IN CONFIDENCE

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September 26, 2007

The Honorable John D. Dingell, Chair, Energy and Commerce Committee
The Honorable Bart Stupak, Chair, Oversight and Investigations Subcommittee, Energy and Commerce Committee
The Honorable Peter J. Visclosky, Chair, Energy and Water Development Subcommittee, Appropriations Committee
The Honorable David Hobson, Ranking Member, Energy and Water Development Appropriations Subcommittee
The Honorable Henry Waxman, Chair, Oversight and Government Reform Committee
The Honorable Edward M. Kennedy, Chair Seapower Subcommittee, Armed Services Committee and Chair Immigration, Refugees and Border Security Subcommittee, Judiciary Committee
The Honorable Jeff Sessions, Ranking Member Strategic Forces Subcommittee, Armed Services Committee, and Ranking Member Administrative Oversight and the Courts Subcommittee, Judiciary Committee

RE: Request for a meeting and a hearing to address DOE-UC mismanagement of the nuclear stockpile, weapons programs, and national security.

Honorable Members of Congress:

On July 16, 2007, via email, I sent you a letter, "Urgent need to correct DOE mismanagement of the U.S. nuclear stockpile and U.S. deterrence capability" (Ref. 1, attached). In this letter, I noted that former CIA Director, the Honorable R. James Woolsey (703-377-0809) has reviewed many of the issues and recommended a Private Bill on my behalf (letter enclosed in "Documents," separate email). As in Ref. 1, I am requesting Congress to (1) subpoena a few leading weapons scientists from Los Alamos National Laboratory (LANL) for a hearing on the nuclear weapons and deterrence issues (NWDI) as soon as possible; (2) include in the current bills language to mandate an unbiased, accountable, in-depth, Science Panel review of the NWDI to correct mismanagement (draft in Ref. 1, section 3); and (3) the opportunity to meet with you at your earliest convenience to discuss the possibility of the hearing described in the Addendum and sponsorship for the Private Bill. I will be in DC from **October 1–5**.

With regard to the Science Panel review I am suggesting that scientists from Los Alamos National Laboratory (LANL), Lawrence Livermore National Laboratory (LLNL), Laboratory Microfusion Facility Inc. (LMFI), and the Arms Control Community interested in protecting deterrence be invited to participate.

In July 1992, Mr. Jeff Hodges of your staff, Chairman Dingell, assured me that you intended to conduct a hearing on these issues. Such a hearing never took place. The evidence, described in the Documents, the Addendum, and the Appendixes, suggests that the consequences put the future security of the American people at risk.

In June 2007, Chairman Visclosky stated "*the breach that causes me and should cause every Member here the most heartburn*" is the punishment and retaliation of a DOE/NNSA/DP contractor employee because he was right and sought to correct mismanagement at one of the DOE/NNSA nuclear weapons labs. In Documents, I am including copies of some documents that prove the strength of my case to correct mismanagement of the NWDI, including security, and evidence of the retaliation to which I was subjected by the Department of Energy (DOE)/Defense Programs (DP) and the University of California (UC) for being right about critical scientific issues related to the NWDI. The areas of NWDI mismanagement addressed in Ref. 1 (and references therein) include the following:

(1) DOE/DP-UC, now DOE/NNSA/DP-UC,
   (A) developed the wrong stockpile, infrastructure, weapons programs/Stockpile Stewardship Program (SSP), and Complex for nuclear deterrence;
   (B) is currently on the wrong track with its projections for the future stockpile, infrastructure, SSP, and Complex 2030; and
   (C) lacks the detailed nuclear data required to develop the modern 3-D weapons codes using Code Validation Physics (CVP)—which I initiated at LANL in 1982–83—to make the necessary corrections.

(2) DoD and some Members of Congress are
   (A) assuming that the U.S. stockpile will remain reliable during a lifetime of 85–100 years; however, **according to Nevada Test Site (NTS) data, the lifetime is 30–45 years**, thus the stockpile is very likely unreliable after **30 years**, i.e., **after 2013, when nuclear deterrence fails (~ 2013–2030)** (see Addendum and Appendix B);
   (B) underestimating the impact of the mismanagement of DOE/DP-UC/LANL's Machine C—a certain path for espionage for at least 20 years, the most likely path for China to have acquired the U.S. MIRV designs—on both the future stockpile and U.S. Nonproliferation policy (see Addendum and Appendix C); and
   (C) underestimating the probability that China could become a peer adversary by **2020–30**, hence, the nuclear efficiency of the 2030 stockpile should be significantly higher than the proposed (unreliable) Reliable Replacement Warheads (RRWs) (see Addendum and Appendix C).

