

A Tale of Two Countries: Scientific Integrity v. Political Expediency in Selecting and Evaluating Geologic Repositories for Radioactive Waste

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Originally submitted to:

T209. Support for Scientific Integrity and Scientists in an Age of Public Scrutiny:

Science is increasingly politicized and scientists are subject to unprecedented public attention. We will explore attempts to codify strong government scientific integrity standards, improve access to government data and scientists, and neutralize attacks on scientists.

Advocates: Francesca T. Grifo, [Union of Concerned Scientists](#); William W. Simpkins, Iowa State University; Michael H. Halpern, [Union of Concerned Scientists](#); Brenda Ekwurzel, [Union of Concerned Scientists](#)

Geologic repositories in Germany



Coalition partners agree that the current disposal concept for radioactive waste has substantially failed and lacks any objective basis.

Suitability of the Gorleben salt dome is in doubt. Further exploration should therefore be suspended and additional sites in various host rocks should be investigated for their suitability.

**Red/Green Government Coalition,
Bonn, Germany
20. October 1998**

Key **decisions** of the Government are **not based** purely **on scientific and technical arguments**.

Scientists have a **responsibility to resist** objective arguments being mixed too early in the decision process with political viewpoints.

It would be **irresponsible to** unnecessarily **slow down** the **progress** towards safe deep geologic disposal.

Intimations that geologic disposal may perhaps be replaced by some yet-to-be invented technology are **no basis for a credible program** to be run by motivated scientists and engineers.

We have a **responsibility** to protect the environment for current and future generations. This **should not be pushed aside** by political problems of the day.

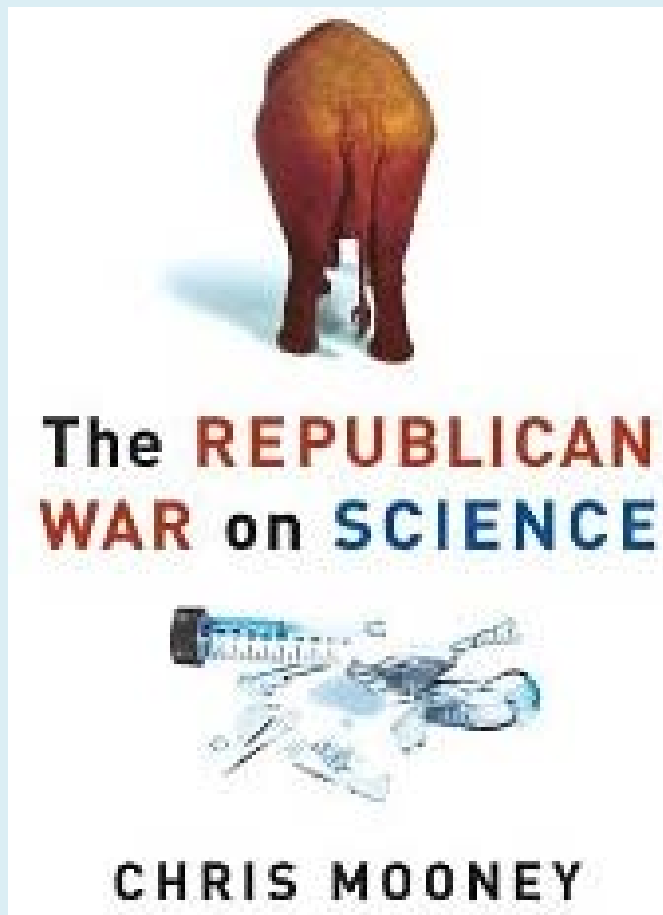
President Bush recommended the Yucca Mountain site to Congress on February 15, 2002, and Nevada Governor Guinn submitted a notice of disapproval, or “state veto,” **April 8, 2002**, as allowed by NWPA. The state veto would have blocked further repository development at Yucca Mountain if a resolution approving the site had not been passed by Congress and signed into law within 90 days of continuous session.

