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August 17, 2011

**MEMORANDUM**

**TO:** Senator Kevin Raye, President of the Senate, and Representative Robert Nutting, Speaker of the House

**FROM:** Mary C. Mayhew, Commissioner   
Department of Health and Human Services

**SUBJECT:** State Nuclear Safety Inspector's June 2011 Monthly Report to the Legislature on the Interim Spent Fuel Storage Facility in Wiscasset, Maine

Legislation enacted in the spring of 2008 requires the State Nuclear Safety Inspector to provide monthly reports to the President of the Senate, Speaker of the House, the U.S. Nuclear Regulatory Commission, and Maine Yankee. The report focuses on activities at the site and includes highlights of the national debate on storing and disposing the used nuclear fuel.

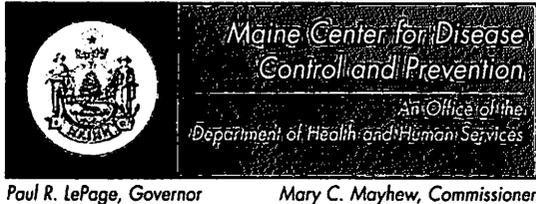
The enclosed report provides the information required under Title 22 of the Maine Revised Statutes Annotated §666, as enacted under Public Law, Chapter 539, in the second regular session of the 123<sup>rd</sup> Legislature.

Should you have questions about its content, please feel free to contact Mr. Patrick J. Dostie, State Nuclear Safety Inspector, at 287-6721.

pjd

Enclosure

cc: Vonna Ordaz, U.S. Nuclear Regulatory Commission  
Nancy McNamara, U.S. Nuclear Regulatory Commission, Region I  
James Connell, Site Vice President, Maine Yankee  
Katrin Teel, Senior Policy Advisor, Governor's Office  
Sheila Pinette, DO, Director, Maine Center for Disease Control and Prevention  
Patricia W. Aho, Acting Commissioner, Department of Environmental Protection  
Richard Davies, Maine Public Advocate  
Lt. Christopher Grotton, Special Services Unit, Maine State Police  
Nancy Beardsley, Director, Division of Environmental Health  
Jay Hyland, PE, Manager, Radiation Control Program



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July 20, 2011

To: Honorable Mr. Kevin L. Raye, President of the Senate  
Honorable Mr. Robert W. Nutting, Speaker of the House

Subject: State Nuclear Safety Inspector Office's June 2011 Monthly Report to the Maine Legislature

As part of the State's long standing oversight of Maine Yankee's nuclear activities, legislation was enacted in the second regular session of the 123<sup>rd</sup> and signed by Governor John Baldacci requiring that the State Nuclear Safety Inspector prepare a monthly report on the oversight activities performed at the Maine Yankee Independent Spent Fuel Storage Installation facility located in Wiscasset, Maine.

Enclosed please find the Inspector's June 2011 monthly activities reports. The major highlight for the report locally is the winding down of the post decommissioning groundwater monitoring agreement activities. The national highlights for June include:

- The Nuclear Regulatory Commission's (NRC) Office of the Inspector General report stating that the Chairman of the NRC did not violate any laws in terminating the Yucca Mountain license proceedings but willfully withheld information and misled the other four Commissioners,
- The House Subcommittees investigations into the Nuclear Regulatory Commission's (NRC) Inspector General report on their findings of Chairman Jaczko's decision to close down the NRC license proceedings on Yucca Mountain and the NRC Staff's testimony on their criticism of the Chairman's actions,
- The House Committee on Science, Space, and Technology report detailing the complete absence of scientific information and analysis used to support the Administration's decision to shutdown the Yucca Mountain Project,
- The Blue Ribbon Commission on America's Nuclear Future Disposal Subcommittee draft recommendations for the disposal of the nation's civilian and defense-related spent nuclear fuel,
- The Nuclear Regulatory Commission research report indicating the potential for stress corrosion cracking in dry cask storage canisters in a marine environment.

Please note that the reports will not feature the glossary and the historical addendum as in previous years. However, both the glossary and the addendum are available on the Radiation Control Program's website at <http://www.maineradiationcontrol.org> under the nuclear safety link. Should you have questions about the reports' contents, please feel free to contact me at 207-287-6721, or e-mail me at [pat.dostie@maine.gov](mailto:pat.dostie@maine.gov).

  
Patrick J. Dostie  
State Nuclear Safety Inspector

Enclosure

cc: Vonna Ordaz, U.S. Nuclear Regulatory Commission  
Nancy McNamara, U.S. Nuclear Regulatory Commission, Region I  
James Connell, Site Vice President, Maine Yankee  
Mary Mayhew, Commissioner, Department of Health and Human Services  
Sheila Pinette, DO, Director, Maine Center for Disease Control and Prevention  
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Nancy Beardsley, Director, Division of Environmental Health  
Jay Hyland, PE, Manager, Radiation Control Program

# State Nuclear Safety Inspector Office

## June 2011 Monthly Report to the Legislature

### Introduction

As part of the Department of Health and Human Services' responsibility under Title 22, Maine Revised Statutes Annotated (MRSA) §666 (2), as enacted under Public Law, Chapter 539 in the second regular session of the 123<sup>rd</sup> Legislature, the foregoing is the monthly report from the State Nuclear Safety Inspector.

The State Inspector's individual activities for the past month are highlighted under certain broad categories, as illustrated below. Since some activities are periodic and on-going, there may be some months when very little will be reported under that category. It is recommended for reviewers to examine previous reports to ensure connectivity with the information presented as it would be cumbersome to continuously repeat prior information in every report. Past reports are available from the Radiation Control Program's web site at the following link: [www.maineradiationcontrol.org](http://www.maineradiationcontrol.org) and by clicking on the nuclear safety link in the left hand margin.

Commencing with the January 2010 report the glossary and the historical perspective addendum are no longer included in the report. Instead, this information is available at the Radiation Control Program's website noted above. In some situations the footnotes may include some basic information and may redirect the reviewer to the website.

### Independent Spent Fuel Storage Installation (ISFSI)

During June the general status of the ISFSI was normal. There were no instances of spurious alarms due to environmental conditions.

There were six fire related impairments written from June 8<sup>th</sup> to June 21<sup>st</sup>. Five were associated with ongoing fire detection system upgrades. The last impairment was written because of a lightning strike. The strike caused a loss of communications between the gatehouse and the security operations building. There was no fire.

There was no security related impairment in June. There were, however, eight security events logged for the month. Six were due to transient camera issues due to environmental conditions. One involved a transient computer problem that went away when the computer was rebooted. The remaining event was written for an intrusion detector problem which was repaired the same shift.

There were twelve condition reports<sup>1</sup> (CR) for the month and they are described below.

1<sup>st</sup> and 2<sup>nd</sup> CRs: Were written to document a man-lift bumping into equipment and causing some minor damage on two separate occasions on the same day. Workers were retrained on safe operations on the man-lift. The damage was so slight that any repairs are unlikely.

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<sup>1</sup> A condition report is a report that promptly alerts management to potential conditions that may be adverse to quality or safety. For more information, refer to the glossary on the Radiation Program's website.

- 3<sup>rd</sup> CR: Documented a spotty spill trail from the parking lot to the dumpster. The spots were from an unknown source. Attempts were made to determine its composition but were unsuccessful as the material had dried up.
- 4<sup>th</sup> CR: Documented another instance of equipment being bumped by a man-lift during maintenance activities. There was no damage.
- 5<sup>th</sup> CR: Documented a normally locked security cabinet that was found unlocked for less than two minutes. The cabinet was locked upon discovery.
- 6<sup>th</sup> CR: Documented a file custodian label out of date. The label was corrected.
- 7<sup>th</sup> CR: Documented a door access control issue. The door control was not fully compliant with fire safety codes. A work order was issued and parts were ordered to fix the problem.
- 8<sup>th</sup> CR: Documented the communication relay damage from the lightning strike on the gatehouse. The damage was repaired the next day.
- 9<sup>th</sup> CR: Documented a vehicle not properly secured in the protected area. The key was removed, but the vehicle was not disabled. The vehicle was disabled upon discovery.
- 10<sup>th</sup> and 11<sup>th</sup> CRs: Were written to track open items from an internal, semi-annual quality assurance surveillance of the facility's program and activities.
- 12<sup>th</sup> CR: Documented a person entering the restricted area without wearing assigned radiation dosimetry. The individual was counseled and restricted from the radiation area until a dose investigation was completed. The dose was determined to be on the order of a few micro-rem<sup>2</sup>.

#### *Other ISFSI Related Activities*

1. On June 4<sup>th</sup> a worm or clam digger was observed by security crossing Maine Yankee's property on Foxbird Island. The local law enforcement agency was notified. They responded but were unable to locate the individual.

#### *Previous ISFSI Related Activity*

1. On May 18<sup>th</sup> Maine Yankee conducted its annual fire and medical drill. The drill scenario involved a structural fire in the truck bay at the site's Security and Operations Building with one person overcome by smoke. The Wiscasset fire and ambulance crews responded along with the Westport Island Fire Department. The critique afterwards identified one improvement item that involved fire fighter accountability.

### Environmental

On June 30<sup>th</sup> the State performed its quarterly field replacement of its radiation monitoring devices, thermoluminescent dosimeters<sup>3</sup> (TLDs), near the ISFSI. When the results are received from its California vendor, Global Dosimetry, the results will be provided in the August monthly report.

### Maine Yankee Decommissioning

Except for the Confirmatory Summary Report still under review, there is nothing new to report for this month.

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<sup>2</sup> A micro-rem is a unit of dose equivalent that is based on how much of the radiation energy is absorbed by the body. Micro is a prefix that means one millionth of (1/1,000,000). For more information, refer to the glossary on the Radiation Program's website.

<sup>3</sup> Thermoluminescent Dosimeters (TLD) are very small, passive radiation monitors requiring laboratory analysis. For more information, refer to the glossary on the Radiation Program's website.

## Groundwater Monitoring Program

Last month when the State completed its review of the final groundwater data there were two questionable results due to two quality control tests being below acceptable ranges. After consultation with the Health and Environmental Testing Laboratory (HETL), on June 15<sup>th</sup> the State Inspector requested Maine Yankee to respond to a list of questions to better comprehend and evaluate the analytical inadequacies. On June 21<sup>st</sup> the State received a response to its technical questions from the vendor laboratory that performed the analyses. The responses clarified most of the issues. On June 28<sup>th</sup> Maine Yankee notified the State that the vendor laboratory was able to retrieve a spare sample it had stored from the original sample taken last fall and re-analyzed the sample. The 50 page laboratory report indicated that the tracer recovery for one of the quality control tests was within the agreed upon acceptable ranges and therefore passed. However, the analysis was not performed for the second or other quality control test. The State reviewed the initial result along with its detection limit and noted that the initial tracer recovery test was at 48.6%, just below HETL's acceptable range of 50%. Since the acceptable range can differ from one laboratory to another and none of the radioactive element, Pu-241, was ever detected in the sample, then the State concluded that there were no further issues to resolve and informed Maine Yankee that it would follow-up with a justification letter to waive the 50% requirement and accept the original 48.6% value.

On June 30<sup>th</sup> the Department of Environmental Protection forwarded the State's comments on the fifth and final groundwater monitoring report to Maine Yankee and requested a response prior to closing out the project.