Because of the mismanagement of the NWDI, U.S. nuclear deterrence is clearly on the wrong track. According to DOE/NNSA/DP-UC and its labs (see Appendix B), correction of the stockpile will take approximately 17–20 years. Hence, if the stockpile will become unreliable after 2013, time has run out. Correction is **urgently needed**. However, because of the mismanagement of the lifetime determination, many Members of Congress believe the correction could be delayed to the next Administration:

> …Rep. Ellen O. Tauscher (D-Calif.), chairman of the House Armed Services subcommittee that handles strategic weapons, said in an interview last week that she expects that the question of future U.S. nuclear weapons policy will be passed to the next administration, since the Bush White House is preoccupied with other subjects.

> Sen. Byron L. Dorgan (D-N.D.), chairman of the Appropriations subcommittee handling the nuclear program, has indicated he is thinking along the same lines, according to a senior Democratic staffer familiar with his views. "The Tauscher approach makes sense," the staff member said. …The Senate subcommittee is expected to provide limited funds for the program "so we have a couple of years to gather information while the next administration lays out future requirements." ["Congress Seeks New Direction for Nuclear Strategy," by Walter Pincus, *Washington Post,* Monday, June 18, 2007.]

Chairman Dorgan noted that the Administration does not yet support the RRW:

> Sen. Byron L. Dorgan (D-N.D.), chairman of the Appropriations subcommittee handling the nuclear program…noted that senior Bush administration officials had not publicly supported the RRW program despite a request by Sen. Pete V. Domenici (R-N.M.), a former Appropriations subcommittee chairman and a proponent of the new warheads. ["Congress Seeks New Direction for Nuclear Strategy," by Walter Pincus, *Washington Post,* Monday, June 18, 2007.]

Possibly in reaction to Chairman Dorgan's comment, on July 24, 2007, Secretary of Defense Robert Gates, Secretary of Energy Samuel Bodman, and Secretary of State Condoleezza Rice sent Congress a summary of "U.S. nuclear strategy." This document looks forward to around 2030 and ignores DOE/NNSA/DP-UC mismanagement (see Addendum). This summary asserts the Administration's case for full funding for the DOE weapons programs, including the RRWs and Complex 2030. Quoting the assessment:

(1) "As the U.S. continues to observe a moratorium on underground nuclear testing it becomes increasingly difficult to certify the existing stockpile of weapons.…
(2) RRW will allow the United States to manage the risks and challenges of the 21st Century while reducing the likelihood of returning to nuclear testing to certify reliability.…
(3) Over time, RRW will enable the United States to transition to a smaller, more responsive nuclear infrastructure that will enable future administrations to adjust the U.S. nuclear stockpile as geopolitical conditions warrant.…
(4) Delays on RRW also raise the prospect of having to return to underground nuclear testing to certify existing weapons.…
(5) Over the next two decades Congress will make many decisions, including…on RRW, that will help determine how fast and how far the United States can go in transforming and reducing its nuclear forces, nuclear stockpile, and nuclear infrastructure [thus Complex 2030] to make them…more appropriate to managing the risks and challenges of the 21st Century [e.g., China]."

The DOE-DoD-DOS assessments (2), (3), and (4) are known to be flawed. Assessment (1) is true because the DOE/DP-UC developed a nonrobust stockpile for deterrence. Assessment (5) depends on the lifetime of the stockpile. The assessments do not state when the existing stockpile will become unreliable, only that delays on the RRW—which DOE/NNSA plans to develop by 2012—could generate the need for nuclear tests. In fact, the DOE/NNSA/DP-UC, endorsed by the JASONs, claims that the lifetime of the pits/stockpile is 85–100 years; thus, according to DOE/NNSA-UC's best calculations, the stockpile should be reliable until **2068–2083**.