Senator Bingaman introduced the approval resolution in the Senate **April 9, 2002** (S.J.Res. 34), and Representative Barton introduced it in the House **April 11, 2002** (H.J.Res. 87). The Subcommittee on Energy and Air Quality of the House Committee on Energy and Commerce approved H.J.Res. 87 on **April 23** by a 24-2 vote, and the full Committee approved the measure **two days later**, 41-6 (H.Rept. 107-425). The resolution was passed by the House **May 8, 2002**, by a vote of **306-117**. The Senate Committee on Energy and Natural Resources approved S.J.Res. 34 by a 13-10 vote **June 5, 2002** (S.Rept. 107-159). Following a **60-39** vote to consider S.J.Res. 34, the Senate passed H.J.Res. 87 by voice vote **July 9, 2002**.

An approval resolution was signed by President Bush July 23, 2002

P.L. 107-200

**Joint resolution approving the site at Yucca Mountain, Nevada,
for the development of a repository for the disposal of high-level
radioactive waste
and spent nuclear fuel,
pursuant to the Nuclear Waste Policy Act of 1982**



Basic Books, 2005

The New York Times
bestseller that exposes the
conservative agenda to put politics
ahead of scientific truth.

Harvard psychologist Howard Gardner about John Marburger
(Bush administration science advisor):

"I think he probably is enough of a **scientist** to
realize that he basically **has become a prostitute.**"

**This journal does not have a vote,
and does not claim any particular
standing from which to instruct
those who do. But if it did,**

**it would cast its vote for
Barack Obama.**

Nature **455**, 1149

(30 October 2008)

Dr. Chu said the Energy Department should continue to answer questions from the Nuclear Regulatory Commission about the application and then **let the commission make a decision.**

(New York Times, February 11, 2009)

...the Commission will determine – **solely on the technical merits** – whether to authorize construction of the Yucca Mountain repository

NRC Fact Sheet on licensing Yucca Mountain <http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/fs-yucca-license-review.html>

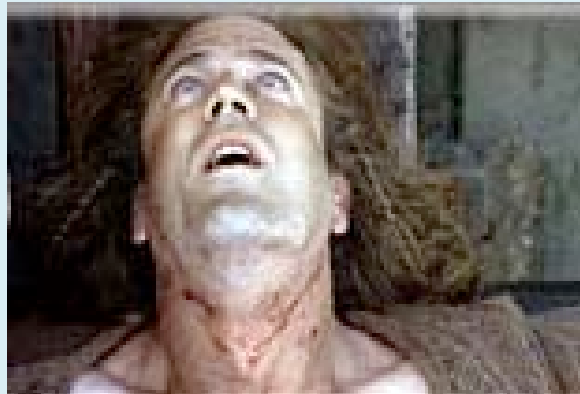
accessed September 23, 2011

DOE's motion (on March 3, 2010) argued that the licensing process should be terminated because **“the Secretary of Energy has decided that a geologic repository at Yucca Mountain is not a workable option”** for long-term nuclear waste disposal. Subsequent DOE statements have reiterated that **the license withdrawal motion was not based on scientific or technical findings.**

The Atomic Safety Licensing Board (ASLB) denied DOE's license withdrawal motion June 29, 2010, ruling that NWPA prohibits DOE from withdrawing the license application until NRC determines whether the repository is acceptable. According to the board, **“Surely Congress did not contemplate that, by withdrawing the Application, DOE might unilaterally terminate the Yucca Mountain review process in favor of DOE's independent policy determination that ‘alternatives will better serve the public interest.’”**



**Did the
Secretary of
Energy
undergo
“Braveheart”
therapy?**



In **August 2008** Steven Chu, together with his National Laboratory Director colleagues, called for “**licensing of the Yucca Mountain Repository**” and agreed that “Confidence regarding the disposal of waste...can be achieved by **continuing the licensing** of a geologic repository at Yucca Mountain...”

http://www.ne.doe.gov/pdfFiles/rpt_SustainableEnergyFuture_Aug2008.pdf

On **March 4, 2011**...Secretary Chu cited future climate change and saturated rock fissures as potential flaws. When challenged...the **secretary quickly backed down** and stated that the Yucca Mountain project was “**unworkable**” and that better alternatives were available. (SFCTF letter, June 29, 2011)

www.sustainablefuelcycle.com

Whose matador is being gored?



