the knowledge and capability to set such standards for “as long as you can.” The nation should be looking at a site for a deep geological repository. Yucca Mountain should not be taken off the table. There is no scientific reason to take it off the table.

Domenici pointed out that one anomaly about the paying for these facilities is that Hanford’s funds come from the Department of Defense. There is never enough money to do what has to be done. Budget constraints will be confronted during an increase in needs by the Hanford project. The State of Washington needs to press hard on the executive branch of government to put the needed funds in the budget. Gregoire agreed. As the vitrification plant is started, the costs are great, and then they decrease. A constant level of funding was called for by the tripartite agreement. DOE breached that agreement. There is now a consent decree for DOE to live up to its obligations.

Bailey asked what building blocks the Commission could produce from a policy perspective. Gregoire replied that, with something as threatening as the waste at Hanford, supporters were lost when they found out that a decision was made on solely a political basis. Congress plays a major role in appropriations, but they look to the executive branch to set guidelines. For too long, the cleanup has been delayed. Bailey followed up by asking if we are looking at amending the Nuclear Waste Policy Act and the need for Congressional support and how do we keep “politics” out of it when politics is in everything either big “P” or little “p.” Gregoire remarked that having been Governor and in other capacities she knows very well that there are politics in everything. Then she went on to explain distinguishing between levels of politics.

The Environmental Protection Agency (EPA) must stand up to its charge, and the State has to stand up, and DOE has to stand up. We cannot turn our backs on that community when it stood up for us in World War II. The Commission’s guiding principles have to be based on science. There has to be transparency. All the parties have to play their roles.

Sharp asked the Governor to provide insights on transportation issues. Gregoire responded that every transportation corridor to New Mexico has raised concerns. If an interim site and then a geological repository are established, the problems will be multiplied. That fact needs to be kept in mind. Washington should provide monitored, retrievable storage as the country moves forward on a deep geological repository.

Carnesale observed that politics is not always a dirty word. It is how problems are solved in a democracy. Waste decisions need to be based on science, but at the same time in consultation with local governments (i.e., outside science). Gregoire said that the federal government cannot show up and say, “We are going to do this to you.” It has to show the community that the populace is going to be safe and secure and that it is going to benefit from new jobs.

Hamilton stated that the Commission will take the need for partnership very seriously. It is still at the early stages of this process and will need a good deal of help. Gregoire said that she and her administration will be glad to help.

The floor was opened to public comment.

Carl Holder of the Columbia Basin Consulting Group said that R&D is needed now for the fast reactors that are needed for closing the fuel cycle. The closing of the Fast Flux Test Facility (FFTF) has crippled DOE’s ability to conduct such R&D. The facility’s reactivation and the

opening of the Fuels and Materials Examination Facility (FMEF) would advance the development of fast reactors by a decade.

Gerald Woodcock of the Eastern Washington Section of the American Nuclear Society stated that Hanford has a major collection of scientists and engineers. The facilities here have the capability to advance science. The FFTF cost \$1.2 billion and should not be abandoned. The FMEF cost more than \$750 million but was never commissioned and would play a role in developing a fast-reactor fuel cycle. The decision to abandon Yucca Mountain was made for political, nonscientific reasons. The Yucca Mountain licensing process should be pursued.

Gary Troyer, a retired nuclear chemist, supported the GNEP and Advanced Fuel Cycle Initiative (AFCI) programs. They would provide compact, responsive, safe, and effective nuclear power at a cost that would be competitive with coal. The United States is now 30 years behind the rest of the world. A small, final repository like Yucca Mountain would be needed, but no more would be needed if the fuel cycle were closed. If adequate energy is not provided, the United States will lose its world leadership.

Ed Higbee from Lincoln County, Nevada, noted that his home county was next to the Nevada Test Site. To work through this problem, people need good, solid information and they need to know that jobs would be brought into the area. He urged the Commission to help teach people what benefits would accrue from a geological repository. There is no growth in Lincoln County. Nuclear transportation can be done safely.

Keith Larson from the Caliente Corridor near Yucca Mountain in Nevada said that Hanford had become a huge concern for him. He appreciated the comments from the Indian Nations. He has a 30-year history with the railroad and as mayor of Caliente. The citizens of Caliente have been living with this thing for years. They are all neighbors, and how they relate to each other is important. They are interested in doing what they have to do.

Susanne Vandenbosch, a retired nuclear chemist and political scientist from Seattle, Wash., expressed the need for redundancy. Cask storage is needed. Interim storage is needed. States should not have an absolute veto, but there should be higher limits for overriding such a veto.

Robert Vandenbosch, a retired nuclear chemist from Seattle, Wash., said that, even if Yucca Mountain eventually fails, this Commission should be guided by lessons learned from the experience. The appropriation act that supports this Commission says that it is to consider *all* alternatives (including Yucca Mountain). If, on the other hand, the Department of Energy is allowed to withdraw the license application by simply declaring the site not workable, then what assurance is there that a future repository will not meet the same fate? The Commission should consider what went right and wrong in the Yucca Mountain saga.

David Merrill of AREVA stated that all SNF assemblies should be reprocessed to capture the energy potential and to produce MOX fuel. Radioactive waste should be vitrified and shipped to Yucca Mountain. Decay rates should be easily calculable, allowing confident management of the process. Medical isotopes should be extracted from SNF. AREVA'S reprocessing of SNF could be brought to the United States if there were not the restriction on reprocessing and possible plutonium extraction. Yucca Mountain should store *only* vitrified, characterized waste, not SNF in zirconium cladding.

Gordon McCleary from the Plasterers and Cement Masons International Union said that this community will stand up for the law. If Yucca Mountain does not proceed, Hanford could become, by default, the repository for 70% of the nation's waste. The Hanford Site needs to be cleaned up.

B. C. Smith from the Central Washington Building Trades Union said that the union members are concerned that, if Yucca Mountain is not completed, their community will become a permanent storage site, hampering other development. Any re-engineering of this plant would affect 1500 workers working on the project. Yucca Mountain should be utilized.

Janet Johnson, a retired NRC employee and quality-assurance inspector, stated that it is imperative that Yucca Mountain be saved. Deciding politically to close it is ridiculous. It has

been planned for many years. To walk away from it is inconceivable. No new nuclear plants should be allowed until there is a repository. Yucca Mountain is vital to the nuclear industry. Making the Columbia River safe is important. Yucca Mountain is ready to go. She voted for Obama and thinks that she should be shot.

There being no further business, the meeting was adjourned at 12:13 p.m.

Respectfully submitted,
Frederick M. O'Hara, Jr.
Recording Secretary
July 28, 2010