The tools used to reach these conclusions were fudged weapons code calculations, unreliable expert judgment, and gross exaggerations (see Appendix B, sections 1–3 and 5.6, Ref. 1, section 7, and Addendum). In contrast, the **lifetime** estimated by **scientists using the test data from the Nevada Test Site (NTS) is ~30–45 years** (Addendum, section 5, Appendixes B and C, and Ref.

1, section 4), indicating that the predictions above are seriously in error. It is well documented that DOE/NNSA/DP-UC has made huge predictive errors (Ref. 1 and Addendum). In reality, because its Advanced Simulation and Computing (ASC) codes are unreliable, DOE/NNSA/DP-UC *does not know* when the U.S. needs to replace the stockpile. Furthermore, the RRWs have been designed and certified using fudged ASC weapons code calculations, unreliable expert judgment, and lies. In reality, there is no proof that the RRWs are reliable (Ref. 1 and Addendum). Hence, the $200-billion conclusion (5) (above), that the infrastructure and Complex 2030 should be based on the RRW, is seriously flawed.

On August 1, 2007, House Subcommittee on Energy and Water Development Chairman Peter Visclosky and Ranking Member David Hobson responded to the July 24 summary stating that DOE/NNSA is making "irresponsible" assertions:

> The Joint Statement goes so far to imply that RRW is the only available option for addressing the concerns about the existing stockpile of legacy nuclear weapons. Particularly troubling is the direct link between a resumption of nuclear testing and the provision of funding for RRW…It is *irresponsible* for the Administration to make such an assertion. The implications that such a direct linkage between the need to resume testing and failure to fund the fiscal year 2008 RRW request is incautious. There is no record of Congressional testimony or reports sent to Congress by the Administration claiming that the safety, security, or reliability of the existing legacy stockpile is on a performance cliff such that a resumption of testing to verify performance of the warheads would be necessary.

Apparently, the Administration has not sent Congress any report stating that the existing stockpile could be unreliable in the near future, e.g., by around 2013, but **I have!**

In fact, I have e-mailed long reports with a distribution list that includes many distinguished citizens, and I have been briefing congressional staff since 2003—including the House Appropriations, Armed Services, and Energy and Water Committees—addressing this critical issue (see Addendum). Since 1987, I have been sending letters to Congress and briefing staff addressing the fact that the U.S. weapons programs are on the wrong track. From 1987 to 2001, I sent letters to DOE and to the White House addressing the mismanagement of the NWDI. In 1993–1994, I sent copies of my 16-volume document, which includes my Microfusion proposal and detailed documentation, to DOE and Congress (see Addendum, ref. 2). Clearly, with reference to my case, UC, DOE/DP, and the U.S. Judicial System have failed; however, the documentation, addressed by the Honorable R. James Woolsey shows that Congress is also failing (see Addendum, section 2).

The Subcommittee's letter states:

> The House language spelled out a three-part planning sequence necessary to develop a revised post Cold War nuclear weapons strategy, including (1) a comprehensive nuclear defense strategy based on projected global threats; (2) clearly defined military requirements for the size and composition of the nuclear stockpile derived from the nuclear defense strategy; and (3) alignment of the military requirements to existing and estimated future needs of the nuclear weapons complex.

What the Committee is requesting from DOE/NNSA is an explanation of how it plans to accomplish the steps required to correct the NWDI. Essentially, what the Committee is requesting is what I have been telling Congress since 2003 is necessary for an effective U.S. deterrence policy: (1) DoD must (A) project the future targets and develop the future strategy for deterrence (using input from the Intelligence community and DOS); and (B) calculate the size and composition/military characteristics (including nuclear efficiency) of the future stockpile required for deterrence; (2) using the DoD projection, DOE must estimate (A) the future SSP to maintain/build the future deterrence stockpile—including the facilities required for design and science-based certification; and (B) the responsive infrastructure and Complex required to maintain/build the deterrence stockpile; and (3) based on DoD-DOE projections, Congress and the Administration must design the best U.S. nuclear deterrence policy (Addendum, Appendixes B and C; Ref. 1).

At stake is a $600-million-plus cut (from the Administration's request) in the DOE weapons activities by the House Appropriations Committee until mismanagement has been corrected. If there is a continuing resolution, the budget will remain flat and, despite the urgency for correction, there will be none. The FY 2008 House report also recommends increased oversight. The Administration wants much less.