Yucca Mountain



**NRC Chairman
Greg Jaczko**

**Senate Majority
Leader Harry Read**

...we were unprepared for the **political pressures and manipulation** of our scientific and licensing processes...

...senior managers directed the staff to **suppress information**...contributed to the **manipulation of** the budget process and **information**...

...senior leadership is **ineffective** in **upholding the integrity** of this Agency.

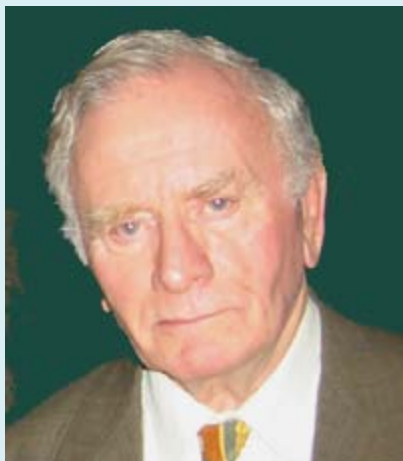
If the NRC were to find any of our licensees so lacking, we would require of them a corrective action plan. **We should hold ourselves at least to the same standards.**

Per Peterson (Blue Ribbon Commission member since 2010):

Anybody who really believes the site (Yucca Mountain) is unsuitable **shouldn't have any worry about the outcome of an independent scientific review.**

If Obama interrupts that review **to satisfy campaign promises**, the president-elect is no better than a climate change-science denier. Politics needs to be **informed by legitimate science.**

Sustainable Fuel Cycle Task Force



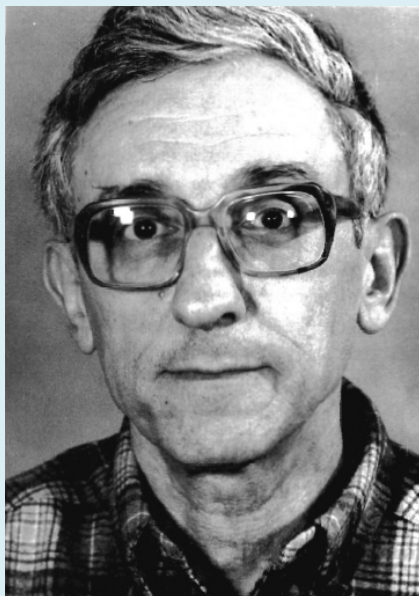
Charles Fairhurst



Ruth Weiner



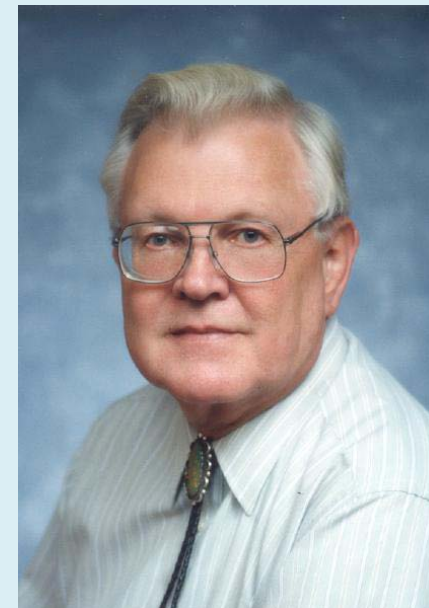
Warner North



Isaac Winograd



Eugene Roseboom



Wendell Weart

...discontinuance of...access to the information...**violates**
the principles of **scientific openness and transparency**...