## Other Newsworthy Items

1. On June 1<sup>st</sup> the House Appropriations Committee released its FY 2012 Energy and Water Appropriations Bill. The Bill funds various federal agencies including the Department of Energy, the Army Corps of Engineers and the Nuclear Regulatory Commission (NRC). The Bill provided \$35 million to support Yucca Mountain activities, \$10 million of which is for the NRC to continue their review of the license application.
2. On June 1<sup>st</sup> the Disposal Subcommittee of the Blue Ribbon Commission on America's Nuclear Future issued its draft report to the full Commission. The Subcommittee focused their efforts on a central question: "How can the United States go about establishing one or more disposal sites for high-level nuclear wastes in a manner and within a timeframe that is technically, socially, economically, and politically acceptable?" The report listed seven recommendations for the ultimate disposal of the nation's civilian and defense-related used nuclear fuel. They are in abbreviated form:
  - Develop one or more geologic disposal facilities.
  - Establish a new federally chartered corporation to administer the nation's high-level waste program.
  - Have access to the Nuclear Waste Fund (NWF) balance and revenues generated by the NWF fee assessed rate payers.
  - Develop a "consent-based, transparent, phased, adaptive, and standards- and science-based" geologic siting process.
  - Maintain the division of regulatory responsibilities between the Nuclear Regulatory Commission and the Environmental Protection Agency.
  - Integrate affected state, local and tribal governments into the decision process.
  - Retain the Nuclear Waste Technical Review Board for independent technical advice and review.

A copy of the report's recommendations is attached.

3. On June 1<sup>st</sup> the quarterly conference call of the Federal Energy Regulatory Commission rate case settlement briefing took place with representatives from the states of Connecticut, Maine and Massachusetts. The briefing provided the status of the nuclear waste lawsuits against the federal government, national activities, such as the Blue Ribbon Commission, Congress, the Nuclear Regulatory Commission, the Decommissioning Plant Coalition, the Nuclear Waste Strategy Coalition efforts, the National Conference of State Legislatures, the Council of State Governments and the National Association of Regulatory Utility Commissioners, and regional activities, such as those of the New England Governor's Conference and the New England Council. The General Counsel for the three Yankee sites, Maine Yankee, Connecticut Yankee and Yankee Rowe, stated that the federal government appealed the Court's September 7, 2009, decision granting the three Yankee plants \$143.2 million, of which Maine Yankee was awarded \$81.7 million. The Counsel also mentioned that the Department of Justice will continue to appeal at every available opportunity to delay the awards decreed by the Court.
4. On June 1<sup>st</sup> the U.S. Government Accountability Office issued a report entitled "NUCLEAR WASTE – Disposal Challenges and Lessons Learned from Yucca Mountain". The report related the status of the Yucca Mountain repository and discussed the two storage options available, on-site storage and interim storage at a centralized facility. Each option offered benefits but also posed challenges including high costs. The report concluded with principal lessons learned that could facilitate future nuclear waste storage or disposal efforts. There were two broad lessons. The first "overcoming social and political opposition and gaining public acceptance is crucial." The second was "in developing storage or disposal options, it is important to have consistent policy, funding, and leadership, since any effort will take decades."
5. On June 2<sup>nd</sup> the Nuclear Waste Strategy Coalition (NWSC) held its bi-weekly conference call to update its membership on the June 1<sup>st</sup> House Energy and Commerce Subcommittee on Environment and the Economy hearing on the Department of Energy's role in managing civilian radioactive waste. Nye County, Nevada and the Department of Energy were invited as witnesses. Information was also provided on the House Appropriations Committee's FY 2012 Budget allotting \$35 million for the Yucca Mountain Project. Other discussions featured the on-going activities of the Blue Ribbon Commission and the reconfirmation of NRC Commissioner Ostendorff whose term expired on June 30<sup>th</sup>. The NWSC is an ad hoc group of state utility regulators, state attorneys general, electric utilities and associate members representing 45 stakeholders in 32 states, committed to ensuring that the Department of Energy and Congress carry out the principles outlined in the Nuclear Waste Policy Act, as amended.
6. June 6<sup>th</sup> the Nuclear Regulatory Commission's (NRC) Inspector General released his findings on the seven month investigation of Chairman's Jaczko's unilateral decision and actions to terminate the Commission's Yucca Mountain license proceedings. The Report's two noteworthy findings were:
  - Chairman Jaczko did not violate any laws. However, Chairman Jaczko specifically withheld information from and misled the other Commissioners on his intent to shutter the Yucca Mountain license proceedings and stop the Staff from issuing Volume III of the Safety Evaluation Report (SER) on Yucca Mountain.
  - There were extenuating factors that predisposed the NRC from fulfilling its legal obligation such as the Administration's decision to terminate the Project, decreasing appropriations to the agency's high level waste program and Chairman Jaczko's directive to stop work on the SER.

Copies of the Report's cover page on the allegations and four findings are attached.

7. On June 8<sup>th</sup> the Chair of the House Committee on Energy and Commerce and the Chair of the Subcommittee on Environment and the Economy sent a letter to the Ranking Members of the Committee and Subcommittee expressing their willingness to continue including the Minority staff in briefings and interviews as well as their concerns on the Yucca Investigation and the imposition of a double standard by the Minority. A copy of the letter is attached.
8. On June 8<sup>th</sup> the House Committee on Science, Space, and Technology released its report entitled: "Yucca Mountain: The Administration's Impact on U.S. Nuclear Waste Management Policy". The report outlined the findings from numerous document requests and official correspondence between Committee members and Administration officials over the past two and half years and detailed the complete absence of scientific information and analysis used to support the shutdown decision. The report underscored the manipulation of the process and the suppression of science behind the Yucca Mountain decision.
9. On June 8<sup>th</sup> Nuclear Regulatory Commission (NRC) Chairman, Gregory Jaczko, issued a news release stating that the NRC's Inspector General's (IG) investigation reaffirmed that his actions did not violate the law and cleared him of any legal wrong doings. A copy of the news release is attached.
10. On June 9<sup>th</sup> the House Committee on Energy and Commerce issued an internal memorandum to the members of the Subcommittee on Environment and the Economy on the upcoming hearing scheduled for June 14<sup>th</sup> on "The NRC Inspector General Report on the 'NRC Chairman's Unilateral Decision to Terminate NRC's Review of the DOE Yucca Mountain Repository License Application'." The Inspector General and some of his staff are slated to testify. The issues that will be examined are Chairman's Jaczko legal duties and the integrity of the Commission process. A copy of the memorandum is attached.
11. On June 9<sup>th</sup> the State Inspector participated in a national webinar on Greater Than Class C (GTCC) wastes hosted by the Department of Energy (DOE). The purpose was to discuss the draft Environmental Impact Statement for the disposal of GTCC waste. The industry and State perspective has always been that these waste forms would eventually be disposed at a geologic repository, such as Yucca Mountain. The DOE considered GTCC a form of low level waste that could be disposed of at some near surface disposal facility, which is not currently allowed. Some of the discussion focused on the Waste Isolation Pilot Plant in New Mexico which buries the nation's Transuranic (elements heavier than uranium) wastes as a potential disposal site for the GTCC waste. Maine Yankee has four concrete casks at their ISFSI that house GTCC waste.
12. On June 9<sup>th</sup> the Nuclear Regulatory Commission's (NRC) Atomic Safety and Licensing Board issued an order granting in part and denying in part the NRC staff's request for reconsideration of the Board's April 11<sup>th</sup> order directing parties in the Yucca Mountain license proceedings to submit their document collections in 'PDF' format to the NRC Office of the Secretary (SECY) and for the SECY to install those documents into a separate library of the Agencywide Documents Access and Management System for public access.
13. On June 10<sup>th</sup> The Washington Examiner published an article indicating that the Nuclear Regulatory Commission (NRC) Inspector General's (IG) Report "found no instance in which he (*NRC Chairman Jaczko*) broke the law." The IG Report, however, also portrayed the Chairman in a less favorable light. The Report noted that he hid information from the other Commissioners and "badgered staff members who disagreed with his positions." A copy of the article is attached.

14. On June 13<sup>th</sup> Nuclear Regulatory Commission Chairman Jaczko sent a letter to Senator Blumenthal of Connecticut outlining his actions in light of the Fukushima incident in Japan and his response on the Connecticut Yankee dry cask storage facility at Haddam Neck. A copy of the letter is attached.
15. On June 14<sup>th</sup> members of the House Committee on Energy and Commerce's Subcommittee on Environment and the Economy held a hearing on the Nuclear Regulatory Commission's Inspector General Report on NRC Chairman Jaczko's actions in terminating the NRC review of the Department of Energy's Yucca Mountain license application. Attached are the opening remarks of the Energy and Commerce Chairman and the Subcommittee Chairman.
16. On June 15<sup>th</sup> the Nuclear Waste Strategy Coalition (NWSC) held its bi-weekly briefing to update its members on the June 1<sup>st</sup> House Energy and Commerce Subcommittee on Environment and the Economy hearing on the Department of Energy's role in managing civilian radioactive waste. Information was also provided on the House Science, Space and Technology Report on the Administration's impact on the nation's nuclear waste management policy. Further discussions highlighted the FY 2012 budget for the Department of Energy's and the Nuclear Regulatory Commission's (NRC) nuclear waste disposal programs, the Blue Ribbon Commission Subcommittees' interim reports, and the reconfirmation of NRC Commissioner Ostendorff whose term expired on June 30<sup>th</sup>.
17. On June 16<sup>th</sup> Regulatory Commission (NRC) Chairman Jaczko sent a letter to Senator Feinstein of California responding to her April 8<sup>th</sup> inquiry on dry cask storage of spent nuclear fuel and how quickly spent fuel can be moved from pools to dry casks. Her inquiry was prompted by the Fukushima events in Japan. The letter explained what measures the NRC have undertaken since September 11, 2001, to increase the safety and security of spent fuel pools across the nation. A copy of letter is attached.
18. On June 20<sup>th</sup> the Department of Energy (DOE) filed a motion with the Nuclear Regulatory Commission's (NRC) Atomic Safety and Licensing Board for leave to file a motion for reconsideration of the June 10<sup>th</sup> Board Order on the licensing network documents supporting the Yucca Mountain licensing proceedings before the NRC. The DOE stated that the Order was inconsistent with NRC's regulations and potentially imposed an undue and unnecessary expense.
19. On June 20<sup>th</sup> the Nuclear Regulatory Commission's (NRC) Staff filed with the NRC Atomic Safety and Licensing Board (ASLB) a stay in the effectiveness of both the April and June ASLB Orders. The Staff presented four arguments as to why the stay should be granted. The Staff believed it made a strong showing and was likely to prevail on the merits. They will be irreparably harmed if a stay is not granted and that granting it will not harm the other parties. Finally, the public's interest rested in granting the stay. On the same day the NRC Staff also petitioned the Commission to exercise its inherent supervisory authority to review the April 11<sup>th</sup> and June 9<sup>th</sup> Board Orders.
20. On June 22<sup>nd</sup> the House Committee on Energy and Commerce issued an internal memorandum to the members of the Subcommittee on Environment and the Economy on the upcoming hearing scheduled for June 24<sup>th</sup> on "NRC Repository Safety Division – Staff Perspective on Yucca License Review". The hearing featured the NRC Staff testifying on their role in the safety and technical reviews of the Yucca Mountain repository. A copy of the memorandum is attached.
21. On June 22<sup>nd</sup> the U.S. Nuclear Waste Technical Review Board (NWTRB) sent a letter to the House, the Senate and the Department of Energy stating that it submitted its report "Technical Advancements and Issues Associated with the Permanent Disposal of High-Activity Waste." The report provided insights and lessons learned from the Yucca Mountain Project. The Board's purpose

was “to extract knowledge while it is still available” on Yucca Mountain and other high level waste programs. The Nuclear Waste Policy Act established the NWTRB as an independent federal agency to evaluate the technical validity of the Department of Energy’s activities and to provide objective expert advice to Congress and the Secretary of Energy. The Board is required by law to report its findings and recommendations at least twice yearly to Congress and the Secretary of Energy. A copy of the letter is attached.