Chairman Dingell, your letter of August 2, 2007 to UC Regents' Chairman Richard Blum is consistent with the need for increased oversight. However, the Senate and the House Armed Services Committees are reinstating most of the funding to the mismanaged programs and ignoring the oversight issue in their pertinent FY 2008 bills. As noted in Ref. 1, the New Mexico and California Congressional Delegations protect funding for the labs; thus, the Senate and the House Armed Services will likely prevail in the upcoming Conferences—as they have consistently in the past. Hence, a large fraction of the funding will be reinstated and the mismanagement of the NWDI will not be corrected—at the cost of the future security of the American people.

In order to protect the future security of the American people, the following should occur:

(1) Congress should cut the funding for the mismanaged programs until the mismanagement is corrected to avoid funding wasteful programs—as directed by the House Appropriations;
(2) Congress should establish in the FY 2008 House and Senate Authorization and Appropriations bills the proposed Science Panel review (a draft is in Ref. 1, section 3) in order to correct mismanagement of weapons science. In fact, on April 23, 2007, the American Association for the Advancement of Science panel supported an in-depth, broad review of the weapons science issues (see Appendix C, section 2.2.5);
(3) Congress should allow a new nuclear weapons design laboratory, Laboratory Microfusion Facility Inc. (LMFI), independent from the DOE/NNSA-UC, to be established in order for the LMFI Alliance to formally challenge the position of DOE/NNSA/DO-UC and its labs (see Addendum and Appendixes);
(4) Congress should allow the participation of distinguished scientists who are members of the Arms Control Community, i.e., representing a position perpendicular to that of the DOE/NNSA-UC, to formally challenge the DOE/NNSA-UC position—thus bringing the full nation into a formal debate of the issues; DOE/NNSA/DP-UC should not continue to manage all the U.S. nuclear weapons design labs. DoD should manage at least one. The

DOE/DP-UC monopoly on weapons design for more than 60 years has resulted in gross mismanagement of the NWDI, including computer security at the labs that permitted China to acquire the efficient U.S. MIRV designs.

(5) Congress should allow for the possibility that LMFI may be funded/managed by DoD (see Addendum and Appendixes).

(6) The Science Panel recommendations to the three policy review boards mandated in the cited bills addressing the NWDI should correct the weapons science on which current policy is based. Thus, the policy review boards would be forced to issue recommendations based on solid weapons science. Hence, Congress should debate policies based on solid science. This process should permit the writing of bipartisan legislation, which the President can sign, that corrects the NWDI and funds the programs accordingly (see Ref. 1, Addendum, and Appendixes).

(7) The DOE/NNSA-LANS and DOE/NNSA-LLNS contracts should be revised to include language that protects excellence in weapons science and security through transparent grievance guidelines that protect peer reviews and Academic Freedom/Freedom of Speech in a classified environment. Corrected guidelines will permit effective Congressional oversight (see Addendum).

(8) Congress should review the fact that the U.S. Judicial System has been giving <u>privileges</u> to UC (and other DOE/NNSA contractors). For example, Chairman Dingell's August 2, 2007 letter to UC Regent Blum states that "UC refuses to accept responsibility for national security violations, and even more disturbing [is] the fact that UC, which in 2005 received approximately $7 billion in Federal funds through contracts, grants…is contending it cannot be sued by the Federal Government for violations of Federal law…" In my case, UC claimed similar immunity, claiming I could not sue the university for violations of Federal law (see Addendum [Harrington's brief], Documents, and Appendix A).

In the Addendum, I use my case to illustrate how the mismanagement of weapons science and security has been visible and damaging since 1987. This is when DOE/DP-UC/LANL overruled its own official scientific peer review panel's recommendation for funding my proposal at LANL to correct the weapons programs, stopped my Code Validation Physics work—now a critical component of the SSP—and covered up by firing me and suspending my security clearance using untruths. I have been writing to Congress since 1987–88 requesting corrections, cuts, and increased oversight on the mismanaged weapons programs—issues addressed in the House Appropriations Committee letter to DoD-DOE-DOS and its report. As the *Albuquerque Tribune* reported (Addendum, section 2) the "New Mexico Congressional delegation failed miserably with the oversight." In fact, Ranking Member Hobson noted during the debate of Congressman Udall's amendment (Ref. 1) that this delegation —and, in our view, the California delegation—cares only about jobs for the DOE/NNSA-UC labs in New Mexico and California, not true national security (see Hobson's statement, Ref.1).