(SFCTF letter to Secretary Chu, September 16, 2010)

...desire for an unattainable **utopian** undefined policy
solution should not supplant existing law.

...alluding that some **magical** non-existent better
alternative exists, is a **disservice** to the country and a
discredit (to) the Commission.

(SFCTF letter to the Blue Ribbon Commission, May 26, 2011)

UCS on Scientific Integrity in Policymaking

...administration has **often manipulated** the process through which science enters into its decisions.

...established **pattern of suppression and distortion** by... high-ranking administration political appointees...

...**manipulate** the government's scientific advisory system **to prevent** the appearance of **advice** that might run **counter** to the administration's **political agenda**.

...**undermine** the **morale** and **compromise** the **integrity** of scientists...



Conspicuously

Missing



Augmentation slides

A TALE OF TWO COUNTRIES: SCIENTIFIC INTEGRITY V. POLITICAL EXPEDIENCY IN SELECTING AND EVALUATING GEOLOGIC REPOSITORIES FOR RADIOACTIVE WASTE

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After promising that they will base crucial decisions on science, objective evidence, and reality, governments all too often heed those lofty principles perfunctorily. Two unfortunate recent protagonists are Germany and the United States who both, during the past decade, arbitrarily suspended programs in pursuit of geologic isolation of radioactive waste. Bland statements that “suitability of the Gorleben (salt dome) is in doubt” and “the current (German) disposal concept has failed and lacks any factual basis”, or that “Yucca Mountain as a repository is off the table” and “we can do a better job”, lack scientific or technical support and credibility. Fortunate for the cause of scientific integrity, independent scientists and engineers in both countries are calling those and other politically and bureaucratically motivated but poorly scientifically and technically camouflaged bluffs. As congenitally multi-disciplinary scientists, geologists are well suited and should feel obligated to join those debates.