22. On June 24<sup>th</sup> the House Committee on Energy and Commerce’s Subcommittee on Environment and the Economy held a hearing on “NRC Repository Safety Division – Staff Perspective on Yucca License Review”. The hearing featured the NRC Staff testifying on their role in the safety and technical reviews of the Yucca Mountain repository. The technical experts openly criticized the Chairman of the Nuclear Regulatory Commission and senior staff members for suppressing information about a controversial decision to stop the scientific review of the Nevada waste disposal site. This was highly unusual for multiple career employees of a federal agency to publicly criticize the leadership, especially before a congressional panel.
23. On June 29<sup>th</sup> the Nuclear Waste Strategy Coalition (NWSC) held its third bi-weekly conference call to update its members on the June 24<sup>th</sup> House Energy and Commerce Subcommittee on Environment and the Economy hearing on the Nuclear Regulatory Commission Staff’s perspective on the Yucca Mountain License review, on the House Energy and Commerce letter to the Minority Ranking members requesting access to the minority’s staff, on the FY 2012 budget for the Department of Energy’s and the Nuclear Regulatory Commission’s (NRC) nuclear waste disposal programs, and the reconfirmation of NRC Commissioner Ostendorff whose term expires on June 30<sup>th</sup>.
24. On June 29<sup>th</sup> the Chair of the Nuclear Issues Subcommittee of the National Association of Regulatory Utility Commissioners (NARUC) sent a letter to the Co-Chairs of the Blue Ribbon Commission commenting on the recommendations from the two draft Subcommittee reports issued. The letter added their support to the consolidated interim storage proposal, especially for used nuclear fuel from decommissioned reactor sites. It also indicated that NARUC was interested in the prospect of a new nuclear waste management organization. However, the letter did express that the Subcommittee recommendation on the funding source was insufficiently forceful and advocated more direct language to emphasize the seriousness of the issue.

### *Other Related Topics*

1. On May 3<sup>rd</sup>-5<sup>th</sup> the Nuclear Energy Institute held a Used Fuel Management Conference with several sessions and panels devoted to regulating spent fuel dry storage and transportation, spent fuel management in the aftermath of the Fukushima events, extended spent fuel storage, and improving regulatory predictability. One of the presentations discussed stress corrosion cracking in dry cask storage canisters exposed to a marine atmosphere under laboratory conditions. The presentation by the Nuclear Regulatory Commission advocated developing screening criteria, performing screening evaluations and developing management techniques to determine when and where stress corrosion cracking could exist under actual environmental conditions. A copy of the agenda is attached.

## EXECUTIVE SUMMARY

The Disposal Subcommittee of the Blue Ribbon Commission on America's Nuclear Future has commenced to address a set of issues, all of which bear directly on the central question: "How can the United States go about establishing one or more disposal sites for high-level nuclear wastes in a manner and within a timeframe that is technically, socially, economically, and politically acceptable?"

To answer this question and to develop specific recommendations and options for consideration by the full Commission, the Subcommittee and individual Commissioners held multiple meetings and deliberative sessions; visited Finland, France, Japan, Russia and Sweden to learn first-hand about their disposal programs; and heard testimony from numerous experts and stakeholders. The Subcommittee also benefited from commissioned papers on several related topics; these papers may be found on the Commission web site at [www.brc.gov](http://www.brc.gov). All of these inputs have helped to inform the conclusions and recommendations that are summarized below and detailed at greater length in the Subcommittee's full report.

***Recommendation #1: The United States should proceed expeditiously to develop one or more permanent deep geological facilities for the safe disposal of high-level nuclear waste.***

The Subcommittee concludes that permanent disposal is needed under all reasonably foreseeable scenarios for nuclear materials with a low probability of re-use. This includes defense and commercial reprocessing wastes and many forms of used fuel currently in government hands. The Subcommittee believes it is also highly likely that permanent disposal will be needed to safely manage at least some portion of the existing commercial spent nuclear fuel inventory. The need for a disposal solution is, in our view, inescapable. It is also independent of policy debates concerning past or future applications of nuclear technology.

**The Subcommittee further concludes that geologic disposal in a mined repository is the most promising and technically accepted option available for safely isolating high-level nuclear wastes for very long periods of time.** This view is supported by decades of expert judgment and by a broad international consensus. All other countries with spent fuel and high-level waste disposal programs are pursuing geologic disposal. The United States has many technically suitable geologic media for a repository. Other concepts for geologic disposal have been proposed; these options may hold promise but will require further investigation.

***Nuclear materials that require long-term isolation exist and we have benefited from the activities that produced them. There is no ethical basis for abrogating responsibility for their safe, long-term disposition to future generations. Thus, while subcommittee members hold different views about the potential for future re-use of spent fuel, we all agree that it is time to begin developing and implementing integrated, workable solutions that include interim storage and disposal of spent nuclear fuel and high level radioactive wastes.***<sup>1</sup>

After Fukushima, it is clear that past assessments of the safety and adequacy of current interim storage arrangements for spent nuclear fuel will need to be revisited. We anticipate that this process will be undertaken by the relevant regulatory authorities in the months and years ahead and we do not presume to prejudice the conclusions that will be reached. Whatever those conclusions are, however, they can only

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<sup>1</sup> See the Transportation and Storage Subcommittee's draft report for details regarding interim storages and transportation.

underscore the Subcommittee's central conclusion that it is imperative to move forward with implementing an integrated approach which would enable safe permanent disposal solution for the inventories of high-level waste and spent nuclear fuel that already exist in the United States within a reasonable time frame. After decades of broken promises and unmet deadlines in the nation's nuclear waste management program, tangible progress is needed—both to build confidence in our technical and institutional ability to responsibly manage the nuclear fuel cycle and because of the long lead-times needed to site and license nuclear waste facilities of all kinds.

***Recommendation #2: A new, single-purpose organization is needed to develop and implement a focused, integrated program for the transportation, storage, and disposal<sup>2</sup> of nuclear waste in the United States.***

The U.S. Department of Energy (DOE) and its predecessor agencies, subject to annual appropriations and policy direction by Congress, have had primary responsibility for implementing U.S. nuclear waste policy for the last 60 years. Having examined this experience, the Subcommittee concludes that new institutional leadership for the nation's nuclear waste program is needed. A new organization offers the best opportunity to establish—from the outset—the track record of consultation, transparency, accountability, and scientific and technical credibility needed to re-establish trust with the public and key stakeholders.

We conclude that a federal corporation chartered by Congress offers the most promising model, although the Subcommittee believes that other organizational models might also be effective. Less important than the specific model chosen is that the new organization fosters a culture that consistently demonstrates the attributes noted above (i.e., transparency, accountability, etc.). In addition, the Subcommittee believes it will be crucial for a new waste management organization to have (1) a focused and well-defined mission, (2) the financial and institutional means to deliver on its commitments, and (3) sufficient independent authority—subject to appropriate financial, technical, and regulatory oversight—to provide institutional and programmatic stability over time.

However, the Subcommittee recognizes that it could take several years for this new entity to be authorized, funded, staffed and ready to proceed. DOE should continue making progress on this issue i.e. research on different geologic media and engineered barrier systems as well as other non-site-specific tasks can and should be conducted in the interim, while the new organization is being set up. Likewise, the NRC and the EPA should work on developing new site-independent geologic disposal safety standards.

***Recommendation #3: Assured access to the balance in the Nuclear Waste Fund (NWF) and to the revenues generated by annual Nuclear Waste Fee payments from ratepayers and utilities is absolutely essential and must be provided to the new nuclear waste management organization.***

The current NWF and fee mechanism is not working as intended. No new policy or organization will succeed unless this changes. Specifically, revenues from the fee and the balance in the NWF must be made available to implement the nation's waste management program, as needed, independent of other budgetary pressures. This will require (1) extricating the NWF from the web of budget rules that have created an unintended and dysfunctional competition between expenditures from the Fund and spending on other federal programs and (2) removing funding decisions from the annual federal budgeting and appropriations process. Of course, greater budget independence must come with effective oversight mechanisms to ensure that resources—in this case the NWF fees—are being spent wisely to advance the objectives for which they are intended.

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<sup>2</sup> Later in the report we use the term "management" to refer to these three activities (i.e., transportation, storage and disposal).

***Recommendation #4: A new approach is needed to site and develop nuclear waste management and disposal facilities in the United States in the future. We believe siting processes for all such facilities are most likely to succeed if they are:***

- (1) Consent-based—in the sense that affected communities have an opportunity to decide whether to accept facility siting decisions and retain significant local control.***
- (2) Transparent—in the sense that all stakeholders have an opportunity to understand key decisions and engage the process in a meaningful way.***
- (3) Phased—in the sense that key decisions are revisited and modified as necessary along the way rather than being pre-determined in advance.***
- (4) Adaptive—in the sense that process itself is flexible and produces decisions that are responsive to new information and new technical, social, or political developments.***
- (5) Standards- and science-based—in the sense that the public can have confidence that all facilities meet rigorous, objective, and consistently-applied standards of safety and environmental protection.***

This Subcommittee recommendation flows directly from an examination of the history of waste-management efforts in the United States and other countries. In the case of the United States, several lessons can be drawn from the decades-long effort to site a repository at Yucca Mountain in Nevada and from the ultimately successful completion of the Waste Isolation Pilot Plant (WIPP) facility in New Mexico. One lesson is that support for a facility (or at least acceptance)—both in directly affected communities and on the part of the host state—is a critical element of success. A second is that transparency and accountability, along with the flexibility to adapt to new information and to the concerns of key constituencies, are essential to sustain public trust in decision-making processes and institutions.

The approach to repository development laid out under the Nuclear Waste Policy Act Amendments of 1987 was highly prescriptive, subject to inflexible deadlines, and—as actually implemented—widely viewed as being driven too heavily by political considerations (as compared to independent technical and scientific judgments). By contrast, other countries—notably Canada, Finland, and Sweden—have adopted a phased, adaptive, and consent-based approach to facility siting and development. Finland and Sweden, in particular, have each successfully sited a deep geologic repository with the support of the host community.

Although there are notable political, cultural, and other differences between the United States and Finland and Sweden, their experience suggests that several process characteristics can greatly improve the odds of success: (1) a clear and understandable legal framework for moving forward with facility development; (2) financing for state, tribal, and local governments and citizen organizations that wish to be engaged in the process; (3) concerted efforts to promote public knowledge and awareness, both of nuclear waste issues generally and of plans for individual facilities specifically; and (4) openness and transparency in interactions among and within the implementing organization, the national government, states, tribes, local governments, and the public.

Implementing a phased, adaptive siting process with these characteristics will take time. However, attention to process must not come at the expense of progress. Without tying the waste management program to inflexible deadlines, it will nevertheless be important to articulate reasonable performance goals and milestones so that the new organization can be held accountable and so that stakeholders and the public can have confidence that the program is moving forward.

***Recommendation #5: The current division of regulatory responsibilities between the U.S. Nuclear Regulatory Commission (NRC) and the U.S. Environmental Protection Agency (EPA) is appropriate and should continue. In addition, we urge that new, site-independent safety standards be developed by the two agencies in a formally coordinated joint process that actively engages and solicits input from all the relevant constituencies.***

Many witnesses have recommended that the EPA and NRC regulatory systems be made consistent with each other. Some have also pointed out that it would be far better if such a rationalization or harmonization happened before any future disposal sites were identified, even for screening purposes, to avoid or at least minimize the perception that standards are being set to ensure that one or more (pre-selected) sites will meet them. This seems particularly important for individual protection requirements, which have been a clear point of contention in the past; however, it is likely to be relevant for many other issues as well. Greater harmonization could be pursued in a number of ways—for instance, through a regulatory negotiation or with the help of an independent expert panel.