Since November 1988, you, Chairman Dingell, have written at least three letters to the DOE Secretary about my case (see letter in Documents). On around July 31, 1992, your staff, Mr. Jeff Hodges, told us you were planning to conduct hearings on my case in which DOE-Los Alamos Area Office (LAAO) Operational Security (OS) investigator William Risley would testify. The 1991 DOE-LAAO "Risley Report" recommendation is included in Documents. However, no congressional or legal hearings were ever permitted. DOE and UC used untruths and vigorously

opposed any hearings that would permit Risley to testify about the DOE-UC/LANL Machine C violation of computer security and how the mismanagement of the weapons programs violated Federal law (see Addendum). Similar to what you describe in your letter to Regent Blum—"UC refused to accept responsibility for national security violations, and…contended it cannot be sued…for violations of Federal law"— in response to my lawsuits, the UC Regents claimed "sovereign immunity" (like that of a tribal nation) from prosecution in New Mexico. The legal record shows that the UC/LANL grievance process is a sham and judges in California and New Mexico can be proved strongly biased for UC and untruthful in order to deny discovery on the Risley Report (see a selection from Harrington's brief to the U.S. Supreme Court in Addendum, section 15; a copy of the full brief is in Appendix A). The U.S. Judicial System failed to hear my case, denying me my constitutional right to due process.

In 2000, the Honorable R. James Woolsey, then a practicing attorney, investigated my case and agreed to be my pro bono attorney. Very likely, he is the person in DC who has spent the most time reviewing the issues. His July 2002 letter to Senator Kennedy, recommending a Private Bill on my behalf and noting the mismanagement issues, and that "fairness to this individual goes hand in hand with an important, even vital, issue of public policy under the purview of the DOE and the Energy Committees of the Congress," is enclosed in the Documents. Unfortunately, after cursory reviews of the same documents that Woolsey reviewed in-depth, Congress still believes DOE/NNSA-UC, thus it is failing in its oversight responsibilities. Consequently, wasteful, mismanaged programs remain uncorrected (see Addendum, sections 2 and 5).

I am requesting to meet with you on October 1, 2, 3, or 4—or at your earliest convenience—to discuss my proposed hearing. I am asking you/your committee to subpoena at least three leading LANL scientists (one is LANL Fellow John Pedicini, leader of the weapons design team) and invite several distinguished citizens for a hearing on the DOE/NNSA/DP-UC mismanagement of the stockpile, the nuclear weapons programs, and computer security, as soon as possible to verify (1) the extent of the damaging mismanagement and its coverup; and (2) the need for the Science Panel review and Private Bill to correct the mismanagement (see Addendum, section 5).

The FY 2008 House and Senate Appropriations and Authorizations bills mandate three policy reviews: (1) a DOE-DoD-Intelligence review; (2) a DoD Nuclear Posture Review; and (3) a Commission review of U.S. policy—all of which assume that weapons science and technology are on the right track (Ref. 1, section 3, Addendum, and Appendixes B and C). Because of the DOE-UC monopoly on weapons science for more than 60 years, all the weapons science reviews of the DOE/NNSA-DP weapons programs have been by biased panels controlled by DOE/DP-UC (Appendix C, section 5). The ongoing National Academy of Sciences (NAS) and JASON reviews can also be proved biased (see Ref. 1, Addendum, and Appendix C, section 5). Without correction, all the mandated policy reviews will be based on the wrong science and technology; consequently, grossly in error (see Addendum, section 6, Ref. 1, and Appendix C). The proposed Science Panel review is designed to correct the weapons science and technology in order to provide the correct input to the policy reviews—thus, enabling future U.S. policy to be based on solid science (see Ref. 1, section 3, Addendum, and Appendixes B and C).

I understand that the conferences for the cited bills may be completed by early November; hence, there is very little time for your committee to (1) conduct a hearing and (2) recommend to the

pertinent committees, prior to the conferences, (A) language in the bills establishing the Science Panel review, and (B) whether or not **the $600 million cuts** should be supported until the programs are corrected. ***In addition, I am seeking your sponsorship for a Private Bill on my behalf*** that could be pursued concurrent with the Science Panel review (see Addendum, draft Private Bill attached). My attorney, Mr. Richard Harrington, Esq., has emphasized the importance of the private bill (see Addendum, section 5.2.1).