NATIONAL REVIEW ONLINE

The Corner

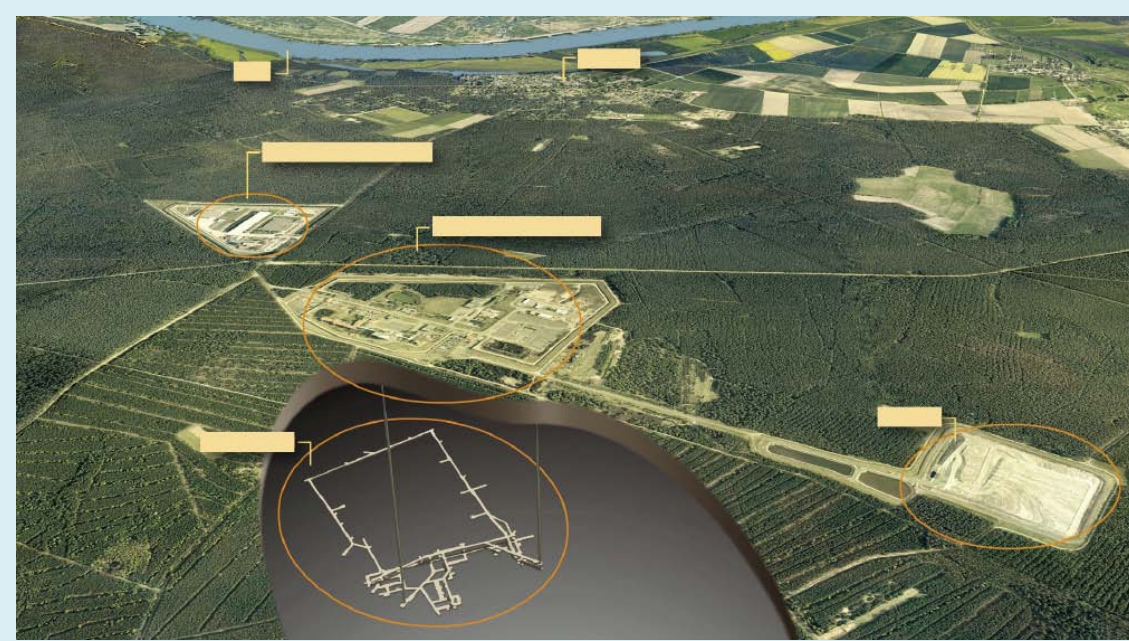
Union of Junk Scientists

By Iain Murray

Posted on January 30, 2007 4:41 PM

We're going to hear a lot about the new Union of Concerned Scientists' report on the so-called Republican War on Science that was unveiled at today's hearing chaired by Henry Waxman. What you won't hear is that the UCS report is undeniably Junk Science, a term I try to avoid but completely apposite in this case. The UCS mailed out over 1600 survey forms to climate scientists and based their assertions of political interference on the 297 that got returned. That's a response rate of just 19 percent. OMB guidelines clearly state that a response rate of less than 80 percent requires an investigation of potential biases and an even closer investigation for a response rate lower than 70 percent. A response rate of lower than twenty percent is clearly vulnerable to the charge of a self-selecting sample, perhaps those with an axe to grind against their bosses, the politically motivated, and so on. In short, it provides all sorts of legitimate reasons to dismiss the survey as utterly unrepresentative. The fact that these so-called scientists went ahead regardless exposes them for the partisan media manipulators they are.

Gorleben prospective repository



Barack Obama:

... decisions should be based on the best-available, **scientifically valid evidence** and **not on the ideological predispositions** of agency officials or political appointees.
(Nature Magazine, September 2008)

Political officials should **not suppress or alter** scientific or technological findings and conclusions. (Memorandum on Scientific Integrity, March 9, 2009)

...we have watched as **scientific integrity has been undermined** and scientific research **politicized** in an effort to **advance predetermined ideological agendas**.
(Remarks at the National Academy of Sciences, April 27, 2009)

...ensure that federal policies are based on the best and most **unbiased scientific information** [and] that **facts are driving scientific decisions**—and not the other way around. (Remarks at the National Academy of Sciences, April 27, 2009)

sources: <http://www.nature.com/news/2008/080903/full/455446a.html>
<http://www.gpo.gov/fdsys/pkg/DCPD-200900294/pdf/DCPD-200900294.pdf>
<http://www.gpo.gov/fdsys/pkg/DCPD-200900137/pdf/DCPD-200900137.pdf>

Conceding that **the Application is not flawed nor the site unsafe**, the Secretary of Energy seeks to withdraw the Application with prejudice as a “matter of policy” because the Nevada site “is not a workable option.” ASLB, June 29, 2010

It is not allowable in science to make a statement of fact based solely on your own opinion. (Kary Mullis, 1993 Chemistry Nobel Prize)

Sustainable Fuel Cycle Task Force

We are **not** aware of **any scientific basis** for the Yucca Mountain site to be judged unworkable.

...no technical authority has concluded either that Yucca Mountain is not suitable...or **that the science...is not sound.**

Scientific soundness of the selection of Yucca Mountain **was** well on its way to **being independently confirmed...when the Administration stopped the program.**

Your memorandum...requires agencies to **develop a culture of scientific integrity, and strengthen the...credibility of government research.**

We find..**conspicuous inconsistency** between the intent of your memorandum and the DOE's and NRC's actions...

Whether the commission exists because the science of Yucca Mountain was flawed, which is **known to be false**, or because of a lack of local support, which was **never a credible** issue, it is **unconscionable** to continue the commission's mission without acknowledging that a repository...is technically suitable and locally acceptable.

...the Blue Ribbon Commission's **continued silence... calls into question its own scientific integrity.**

(SFCTF letter, June 29, 2011)

Per Peterson (Blue Ribbon Commissioner since 2010), January 28, 2009:

...the most recent Yucca Mountain appropriations decisions...have also **almost completely dismantled the U.S. scientific capacity** to study any kind of geologic repository.