The Commission also received and considered recommendations for a more fundamental redrawing of regulatory roles and responsibilities at the federal level (i.e., transferring all regulatory authority to the NRC or EPA). We concluded that while there are opportunities for improvement in the EPA/NRC regulatory process and in the working relationship between these agencies, the general division of roles and responsibilities that currently exists between EPA and NRC is appropriate and should be preserved.

***Recommendation #6: The roles, responsibilities, and authorities of local, state, and tribal governments (with respect to facility siting and other aspects of nuclear waste disposal) must be an element of the negotiation between the federal government<sup>3</sup> and the other affected units of government in establishing a disposal facility. All affected levels of government (local, state, tribal, etc.) must have, at a minimum, a meaningful consultative role in important decisions; additionally, states and tribes should retain—or where appropriate, be delegated—direct authority over aspects of regulation, permitting, and operations where oversight below the federal level can be exercised effectively and in a way that is helpful in protecting the interests and gaining the confidence of affected communities and citizens.***

Federal-tribe and federal-state relations have been central to resolving the nation's nuclear waste management challenges from the outset. Indeed, much of the difficulty of finding workable disposal solutions for spent fuel and high-level radioactive waste can be traced to the inherent tensions that exist in these relationships, especially when the legitimate interests and rights of different groups, represented at different levels of government, come into conflict.

The nature of these issues and the structure of our federal system mean that no single formula or approach offers a certain path to avoiding these conflicts in the future, or for successfully navigating them when they arise. A facility for the isolation of spent nuclear fuel and high-level waste will only be constructed as a result of very complex negotiations between the federal government and state, tribal, and local governments. Therefore, the Subcommittee believes it would be unwise to attempt to suggest a specific strategy for engaging with state, tribal, and local government authorities at the outset. Experience suggests that the process characteristics discussed under Recommendation #4 can help promote collaboration rather than confrontation and thus improve prospects for successfully establishing one or more disposal facilities. However, our nation's long history of federal-tribe and federal-state conflicts also underscores the difficulty of building trust and confidence in a relationship where the distribution of prerogatives and power is perceived to be largely one-sided.

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<sup>3</sup> We are recommending the creation of a federally-chartered corporation which would act as the federal government's implementing arm for waste management in these negotiations

Given that the Atomic Energy Act of 1954 grants the federal government exclusive authority to regulate the possession and use of all radioactive materials, including wastes, the challenge is to affirm a role for states, tribes, and local governments that is at once positive, proactive, and substantively meaningful without increasing the potential for further conflict, confusion, and delay. In discussions about how one might strike this balance, the concept of “meaningful consultation” has emerged as an important term of art—one that can and has allowed for a more or less expansive view of state and tribal roles and responsibilities under different circumstances. In the case of WIPP, for example, the fact that the State of New Mexico gained permitting authority over the facility under the Resource Conservation and Recovery Act (RCRA) is often cited as a turning point in gaining state and local support for the project.

The Subcommittee believes that to engage in meaningful consultation on matters related to nuclear waste storage, transport, and disposal, and to exercise their proper regulatory roles and responsibilities in this context, local, state, and tribal governments need access to sound, independent scientific and technical expertise. Here again, the WIPP example is instructive. In that project, an Environmental Evaluation Group, formed of scientific and technical experts who were not associated with DOE or its contractors, was established for the express purpose of providing independent, outside advice to state and local officials concerning matters related to the WIPP facility. By all accounts, this group was instrumental in assuring New Mexico citizens and their representatives—not only in the immediate vicinity of WIPP but across the state—that their health and welfare interests were being protected and that their concerns were being heard and adequately addressed.

***Recommendation #7: The Nuclear Waste Technical Review Board should be retained as a valuable source of independent technical advice and review.***

Decision makers at all levels of government require access to sound, independent technical advice and expertise. Since it was established under the Nuclear Waste Policy Act Amendments of 1987, the Nuclear Waste Technical Review Board (NWTRB) has performed this role with distinction; it should therefore be retained as a valuable part of our larger institutional infrastructure for ensuring the responsible management of nuclear wastes.

Members should represent a carefully considered mix of scientists and engineers with the relevant mix of expertise. As now, members should serve rotating terms and new members should be selected by the President from a candidate list prepared by the National Academy of Science. The NWTRB should report at least twice per year to the Board of Directors of the new organization and the Congress.

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**UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001**

**OFFICE OF THE  
INSPECTOR GENERAL**

June 6, 2011

**MEMORANDUM TO:** Chairman Jaczko

**FROM:**

  
Hubert T. Bell  
Inspector General

**SUBJECT:** NRC CHAIRMAN'S UNILATERAL DECISION TO TERMINATE  
NRC'S REVIEW OF DOE YUCCA MOUNTAIN REPOSITORY  
LICENSE APPLICATION (OIG CASE NO. 11-05)

This report conveys the results of an Office of the Inspector General (OIG), U.S. Nuclear Regulatory Commission (NRC), investigation into an allegation that the NRC Chairman, Gregory Jaczko, unilaterally and improperly closed out the NRC's review of the Department of Energy's (DOE) Yucca Mountain repository license application while the Government was operating under a continuing resolution (CR) in fiscal year (FY) 2011. In addition, it was alleged that the Chairman was purposely preventing the Commission from completing its ruling on the Atomic Safety Licensing Board's (ASLB) decision to deny DOE's motion to withdraw its Yucca Mountain repository license application from NRC. During the course of this investigation, concerns were also raised about the Chairman's management style toward staff and Commissioners and whether his control of information prevents the other Commissioners from effectively fulfilling their statutory responsibility to address policy matters.

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A number of NRC senior managers interviewed described examples of the Chairman losing his temper with them or stories they had heard about him losing his temper with others. Some characterized these incidents as disagreements on matters where the Chairman held a strong view and they were reluctant to characterize the Chairman's behavior as unprofessional; however, they said that if they had subordinates who displayed the same behaviors, they would not tolerate it. Conversely, other senior managers interviewed said they never witnessed any unprofessional behavior on the Chairman's part.

Chairman Jaczko acknowledged that he sometimes loses his temper. He said he worked to control it and there are times when he has wished he has said or done things differently. He said he mainly loses his temper with the Commissioners, but acknowledged that there have been a few times when he has said some fairly strong things to the staff. He concluded that his behavior created an environment sometimes in which it is difficult for people to work with him, and he regretted that.

### **III. FINDINGS**

1. **OIG determined that Chairman Jaczko used a FY 2011 CR budget guidance memorandum to initiate NRC's FY 2011 plans to close out its Yucca Mountain license application review even though the FY 2011 budget had not yet been passed. The Chairman's decision to direct the staff to follow the FY 2011 budget guidance was supported by the NRC General Counsel and consistent with (1) the discretion within his budget execution authority under the Reorganization Plan, (2) OMB Circular A-11 guidance to spend prudently during a CR period, (3) the Administration's decision to terminate the Yucca Mountain repository project, and (4) the Chairman's interpretation of the Commission's FY 2011 budget policy decisions, which articulated close-out activities.**

OIG determined that although the Chairman had the authority to direct staff to follow the FY 2011 budget guidance, he was not forthcoming with the other Commissioners about his intent to stop work on the SER as part of implementing close-out activities. This included stopping work on SER Volume 3 (Review of Repository Safety After Permanent Closure), which NRC staff believed to be near completion by the end of FY 2010. The Chairman anticipated that proceeding to close-out in this manner could be controversial and viewed as a policy decision for full Commission consideration. Therefore, prior to directing issuance of the CR budget guidance memorandum, he strategically provided three of the four other Commissioners with varying amounts of information about his intention to proceed to closure and not complete SER Volume 3. He did not provide Commissioner Svinicki with any information about his intentions. Although two of the three Commissioners he spoke with did not fully understand the implications of the CR

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budget guidance memorandum, the Chairman told the EDO and the Chairman's Chief of Staff told the CFO, prior to their signing the memorandum, that all the Commissioners were informed and supported issuance of the CR budget guidance memorandum. In fact, subsequent to the issuance of the CR budget guidance memorandum, a majority of Commissioners disagreed with the outcome of the memorandum, which was the Chairman's direction to stop work on SER Volume 3. Additionally, a majority of the Commissioners did not think the conditions to proceed to closure (i.e., withdrawal or suspension) had been met.

OIG also determined that after Commissioner Ostendorff issued a COM to the Commission asking to direct the staff to continue its work on the SER, the Chairman communicated to Commissioners Magwood and Apostolakis that he expected their continued support. He told them that he would not have directed issuance of the CR budget guidance memorandum had they not committed to support him. Despite their view that they had not been fully informed about the Chairman's intent behind the CR budget guidance memorandum, Commissioners Apostolakis and Magwood elected not to participate in voting on the COM. Therefore, without a majority, the Commission was unable to move the matter from budget space, within the Chairman's purview, to policy space, within the Commission's purview.

2. OIG determined that although the NWPA requires NRC to consider DOE's Yucca Mountain repository license application and issue a final decision approving or disapproving issuance of a construction authorization, there are various factors preventing the agency from meeting its statutory obligation. These factors include the Administration's decision to terminate the Yucca Mountain repository project, decreasing appropriations to NRC for the High-Level Waste Program, and the Chairman's direction to stop working on the SER.
3. OIG determined that although the Commission has internal procedures intended to facilitate collegial Commission decisionmaking based on majority rule, adjudicatory voting procedures are not consistently enforced. Furthermore, these written procedures do not provide details on the process that occurs between the completion of an adjudicatory SECY paper vote and the conduct of an affirmation vote on the matter. The lack of enforcement of and specificity in the Commission's written procedures, coupled with the Commission's practice not to move to affirmation until all Commissioners agree to the affirmation notice and order, allows matters to sit in abeyance without final Commission action.
4. OIG determined that the Chairman controls information provided to the other Commissioners based on his interpretation of his statutory authority as Chairman versus the authority given to the Commission. Because he acts as the gatekeeper to determine what is a policy matter versus an administrative matter, and manages and controls

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information available to the other Commissioners, they are uncertain as to whether they are adequately informed of policy matters that should be brought to their attention. Ultimately, however, all Commissioners have the ability to bring what they perceive as policy matters before the Commission by writing a COM and gaining majority Commission support.

Please respond to this office on what, if any, action you intend to take in response to this report.

cc: Commissioner Svinicki  
Commissioner Apostolakis  
Commissioner Magwood  
Commissioner Ostendorff

FRED UPTON, MICHIGAN  
CHAIRMAN

HENRY A. WAXMAN, CALIFORNIA  
RANKING MEMBER

ONE HUNDRED TWELFTH CONGRESS  
**Congress of the United States**  
**House of Representatives**  
COMMITTEE ON ENERGY AND COMMERCE  
2125 RAYBURN HOUSE OFFICE BUILDING  
WASHINGTON, DC 20515-6115

Majority (202) 225-2927  
Minority (202) 225-3841

June 8, 2011

The Honorable Henry A. Waxman  
Ranking Member  
Committee on Energy and Commerce  
2322A Rayburn House Office Building  
Washington, D.C. 20515

The Honorable Gene Green  
Ranking Member  
Subcommittee on Oversight and Investigations  
2322A Rayburn House Office Building  
Washington, D.C. 20515

Dear Henry and Gene:

Thank you for your June 1, 2011, letter regarding our investigation into the licensing process for the Yucca Mountain nuclear waste repository (the "Yucca Investigation"). It is our understanding that there have been times in the past when interviews by the oversight staff have not been jointly conducted by Majority and Minority staff. This Yucca Investigation represents the first serious effort to determine the facts surrounding the decision-making process regarding the U.S. Department of Energy's ("DOE's") termination of the licensing process for Yucca Mountain. We strongly believe the Investigation is of the utmost importance to America's energy and national security.