Besides being **dysfunctional and costly**, current U.S. nuclear waste policy is simply an **embarrassment**.

Nuclear Regulatory Commission (NRC) Dissidents:

Janet P. Kotra, Ph.D, Senior Scientist and Project Manager
Division of High-Level Waste Repository Safety (HLWRS)

N. King Stablein, Ph.D (geology, Northwest U.), Chief,
Project Management Branch
Division of High-Level Waste Repository Safety (HLWRS)

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

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

NEWTON KINGMAN STABLEIN, NRC staff, February 3, 1011:

...direction from the Chairman appears to be in **direct conflict** with the NWPA and the fact of an active license application.

...struggled on a daily basis to figure out how to **cope with this bizarre situation** in a manner which would **enable staff to maintain its integrity**. (February 3, 2011)

...staff has been **denied the opportunity to fulfill its duty**...

The work...**continues to be systematically suppressed**, to the detriment of...the Nation at large. (June 24, 2011)

<http://energycommerce.house.gov/hearings/hearingdetail.aspx?NewsID=8719>

LAWRENCE E. KOKAJKO and JANET P. KOTRA, NRC staff, June 24, 2011:

...using a **highly irregular process**...on multiple occasions I was **prohibited** from including...**any declarative statement**.

...comments (were) repeatedly **diluted or contradicted** the language prepared...this was **grossly misleading and unacceptable**...**dismayed** by what has happened...

...we would hope the day comes soon when we can return to being boring regulators.

Please help us...**keep the commitments** we made to the public **about** the **openness and transparency** of NRC's safety review at Yucca Mountain.

Christopher A. Kouts, former Principal Deputy Director and Acting Director of the Department of Energy's (DOE) Office of Civilian Radioactive Waste Management (OCRWM), June 1:

the Administration's decision to terminate the Yucca Mountain Project is disturbing because **Yucca Mountain has not failed any technical or regulatory test**. The site has not failed in the NRC licensing process. The thousands of scientists and engineers and others that worked on the project over the years believe, as I believe, that the site would meet the stringent regulations of the EPA and the NRC and assure that these materials would not adversely impact future generations and the environment.

Absent this Court's intervention, a decades long, multi-billion dollar process to address one of our nation's most intractable problems will simply vanish, despite a **law** compelling it, Congressional **funding** to facilitate it, and an [NRC Atomic Safety and Licensing Board] **decision denying DOE's attempt to end it.**

Petitioners including the National Association of Regulatory Utility Commissioners, Washington State, and South Carolina, September 2011

...efforts...created the perception that the NRC withheld key safety information for political reasons, thus further tarnishing the Commission's reputation and credibility

Eric P. Loewen, President, American Nuclear Society, August 22, 2011

http://www.new.ans.org/about/officers/nrcdocs/NRC_Commissioner_Svinicki_Letter_08.22.2011.pdf

...a Blue Ribbon Commission [BRC] of venerable scientific, industry, environmental and policy experts (is) working on a safer, more secure and realistic management strategy for nuclear waste.

I look forward to...developing a plan...that protects Nevadans and all Americans from **the most dangerous substance known to man.**

Senator Majority Leader Harry Reid (D-NV)

http://reid.senate.gov/newsroom/pr_092011_report.cfm



Bottom line

The former Gorleben moratorium and the current strangulation of the Yucca Mountain Project lack any rational justification.

Scientific and technical reasons for stopping or suspending a repository project should be based on clearly disqualifying properties of the site being investigated.

Die Botschaft hör ich wohl,
Allein, mir fehlt der Glaube.
Das Wunder ist des Glaubens liebstes Kind.
(Goethe, Faust)

Translation:
The message I hear well,
alas, I lack the faith.
The miracle is faith's most favored child.