We do recognize, however, that opponents of nuclear energy would vastly prefer that the Committee not make any inquiry at all with respect to Yucca Mountain. We understand that some will try to obstruct our Investigation and – in the long run – attempt to prevent the use of Yucca Mountain as a long-term repository for nuclear waste.

Because of our commitment to the integrity of this and other investigations, we have granted significant access to Minority staff. For example, we have regularly included the Minority in staff briefings and interviews, and we have provided copies of documents produced

in the course of investigations – even for those investigations in which the Minority declined to participate in the initial inquiry.

Indeed, it was precisely because of our transparent process in the Yucca Investigation, and our production of all documents for the Minority, that Mr. Waxman was able to divulge the identity of a potential whistleblower during our May 4, 2011, hearing with the Commissioners of the Nuclear Regulatory Commission (NRC). As we expressed at the time, we believe that prematurely revealing the identity of a potential witness and the contents of confidential internal emails could constitute obstruction of this investigation and have a chilling effect on prospective witnesses. The decision to reveal this confidential information over our strong objections is of great concern to us, as it could likely affect the willingness of sources to come forward with information relevant to the Committee's investigation.

Nevertheless, Majority staff has engaged your staff in discussions on issues with respect to the Investigation in good faith since then, and will continue to do so.

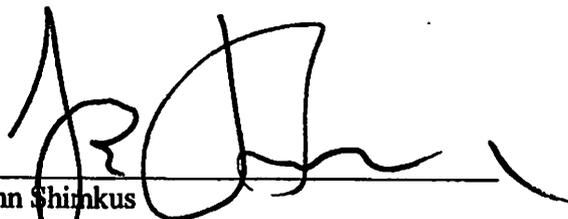
We understand that your preference is to impose a double standard: (1) we will be required to provide advance notice of any and all interviews and discussions with interested parties but (2) you and your staff will be free to engage in discussions, interview, interrogate, and/or exchange political insights with interested parties (including, but certainly not limited to, the Obama Administration and the Democratic appointees to the NRC and their staffs) outside of our presence. Surely you realize the unacceptable inequity of such an arrangement. However, we are certainly open to discussing the parameters of an equitable agreement.

Sincerely,



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Fred Upton  
Chairman



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John Shimkus  
Chairman  
Subcommittee on Oversight and Investigations



# NRC NEWS

**U.S. NUCLEAR REGULATORY COMMISSION**

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No. 11-099

June 8, 2011

## STATEMENT OF NRC CHAIRMAN GREGORY B. JACZKO

The U.S. Nuclear Regulatory Commission's Inspector General conducted a comprehensive review of the agency's handling of the High-Level Waste program. The conclusions of the report reaffirm that my actions have been and remain consistent with established law, guidance, and my authorities as Chairman. With the IG report now completed, we can all move forward with a renewed commitment to ensuring public health and safety in the use of nuclear materials – the essential mission of the NRC.

The closeout of the Yucca Mountain license review has been a complicated issue, with dedicated and experienced people holding different viewpoints. All NRC Chairmen have the responsibility to make difficult and sometimes controversial decisions. The IG plays an important role in enabling the American people to continue to have confidence that my focus as Chairman – and the entire agency's focus – is on effectively carrying out the NRC's vital safety mission. Thus, I appreciate the thoroughness with which the IG and his staff conducted this comprehensive review over the last seven months.

###

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**THE COMMITTEE ON ENERGY AND COMMERCE**  
**INTERNAL MEMORANDUM**



June 9, 2011

**MEMORANDUM**

**To:** Members, Subcommittee on Environment and the Economy

**From:** Majority Staff

**Subject:** Hearing Entitled: "The NRC Inspector General Report on the 'NRC Chairman's Unilateral Decision to Terminate NRC's Review of the DOE Yucca Mountain Repository License Application'"

On Tuesday, June 14, 2011, at 10:00 a.m. in 2322 Rayburn House Office Building, the Subcommittee on Environment and the Economy will conduct a hearing entitled: "The NRC Inspector General Report on the 'NRC Chairman's Unilateral Decision to Terminate NRC's Review of the DOE Yucca Mountain Repository License Application'." The hearing will focus on what appears to have been a dramatic breakdown in the statutorily required processes of the Nuclear Regulatory Commission (NRC) and the legitimacy of the Commission's work.

**I. Witnesses**

The Honorable Hubert T. Bell, Inspector General, Nuclear Regulatory Commission, accompanied by Mr. Joseph McMillan, Assistant Inspector General for Investigations, and Ms. Rossana Raspa, Senior Level Assistant for Investigative Operations.

**II. Background**

In 1987, after the Department of Energy (DOE) conducted studies of nine potential sites, Congress selected the Yucca Mountain site in Nevada as the only site for further study for the first national spent nuclear fuel repository.

In 2002, following extensive evaluation of the site by DOE and its national laboratories, the Secretary of Energy determined that Yucca Mountain was suitable for repository development and recommended the President approve the site for development. Under the Nuclear Waste Policy Act (NWPA), Nevada submitted a notice of disapproval, but Congress and the President overturned it in Public Law 107-200, reaffirming selection of Yucca Mountain as the site for the repository. On June 3, 2008, DOE submitted to NRC a license application to construct the Yucca Mountain repository.

Since 1983, the NWPA has authorized collection of one tenth of a cent per kilowatt-hour of electricity generated by commercial nuclear plants to be paid into the Nuclear Waste Fund for the purpose of developing and operating a permanent away-from-reactor repository for spent nuclear fuel. An additional \$5 billion has been paid in by taxpayers because the federal government will store high-level waste in the repository. So far, approximately \$10 billion has been drawn from the Waste Fund by DOE for development of the repository.

Meanwhile, as DOE has fallen behind its statutory and contractual schedules for accepting spent fuel from commercial power plants, the plant operators have been making and collecting claims for damages. According to the Government Accountability Office (GAO), total U.S. taxpayer liability for DOE failure to take title to spent fuel is estimated at \$15.4 billion, currently, and estimated to increase by \$500 million per year for each year beyond 2020 that a repository is not operating.

### **III. Role of the Nuclear Regulatory Commission**

Citing then-recent news reports that NRC Chairman Gregory Jaczko had been delaying a ruling on whether the DOE has authority to withdraw its application for a license to construct the Yucca Mountain repository, Representatives Upton and Whitfield wrote the NRC Inspector General (IG) on October 19, 2010, requesting a “fair and expedited review of the Chairman’s actions in this situation.” The resulting report from the IG, dated June 6, 2011, is the subject of this hearing.

The NWPA gives the NRC four years to review the Department of Energy license application to construct the repository at Yucca Mountain.<sup>i</sup> DOE docketed the DOE application in September 2008. The NRC then commenced a two-pronged review of the application: (1) a technical licensing review by the NRC staff to assess the technical merits of the repository design and formulate a position on whether to issue a construction authorization for the repository and (2) adjudicatory hearings by the NRC’s Construction Authorization Board to consider technical and legal challenges to the application. The Commission, based on a staff Safety Evaluation Report and the Board hearings, is to determine solely on the technical merits whether to authorize construction of the repository.

In March 2010, DOE filed a motion with the NRC’s Construction Authorization Board to withdraw the license application. On June 29, 2010, the Board denied the DOE motion to withdraw the application.<sup>ii</sup>

Nearly one year later, the full Commission has yet to finalize its review of the Board decision. In October 2010, however, the NRC staff, directed by Chairman Jaczko, began to terminate DOE license review activities.

The collegial Commission is responsible for policy formation, rulemaking, adjudications, and adjudicatory orders.<sup>iii</sup> The Energy Reorganization Act of 1974 provides that

Each member of the Commission, including the Chairman, shall have equal responsibility and authority in all decisions and actions of the

Commission, shall have full access to all information relating to the performance of his duties or responsibilities, and shall have one vote.<sup>iv</sup>

The Inspector General's June 6 Report indicates that the intra-Commission information sharing and decision-making provided for in the NRC's organic statute<sup>v</sup> has not characterized handling of the DOE license application since at least 2010. The Inspector General paints a complex picture of Commissioners and senior NRC staff being misled by Chairman Jaczko, of critical information for Commission decision-making being withheld from Commissioners, and of matters ripe or overdue for full Commission action being blocked from resolution.

#### **IV. Issues**

Issues to be examined at the hearing shall include:

- The legal duties of the NRC Chairman to ensure complete information access for his fellow Commissioners
- The integrity of the Commission process, when it may be compromised by:
  - uneven access to information by all Commissioners;
  - failure to schedule timely consideration of matters that are ripe for Commission resolution; and,
  - failure of the Commission to adhere to its own written procedures that draw on its organic statutes.

#### **V. The IG Report**

The NRC Inspector General's June 6 Report that is the subject of the June 14 hearing is attached.

#### **VI. Staff Contacts**

If you have any questions regarding this hearing, please contact David McCarthy or Peter Spencer of the Majority Committee staff at (202) 225-2927.

#### **Attachment**

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<sup>i</sup> Nuclear Waste Policy Act as amended, Sec. 114(d).

<sup>ii</sup> IG Report, pg. 6, June 6, 2011.

<sup>iii</sup> Reorganization Plan No. 1 of 1980, Section 1(a), P.L. 98-614.

<sup>iv</sup> 42 U.S.C. 5841.

<sup>v</sup> *Id.*



Published on *Washington Examiner* (<http://washingtonexaminer.com>)

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## IG says NRC chief hid information

 [Photo by Brendan Smialowski/Getty Images](#)

The head of the Nuclear Regulatory Commission has strategically withheld and controlled information to steer decisions his way on closing a proposed radioactive waste dump, according to an internal investigation.

The seven-month inquiry by the agency's inspector general says that NRC Chairman Gregory Jaczko was "not forthcoming" to other commissioners when he decided to shut down in October the technical review of the Energy Department's application for an underground nuclear waste dump at Yucca Mountain in Nevada.

But the investigation found no instances in which he broke the law, as some have alleged. Republican leaders of the House Energy and Commerce Committee requested the report, which was obtained by The Associated Press.

Jaczko said the report's findings "reaffirm that my actions have been and remain consistent with established law, guidance and my authorities as chairman."

He called the shutdown of Yucca Mountain a complicated issue, adding that all NRC chairmen must make "difficult and sometimes controversial decisions."

Republicans and many Democrats outside Nevada favor creation of single storage site for nuclear waste, but the Yucca Mountain project is fiercely opposed by Nevada lawmakers, including Senate Majority Leader Harry Reid, who has vowed to do everything in his power to kill it. President Barack Obama opposed the Yucca Mountain site in the 2008 campaign and has moved consistently to kill it since taking office in 2009.

Jaczko, who has chaired the NRC since May 2009, worked as a science adviser to Reid before joining the NRC in 2005.

The license for the Yucca Mountain, which has been in development for nearly 30 years and cost more than \$15 billion so far, has been in limbo since last June, when a licensing board independent of Jaczko and the rest of the commission rejected the Obama administration's request to withdraw the project application. Jaczko has yet to schedule a final vote from the five-member commission on the matter.

In the meantime, the report says, Jaczko first told his staff to proceed with the review but in October changed course and instructed them to halt work on the project.

The 46-page report by NRC Inspector General Hubert Bell also delves into Jaczko's management style, saying he often lost his temper and badgered staff members who disagreed with his positions. A number of those interviewed said Jaczko would threaten to withhold foreign travel or to contact the Obama administration as means of gaining support on issues.

Jaczko knew his decision to shut down the technical review of Yucca Mountain, which would be used by the board to evaluate the license, "would be controversial and viewed as a policy decision for full commission consideration," the report says. "Therefore ... he strategically provided three of the four commissioners with varying amounts of information about his intention."

Lawmakers from both parties have criticized Jaczko for what they say is an overly secretive style and accuse him of acting unilaterally on the commission's behalf. They cite several examples, including Jaczko's declaration in March that Japan's nuclear crisis constituted an emergency in the United States.

Their sharpest criticism is reserved for his handling of the divisive plan to shut down Yucca Mountain, about 100 miles northwest of Las Vegas.

The NRC is considering a request by the Energy Department to shut down the proposed waste site and has begun initial steps to implement the shutdown. Even so, Jaczko has said the five-member commission has not cast a final vote on the issue and has no timeframe to make a decision.

Three NRC commissioners told Congress last month that they have cast what they consider substantive votes on the matter.

That apparent contradiction mystified and enraged members of Congress, who said they cannot get a straight answer from the NRC on Yucca.

"The level of non-information is frustrating," said Rep. Lee Terry, R-Neb. "I'm very disturbed."

Rep. Joe Barton, R-Texas, accused Jaczko of "playing some kind of foot-dragging game" and intentionally delaying a decision on Yucca Mountain.

Before becoming NRC chairman, Jaczko was a member of Reid's staff. But he denied that the Nevada Democrat or anyone else influenced his decisions on Yucca Mountain.

"It was in no way a political action or intended to reference any other political figure or direction from any other political figure," he told the House Energy and Commerce Committee at a hearing last month.

In an unusual move, Jaczko sought to get ahead of the inspector general's report, which has not been released to the public, with a statement late Wednesday. He said the investigation reaffirmed that his actions have been consistent with the law and his authority as chairman.

But he acknowledged to the IG that he at times lost his temper and used "forceful" management techniques.

In an interview Thursday with the AP, Jaczko defended his tenure his as chairman and his sometimes hard-charging style, which he said comes from a deep-seated belief in the agency' mission to ensure safety of the nation's 104 commercial nuclear reactors.

"I believe passionately and strongly about nuclear safety, and I take that responsibility very seriously," he said.

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June 13, 2011

The Honorable Richard Blumenthal  
United States Senate  
Washington, D.C. 20510

Dear Senator Blumenthal:

On behalf of the U.S. Nuclear Regulatory Commission (NRC), I am responding to your letter of March 31, 2011, which raised several questions regarding the storage of spent fuel onsite at U.S. nuclear power plants.

Following recent events in Japan, the NRC has established a task force, consistent with Commission direction, to recommend whether the agency should make improvements to the U.S. regulatory system. The task force will examine operational and regulatory issues potentially affecting the 104 operating reactors in the U.S., including their spent fuel pools, and other NRC-licensed facilities. Consistent with the Commission's direction, the task will have both near-term and longer-term components.

Enclosed are responses to your questions concerning long-term storage of spent nuclear fuel, the amount of spent fuel at reactor sites, and oversight of spent fuel in dry storage at Haddam Neck.

I appreciate your continuing interest in these matters and would be happy to provide you with additional information about how the NRC ensures that commercial spent nuclear fuel is safely and securely stored. If you have any additional questions, please contact me or Ms. Rebecca Schmidt, Director of the Office of Congressional Affairs, at (301) 415-1776.

Sincerely,

*/RA/*

Gregory B. Jaczko

Enclosure:  
As stated

Responses to your questions concerning long-term storage of spent nuclear fuel, the amount of spent fuel at reactor sites, and oversight of spent fuel in dry storage at Haddam Neck.

**1. Has the NRC determined how long nuclear waste can safely be stored at reactor sites until a long-term storage solution is identified?**

In its updated Waste Confidence Decision, published in the *Federal Register* on December 23, 2010, the Commission found reasonable assurance that, if necessary, spent fuel generated in any reactor can be stored safely without significant environmental impacts for at least 60 years beyond the reactor's licensed life for operation (which may include the term of a revised or renewed license) in a combination of storage in its spent fuel pool and either onsite or offsite independent spent fuel storage installations (ISFSIs).

**2. Does the NRC have data about how much spent nuclear fuel is currently stored at various sites across the United States, in both dry storage and spent fuel pools? How often is this data updated?**

This information is collected by the U.S. Department of Energy (DOE), which has ultimate responsibility for the disposal of spent nuclear fuel. As of January 2010, DOE estimated the amount of commercial spent fuel in storage at commercial nuclear power plants to be approximately 63,000 metric tons.

**3. What steps has the NRC taken to ensure that these on-site storage facilities, such as the one located in Haddam Neck, are properly maintained and secured against natural disasters or man-made catastrophes, including terrorist attacks?**

ISFSIs, such as the one at Haddam Neck, are required to comply with NRC licensing regulatory requirements specific to these structures that incorporate technical requirements and operational conditions to ensure protection of public health and safety. These requirements include measures to protect against natural disasters or man-made catastrophes. With regard to terrorist attacks, NRC regulations also require onsite storage facilities to have measures in place to counter a wide range of adversarial acts that could cause damage to the facility. Subsequent to the events of September 11, 2001, security orders were issued to licensees that required them to implement additional security measures at their facilities. In the aftermath of the nuclear events in Japan, the agency is evaluating areas such as plants' ability to protect against natural disasters, response to station blackouts, and spent fuel accident management. On an ongoing basis, NRC oversight of onsite ISFSIs assures that licensees are meeting their responsibilities. This oversight could include the onsite presence of NRC resident inspectors at operating reactors who conduct routine oversight. Their activities are supplemented, as appropriate, by inspectors from the NRC regional offices who perform inspections in a wide variety of engineering and scientific disciplines. At Haddam Neck, because there is no longer an operating reactor, there are no resident inspectors. The necessary inspections at Haddam Neck are performed by inspectors from our Region I office near Philadelphia, Pennsylvania.

Enclosure

**Subcommittee on Environment and the Economy**  
**Hearing on the June 6, 2011 Report of the Inspector General**  
**of the Nuclear Regulatory Commission**  
**Opening Remarks, Energy and Commerce Committee Chairman Fred Upton**  
**June 14, 2011**

Mr. Chairman, thank you for holding this hearing to continue our examination of NRC management. Developing a safe, permanent storage site for spent nuclear fuel is essential to our energy security as well as our national security. I commend and thank our witness for his efforts to provide an objective look at the inner-workings of this key agency. The more we learn about NRC's current leadership the greater our concern about the apparent breakdown in agency operations and disregard for the decades of technical expertise and billions of dollars invested.

Mr. Chairman, justice delayed is justice denied. It has been a year since states and other affected parties went to court seeking a ruling on the license application for the repository at Yucca Mountain. The Atomic Safety and Licensing Board ruled that the NRC must consider and vote on DOE's application. Yet the Commission still has not taken final action.

After a year in limbo, it now appears that the NRC Chairman devised a complex, calculated strategy to kill the license application without consideration by the Commission.

Mr. Chairman, consumers have been paying into the Nuclear Waste Fund since 1983 with a promise of something in return: a permanent place to send the spent fuel away from reactor sites. When the license application was finally filed three years ago, we grew more confident. The Act said that in three years the NRC would grant the license or explain to Congress why they needed more time. Instead, NRC won't even give a straight answer about whether the application is still alive.

And it's not just nuclear power consumers who are cheated. It's taxpayers in every state including Nevada who are paying out judgments to plant operators because the DOE is late accepting the waste. DOE itself says taxpayers are on the hook for an additional \$15 billion – on top of the \$15.4 billion already spent on the project – and that's the liability if DOE opens Yucca by 2020. If not, it rises about \$500 million per year after that.

The circumstances surrounding the Obama administration's rush to pull the plug on the Yucca Mountain repository are alarming as much as they are disappointing. We

now have an administration that wants to erase the visionary effort launched by President Reagan, casting aside three decades of scientific research, bipartisan collaboration and a fortune invested to start from scratch no matter what the cost or consequences to our national security. We cannot allow our nuclear safety to be compromised by politics.

Despite this moment of dysfunction at the top, the NRC's intrinsic value to the U.S. lies in the expertise and extraordinary dedication of its highly professional staff, including our witness today. To them we repeat: we will do what we can to rescue the Agency from the ditch that politicians have driven you into.

And to consumers and taxpayers across America: we will get NRC to focus once again on its statutory mission to serve all the people instead of just serving its Chairman's political patrons.

Thank you, Mr. Chairman.

**Subcommittee on Environment & the Economy**  
**Hearing on the June 6, 2011 Report of the Inspector General of**  
**The Nuclear Regulatory Commission**  
**June 14, 2011**  
**Opening of Chairman John Shimkus**  
*(Remarks as Prepared for Delivery)*

The Chair recognizes himself for 5 minutes. Today we take another step in understanding the management breakdown at the NRC. I welcome our witness, Mr. Bell, and I thank him for his professionalism. He started this review last October at the request of Chairman Upton and Mr. Whitfield. His work is both thorough and timely.

Having read the entire report, I'm struck by three problems at the NRC. First, is the *inefficiency*. It is unbelievable that the one week after the Nuclear Waste Policy Act says that NRC must either approve or deny the license application, or formally notify Congress as to why it needs more time, the Commission cannot even reach the question of whether the application is even alive. One year ago, the Atomic Safety and Licensing Board ruled that DOE has no authority to withdraw the application, and the NRC must continue to review it. Less than two months later the question was put to a vote of the full Commission. On August 10, Commissioner Apostolakis abstained, on August 25 and 26 Commissioners Sviniki, Jaczko and Ostendorf voted. Then, August 30, Jaczko retracted his vote. Then, September 15 Commissioner Magwood voted, then October 29 Chairman Jaczko voted again. But somehow ten months after all that, the vote is still not over. You don't need Internal Commission Procedures to see that it's been a horribly inefficient process, and according to Mr. Bell's Report, we have no one to blame except Chairman Jaczko.

But there are Internal Commissioner Procedures. Commissioners are to vote within ten business days; once a quorum has voted permission to vote late may only be granted by a majority of the Commission, and a delay in affirming the vote and promulgating the order may only be granted by a majority of the Commission. None of that has been followed. It's the Chairman's duty to make certain it is followed. Parties to the action rely on the Commission to

follow its own rules and keep the trains running on time. The Chairman's *neglect of this duty* alone is shocking as it denies to the parties of interest a full, timely determination.

But once you read further in the report, it becomes clear that the problems are worse than just inefficiency and even worse than neglect of duty. There is outright *malfesance*. The report is replete with instances of Chairman Jaczko deliberately misleading both his fellow commissioners and senior NRC staff. And he knowingly withheld crucial information from his fellow Commissioners even though the Federal Statute requires that all Commissioners have access to all information. In some instances Chairman Jaczko manipulated the process through outright false statements to prevent his full Commissioners from understanding the implications of his actions and omissions. When confronted by one Commissioner about this, Chairman Jaczko merely insulted his colleague by sarcastically retorting, "You should have asked."

I hope all Members study Mr. Bell's June 6 Report carefully and take time today to seek any clarifications. This situation warrants our attention and best judgment.

The Chair recognizes Mr. Green for five minutes.

June 16, 2011

The Honorable Dianne Feinstein  
Chairman, Subcommittee on Energy  
and Water Development  
Committee on Appropriations  
United States Senate  
Washington, D.C. 20510

Dear Chairman Feinstein:

On behalf of the U.S. Nuclear Regulatory Commission (NRC), I am responding to your letter of April 8, 2011, regarding the storage of spent fuel and your specific interest in a more rapid transfer of spent fuel from pools to dry storage casks. The NRC continues to believe that both spent fuel pools and casks represent storage methods that provide adequate protection of public health and safety.

Over many years, the NRC has taken advantage of the lessons learned from previous operating experience to implement a program of continuous improvement for U.S. commercial nuclear regulation. This has included regular examination of topics related to spent fuel storage, as well as implementation of changes that have improved the safety of spent fuel pools at nuclear reactors. Following the terrorist attacks of September 11, 2001, the NRC undertook an extensive reexamination of spent fuel pool safety and security. As a result of this reexamination, the Commission issued orders requiring licensees to implement strategies to maintain cooling of spent fuel stored in pools in the event of a large explosion or fire at the plant. Those requirements have since been incorporated into NRC regulations. These strategies commonly include implementation of passive improvements for cooling (fuel configuration) and availability of equipment, procedures, and trained staff to employ a water spray system with a diesel-driven pump (i.e., one that does not require alternating current electric power). Following the earthquake and tsunami in Japan and the resulting damage to the Fukushima nuclear power plant, the NRC directed its resident inspectors at every U.S. nuclear power plant to examine several areas, including licensee implementation of the strategies. The NRC will further evaluate the inspection results under its Reactor Oversight Process. Additionally, on May 11, 2011, the NRC issued a Bulletin to nuclear power plant licensees requiring them to provide information on how their plants are complying with existing requirements.

As you know, in response to recent events in Japan, the Commission directed the NRC staff to establish a senior-level task force to conduct a methodical and systematic review of our processes and regulations to determine whether the agency should make improvements to our regulatory system. The review will include an examination of spent fuel storage practices in light of recent events to determine whether changes to our regulations are necessary and appropriate to ensure continuing protection of public health and safety.

-2-

Please be assured that the NRC has worked diligently to ensure that current spent fuel storage practices provide protection of public health and safety and common defense and security. As we consider the events in Japan, we will re-examine these practices and make changes, as appropriate, to ensure that we maintain the safety and security of spent fuel. If you have any additional questions, please contact me or Ms. Rebecca Schmidt, Director of the Office of Congressional Affairs, at (301) 415-1776.

Sincerely,

*/RA/*

Gregory B. Jaczko

cc: Senator Lamar Alexander

**THE COMMITTEE ON ENERGY AND COMMERCE**  
**INTERNAL MEMORANDUM**

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June 22, 2011

**MEMORANDUM**

**To:** Members, Subcommittee on Environment and the Economy  
**From:** Majority Staff  
**Subject:** Hearing Entitled: "NRC Repository Safety Division – Staff Perspective on Yucca License Review"

On Friday, June 24, 2011, at 9:00 a.m. in 2322 Rayburn House Office Building, the Subcommittee on Environment and the Economy will conduct a hearing entitled "NRC Repository Safety Division – Staff Perspective on Yucca License Review." The hearing will focus on the views of the non-partisan Nuclear Regulatory Commission (NRC) staff that was responsible for conducting the safety evaluation and technical reviews of the license application for the Yucca Mountain repository.

**I. Witnesses**

There will be one panel, composed of U.S. Nuclear Regulatory Commission staff:

Janet P. Kotra, Ph.D,  
Division of High-Level Waste Repository Safety (HLWRS)  
Nuclear Regulatory Commission

N. King Stablein, Ph.D, Branch Chief  
Division of High-Level Waste Repository Safety (HLWRS)  
Nuclear Regulatory Commission

Aby Mohseni, Acting Director  
Division of High-Level Waste Repository Safety (HLWRS)  
Nuclear Regulatory Commission

Lawrence E. Kokajko, Acting Deputy Director  
Office of Nuclear Material Safety and Safeguards (NMSS)  
Nuclear Regulatory Commission

Catherine Haney, Director  
Office of Nuclear Material Safety and Safeguards (NMSS)  
Nuclear Regulatory Commission

## **II. Background**

In 1987, after the Department of Energy (DOE) conducted studies of nine potential sites, Congress selected the Yucca Mountain site in Nevada as the only site for further study for the first national repository of high level radioactive waste and spent nuclear fuel.

In 2002, following extensive evaluation of the site by DOE and its national laboratories, the Secretary of Energy determined that Yucca Mountain was suitable for repository development and recommended the President approve the site for development. Under the Nuclear Waste Policy Act (NWPA), Nevada submitted a notice of disapproval, but Congress and the President overturned it in Public Law 107-200, reaffirming selection of Yucca Mountain as the site for the repository. On June 3, 2008, DOE submitted to NRC a license application to construct the Yucca Mountain repository.

Since 1983, the NWPA has authorized collection of one tenth of a cent per kilowatt-hour of electricity generated by commercial nuclear plants to be paid into the Nuclear Waste Fund for the purpose of developing and operating a permanent away-from-reactor repository for spent nuclear fuel. An additional \$5 billion has been paid in by taxpayers because the federal government will store high-level waste in the repository. So far, approximately \$10 billion has been drawn from the Waste Fund by DOE for development of the repository.

Meanwhile, as DOE has fallen behind its statutory and contractual schedules for accepting spent fuel from commercial power plants, the plant operators have been making and collecting claims for damages. According to the Government Accountability Office (GAO), total U.S. taxpayer liability for DOE failure to take title to spent fuel is estimated at \$15.4 billion, currently, and estimated to increase by \$500 million per year for each year beyond 2020 that a repository is not operating.

## **III. Role of the Nuclear Regulatory Commission**

The NWPA gives the NRC at most four years to review the Department of Energy license application to construct the repository at Yucca Mountain.<sup>1</sup> NRC docketed the DOE application in September 2008. The NRC then commenced a two-pronged review of the application: (1) a technical licensing review by the NRC staff to assess the technical merits of the repository design and formulate a position on whether to issue a construction authorization for the repository, and (2) adjudicatory hearings by the NRC's Construction Authorization Board to consider technical and legal challenges to the application. The Commission, based on a publicly available staff Safety Evaluation Report (SER) and the Board hearings, is to determine solely on the technical merits whether to authorize construction of the repository.

According to NRC, staff from the Division of High-Level Waste Repository Safety (HLWRS), within the Office of Nuclear Material Safety and Safeguards (NMSS), is responsible

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<sup>1</sup> Nuclear Waste Policy Act as amended, Sec. 114(d).

for the independent safety review of the Yucca Mountain repository license-application.<sup>2</sup> HLWRS staff is supported in the review effort by NRC's contractor, the Center for Nuclear Waste Regulatory Analyses (CNWRA), located at the Southwest Research Institute in San Antonio, Texas. The NRC and CNWRA employ experts and specialists in the scientific and engineering disciplines needed to understand and evaluate the design, performance, and operations of a deep geologic repository, including:

- Geochemists, Hydrologists, and Climatologists
- Chemical, Mechanical, Nuclear, Mining, Materials, and Geological Engineers
- Structural Geologists and Volcanologists
- Health Physicists
- Inspectors and Quality Assurance Engineers

According to NRC, the technical licensing review seeks to determine whether or not the design, performance, and operation of the proposed repository described in DOE's license application comply with all applicable NRC regulations for the disposal of high-level radioactive waste in the proposed geologic repository at Yucca Mountain. These regulations are contained in 10 CFR Part 63, "Disposal of High-Level Radioactive Wastes in a Geologic Repository at Yucca Mountain, Nevada."<sup>3</sup>

As NRC further explains, the NRC prepared a guidance document, called the Yucca Mountain Review Plan (YMRP) to ensure the quality, uniformity, and consistency of NRC staff reviews of the license application, and to provide examples of acceptable methods for demonstrating compliance with the regulations. The YMRP is not a regulation and does not impose regulatory requirements.<sup>4</sup>

In March 2010, DOE filed a motion with the NRC's Construction Authorization Board to withdraw the license application. The Commission directed the Board to decide the motion by June 1, 2010. On June 29, 2010, the Board denied the DOE motion to withdraw the application. Full Commission review of the Board decision is pending. To date, the full Commission has yet to finalize its review of the Board decision.

On October 1, 2010, the NRC staff conducting the technical licensing review, at the direction of NRC Chairman Gregory Jaczko,<sup>5</sup> began commencing "orderly closure" of its Yucca Mountain activities, including terminating work on the outstanding SER volumes.<sup>6</sup> The HLWRS staff proceeded to convert SER volumes into "Technical Evaluation Reports" or TERs, which would describe the staff's technical evaluation and assessment of the DOE safety analysis supporting the repository at Yucca Mountain, consistent with the YMRP, but not make conclusions as to whether or not DOE satisfies the Commission's regulations. The TER for repository safety

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<sup>2</sup> This information is drawn from: [www.nrc.gov/waste/hlw-disposal/licensing/acceptance-safety/safety-review.html](http://www.nrc.gov/waste/hlw-disposal/licensing/acceptance-safety/safety-review.html)

<sup>3</sup> Id.

<sup>4</sup> Id.

<sup>5</sup> See Memo from Hubert T. Bell, NRC Inspector General to Chairman Jaczko, June 6, 2011.

<sup>6</sup> For additional background: see "Closing Yucca Mountain: Litigation Associated with Attempts to Abandon the Planned Nuclear Waste Repository" Congressional Research Service, March 4, 2011 ([R41675](#)).

after closure of Yucca Mountain was scheduled to be released to the public during the second quarter of FY 2011, i.e., by March 31, 2011.<sup>7</sup> It has not yet been publicly released.

#### **IV. Issues**

Issues to be examined at the hearing may include:

- HLWRS staff perspective on the Yucca Mountain license review termination
- Information flow to and policy guidance from the full Commission
- The status of work on the Safety Evaluation Report and the Technical Evaluation Report
- The NRC Inspector General's investigation of the Chairman's Yucca related actions

#### **V. Staff Contacts**

If you have any questions regarding this hearing, please contact David McCarthy or Peter Spencer of the Majority Committee staff at (202) 225-2927.

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<sup>7</sup> Memo from Catherine Haney to Commissioners, Re: Update on the Yucca Mountain Program, February 4, 2011



**UNITED STATES  
NUCLEAR WASTE TECHNICAL REVIEW BOARD**

2300 Clarendon Boulevard, Suite 1300  
Arlington, VA 22201-3367

June 2011

The Honorable John A. Boehner  
Speaker of the House  
United States House of Representatives  
Washington, DC 20515

The Honorable Daniel K. Inouye  
President Pro Tempore  
United States Senate  
Washington, DC 20510

The Honorable Steven Chu  
Secretary  
U.S. Department of Energy  
Washington, DC 20585

Dear Speaker Boehner, Senator Inouye, and Secretary Chu:

In accordance with provisions of the 1987 amendments to the Nuclear Waste Policy Act (NWPA), Public Law 100-203, which direct the U.S. Nuclear Waste Technical Review Board to report its findings and recommendations to Congress and the Secretary of Energy at least two times each year, the Board submits this report, *Technical Advancements and Issues Associated with the Permanent Disposal of High-Activity Waste*. Congress created the Board to perform ongoing independent evaluation of the technical and scientific validity of activities undertaken by the Secretary of Energy related to implementing the NWPA.

The purpose of this report is to extract knowledge while it is still available from the experiences to date of the Yucca Mountain deep geologic repository program and other management programs for high-activity waste. The report is not an assessment of the licenseability of a Yucca Mountain repository. If licensing goes forward, the U.S. Nuclear Regulatory Commission will determine whether a license should be granted. But, as President Harry S. Truman astutely observed, "...there is nothing new in the world except the history you do not know." In this report, the Board examines from a technical perspective the history of the Yucca Mountain program and some other nuclear waste programs and discusses technical information and insights that may be useful for future U.S. high-activity waste management and disposal efforts.

The Board looks forward to continuing to provide independent technical and scientific information to Congress and the Secretary that can be used to inform the decision-making process.

Sincerely,

{Signed by}

B. John Garrick  
Chairman

## Agenda



# Used Fuel Management Conference

Baltimore Marriott Inner  
Harbor at Camden Yards  
Baltimore, MD  
May 3-5, 2011

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## TUESDAY, MAY 3

**Registration**  
Stadium Ballroom Foyer  
7 a.m.–5 p.m.

### Continental Breakfast and Exhibits

Stadium Ballroom  
7–8:30 a.m.

### General Session

**Morning Session I**  
Grand Ballroom East & Salons A-C  
8:30–9:15 a.m.

### Call to Order and Opening Remarks

#### Session Chair

Rodney McCullum  
*Director, Used Fuel Management  
Programs*  
Nuclear Energy Institute

### Opening Plenary

### Special Welcome Remarks

Catherine Haney  
*Director, Office of Nuclear Material  
Safety and Safeguards*  
U.S. Nuclear Regulatory Commission

### Keynote Address

Ward Sproat  
*Principal Vice President and Project  
Director – Watts Bar 2 Completion*  
Bechtel Power Corporation

**Morning Session II**  
Grand Ballroom East & Salons A-C  
9:15–10 a.m.

### Regulating Spent Fuel Dry Storage and Transportation

Vonna Ordaz  
*Director, Division of Spent Fuel Storage  
and Transportation*  
U.S. Nuclear Regulatory Commission

Aby Mohseni  
*Acting Director, Division of High-Level  
Waste Repository Safety*  
U.S. Nuclear Regulatory Commission

**Break and Exhibits**  
Stadium Ballroom  
10–10:30 a.m.

**Morning Session III**  
Grand Ballroom East & Salons A-C  
10:30 a.m.–noon

#### Session Chair

David Jones  
*Senior Vice President, Back End Business  
Group*  
AREVA, Inc.

### Used Fuel Management: A Framework for the Future

Everett Redmond  
*Director, Nonproliferation and Fuel Cycle  
Policy*  
Nuclear Energy Institute

William Boyle  
*Director, Office of Used Nuclear Fuel  
Disposition Research and Development*  
U.S. Department of Energy



NUCLEAR ENERGY INSTITUTE

Vincent Bilovsky  
*Manager, Nuclear Fuel and Core Design  
for Generation mPower*  
Babcock & Wilcox

Annie Caputo  
*Professional Staff Member*  
Committee on Environment and Public  
Works

**LUNCH**  
**Café Promenade**  
**noon–1 p.m.**

**Dessert and Exhibits**  
**Stadium Ballroom**  
**1–1:30 p.m.**

**General Session**

**Afternoon Session I**  
**Grand Ballroom East & Salons A-C**  
**1:30–3 p.m.**

**Session Chair**

Steven Kraft  
*Senior Director, Special Projects*  
Nuclear Energy Institute

**Spent Fuel Management in the  
Aftermath of Fukushima Daiichi**

Lake Barrett  
*Consultant*  
L. Barrett Consulting, LLC

Marcus Nichol  
*Senior Project Manager, Used Fuel  
Storage and Transportation*  
Nuclear Energy Institute

Samuel Durbin II  
*Principal Member of the Technical Staff*  
Sandia National Laboratories

Brian Gustems  
*Manager - Fuel Supply and Technical  
Support*  
Public Service Electric & Gas

**Break and Exhibits**  
**Stadium Ballroom**  
**3–3:30 p.m.**

**Afternoon Session II**  
**Grand Ballroom East & Salons A-C**  
**3:30–5 p.m.**

**Session Chair**

Jack Davis  
*Deputy Director*  
Division of High Level Waste Repository  
Safety  
U.S. Nuclear Regulatory Commission

**Extended Spent Fuel Storage and  
Transportation**

Bill Bracey  
*Director of Innovation, Research and  
Development*  
Transnuclear, Inc.

John Kessler  
*Manager, Higher Level Waste Program*  
Electric Power Research Institute

Jeffrey Williams  
*Supervisory General Engineer*  
Office of Used Nuclear Fuel Disposition  
Research and Development  
U.S. Department of Energy

Jim Rubenstone  
*Chief, Repository Site*  
Division of High Level Waste Repository  
Safety  
U.S. Nuclear Regulatory Commission

**WELCOME RECEPTION**

**McCormick & Schmick's Seafood  
Restaurant Pier 5 Inner Harbor**  
**6–7:30 p.m.**

*Buses will depart from Eutaw Street  
starting at 5:30 p.m. Feel free to  
enjoy the sites and enjoy a nice walk  
to the restaurant.*

**WEDNESDAY, MAY 4**

**Registration**  
**Stadium Ballroom Foyer**  
**7 a.m.–5 p.m.**

**Continental Breakfast and Exhibits**  
**Stadium Ballroom**  
**7–8:30 a.m.**

**Breakout and Panel Sessions**  
**Morning Session I**  
**8:30–10 a.m.**

**Breakout – Improving Regulatory Predictability: CoC/TS Content, 72.48 and the Inspection Program**

**Grand Ballroom West**  
**8:30–10 a.m.**

**Moderator**  
Mike Waters  
*Chief, Licensing Branch*  
Licensing and Inspection Branch  
Division of Spent Fuel Storage and Transportation  
U.S. Nuclear Regulatory Commission

**Panelists**  
Tom Matula - NRC  
Ray Wharton - NRC  
Chris Staab - NRC  
Suzanne Leblang - Entergy  
Jayant Bondre - Transnuclear

**Breakout – Improving Regulatory Predictability: 10 CFR 72 Changes Past and Future**

**Salons D – F**  
**8:30–10 a.m.**

**Moderator**  
Brian Gutherman  
*President*  
Gutherman Technical Services

**Panelists**  
Kristina Banovac - NRC  
Michele Sampson - NRC

Tammy Morin - Holtec  
Tom Danner - NAC

**Used Fuel Recycling Panel**

**Grand Ballroom East & Salons A-C**  
**8:30–10 a.m.**

**Moderator**  
John Kessler  
*Manager, Higher Level Waste Program*  
Electric Power Research Institute

**Panelists**  
Albert Machiels - EPRI  
Michael McMahon - Areva US  
Earl Saito - GEH  
James Bresee - DOE  
Jack Guttman - NRC

**Break and Exhibits**  
**Stadium Ballroom**  
**10–10:30 a.m.**

**Breakout and Panel Sessions**  
**Morning Session II**  
**10:30 a.m.–noon**

**Breakout – Improving Regulatory Predictability: CoC/TS Content, 72.48 and the Inspection Program**

**Grand Ballroom West**  
**10:30 a.m. - noon**

**Moderator**  
Mike Waters  
*Chief, Licensing Branch*  
Licensing and Inspection Branch  
Division of Spent Fuel Storage and Transportation  
U.S. Nuclear Regulatory Commission

**Panelists**  
Tom Matula - NRC  
Ray Wharton - NRC  
Chris Staab - NRC  
Suzanne Leblang - Entergy  
Jayant Bondre - Transnuclear

**Breakout – Improving Regulatory Predictability: 10 CFR 72 Changes Past and Future**

**Salons D-F**  
**10:30 a.m.–noon**

**Moderator**  
Brian Gutherman  
*President*  
Gutherman Technical Services

**Panelists**  
Kristina Banovac - NRC  
Michele Sampson - NRC  
Tammy Morin - Holtec  
Tom Danner - NAC

**Breakout - ISFSI Operations Panel: Best Practices and Lessons Learned**

**Salons D-F**  
**1:30–3 p.m.**

**Moderator**  
Keith Waldrop  
*Senior Fuel Management Engineer*  
Duke Energy

**Panelists**  
Brian Hansen – Arizona Public Service  
Pete Macconi – PSEG  
Brian Voss – PPL Susquehanna  
Ray Termini - Exelon

**Used Fuel Criticality Analysis Panel**

**Grand Ballroom East & Salons A-C**  
**10:30 a.m.–noon**

**Moderator**  
Adam Levin  
*Director, Spent Fuel and Decommissioning*  
Exelon Generation

**Panelists**  
Kent Wood – NRC  
Tracy Bishop – Westinghouse  
Drew Barto – NRC  
Stefan Anton – Holtec

**Dry Storage and Transportation Issues Panel**

**Grand Ballroom West**  
**1:30–3 p.m.**

**Moderator**  
Suzanne Leblang  
*Director of Fleet Dry Storage*  
Entergy Operations

**Panelists**  
Meraj Rahimi - NRC  
Albert Machiels - EPRI  
Robert Einziger - NRC  
Stefan Anton - Holtec

**Lunch**  
**Café Promenade**  
**noon–1 p.m.**

**Dessert and Exhibits**  
**Stadium Ballroom**  
**1–1:30 p.m.**

**Breakout and Panel Sessions**  
**Afternoon Session I**  
**1:30–3 p.m.**

**Break and Exhibits**  
**Stadium Ballroom**  
**3–3:30 p.m.**

**General Session**

**Afternoon Session II**  
**Grand Ballroom East & Salons A-C**  
**3:30–5 p.m.**

**Session Chair**

Eric Benner  
*Chief, Inspection Branch Licensing and  
Inspection Directorate*  
Division of Spent Fuel Storage and  
Transportation  
U.S. Nuclear Regulatory Commission

**Dry Spent Fuel Storage Inspection  
Experience**

Ben Spiesman  
*Fleet Licensing Engineer*  
First Energy Nuclear Operating Company

Terry Sides  
*Principal Licensing Engineer*  
Southern Nuclear Operating Company

Christine Lipa  
*Chief, Material Controls, ISFSI, and  
Decommissioning Branch*  
Region III  
Division of Nuclear Materials Safety  
U.S. Nuclear Regulatory Commission

**Shutdown Plant ISFSI Issues Caucus**

**Salons D – F  
3:30-5 p.m.**

**Session Chair**

Jim Connell  
*Vice President*  
Yankee Atomic Power Company

**NRC Visitors**

Sandi Wastler  
Ray Wharton  
Phil Brochman

**THURSDAY, MAY 5**

**Registration  
Stadium Ballroom Foyer  
7–10 a.m.**

**Continental Breakfast and Exhibits  
Stadium Ballroom  
7–8:30 a.m.**

**General Session  
Morning Session I  
Grand Ballroom East & Salons A-C  
8:30–10 a.m.**

**Session Chair**

Marcus Nichol  
*Senior Project Manager, Used Fuel  
Storage and Transportation*  
Nuclear Energy Institute

**Regulatory Issue Resolution**

Sara DePaula  
*Materials Engineer*  
*Structural Mechanics and Materials  
Branch*  
*Division of Spent Fuel Storage and  
Transportation*  
U.S. Nuclear Regulatory Commission

Zita Martin  
*Spent Fuel Program Manager*  
Tennessee Valley Authority

Jason Piotter  
*Senior Structural Engineer*  
*Structural Mechanics and Materials  
Branch*  
*Division of Spent Fuel Storage and  
Transportation*  
U.S. Nuclear Regulatory Commission

Christopher Staab  
*Project Manager*  
*Division of Spent Fuel Storage and  
Transportation*  
U.S. Nuclear Regulatory Commission

**Break and Exhibits**  
**Stadium Ballroom**  
**10–10:30 a.m.**

**Morning Session II**  
**Grand Ballroom East & Salons A-C**  
**10:30–11:45 a.m.**

**Session Chair**

Earl Easton  
*Senior Level Scientist*  
Division of Spent Fuel Storage and  
Transportation  
U.S. Nuclear Regulatory Commission

**Spent Fuel Storage and  
Transportation Security**

Tim Runyon  
*Section Manager, Environmental  
Management Section*  
Illinois Emergency Management Agency,  
Division of Nuclear Safety

Robert Ragland  
*Project Manager*  
Division of Security Policy  
U.S. Nuclear Regulatory Commission

Jerud Hanson  
*Senior Project Manager, Security*  
Nuclear Energy Institute

Philip Brochman  
*Senior Program Manager*  
*Materials, Waste and International  
Security Branch*  
*Division of Security Policy*  
U.S. Nuclear Regulatory Commission

**Closing Remarks**  
**11:45 a.m.–Noon**

**Adjourn**