The hearings would serve to generate bipartisan legislation—which you and/or pertinent committees could write, that could be signed by the President—sponsoring my Private Bill and establishing the Science Panel review (explained in Addendum, section 5, and Ref. 1, section 3).

The 18–24 month, 16-member, *unbiased*, Science Panel review is a funded ($20 million), accountable, in-depth weapons science and technology debate among DOE-UC/LANL, DOE-UC/LLNL, and the LMFI Alliance (~50 scientists). If other Arms Control organizations participate, the funding would increase depending on the number of scientists. It addresses the mismanagement of the technical NWDI (the nation is investing ~$25 billion a year in the DOE and DoD nuclear activities), including the lifetime of the stockpile, the reliability of the legacy and replacement (RRW) stockpile, Code Validation Physics and its link to the $6.5-billion-per-year-Stockpile Stewardship Program facilities, the science-based, quantification-of-margins-and-uncertainties (QMU) certification, and the estimate of the uncertainties, including examination of the pre-shot and post-shot code predictions (database) for the 1030 NTS shots. The goal of the Science Panel is to provide input to the review boards addressed in the bills, e.g., the DOE-DoD-Intel, DoD NPR, and Commission (see Ref. 1, section 3, Addendum, and Appendix C). The panel would provide a preliminary report after 12 months.

We believe that with the Science Panel's preliminary report, you/your Committee will be able to generate urgently needed bipartisan legislation addressing corrections to (1) the DOE and DoD NWDI activities; (2) the governance of the nuclear weapons design laboratories, LANL and LLNL, in order to halt DOE-UC Conflict of Interest; and (3) the internal grievance process at the laboratories in order to protect excellence in weapons science and security—described in the Addendum and Ref. 1.

The information gained from our requested hearing, the Science Panel review, and the discovery resulting from the Private Bill will help you—in the near future— design critical bipartisan legislation that the President could sign.

In the Addendum, I expand on the issues addressed in this letter and link the mismanagement of the NWDI with my case. The Addendum has three Appendixes: Appendix A, which uses detailed documentation to show how the mismanagement of DOE-UC/LANL's Machine C and the weapons programs could have been corrected by hearing my case (Because of size, this file is not enclosed in the e-mails but is available on request.); Appendix B, which includes scientific discussion of the weapons science issues (NWDI); and Appendix C, which expands on DOE/NNSA-UC conflict of interest, standard panel recommendations, bias, and the size and composition of the stockpile.

It should be clear that for 20 years the U.S. has been on the wrong track in the nuclear weapons programs, the nuclear stockpile, infrastructure, Complex, and deterrence in great part because of the following:

(1) DOE/DP-UC/LANL fired me in February 1987—based on lies—after I had gained an official science panel review recommendation for my proposal to correct the mismanagement of the NWDI that exhibited that the DOE/DP-UC weapons programs and stockpile approach were wrong (Addendum, sections 7-12, and 15, Documents, and Appendix A).
(2) Incompetent DOE-UC/LANL managers, still in the system, whose technical case lost in the review, falsely accused me of using LANL's Machine C and implied that I could be an Argentine spy to generate the suspension of my security clearance using lies (see Addendum, sections 7–12, and 15; Documents; and Appendix A) to destroy my reputation and my ability to participate in any debate of the NWDI.
(3) DOE/DP-UC
(A) denied hearings on my clearance reinstatement to cover up for Machine C (Addendum and Appendix A);
(B) tried to classify the DOE-LAAO Risley Report, and asked judges to seal the report (Addendum and Appendix A); and
(C) used undue influence to oppose legal and congressional hearings on my case such that its own DOE-LAAO OS manager and investigator, W. Risley, could not testify about mismanagement in weapons science and security (Machine C) (Addendum and Appendix A).
(4) DOE/DP-UC opposed my participation in national reviews, with clearance and full access, to debate the DOE/NNSA/DP-UC labs related to the NWDI (Addendum Appendix A).
(5) The U.S. Judicial System failed by yielding to influence from UC and denying me legal hearings—hence, Woolsey recommends a Private Bill (see Addendum, sections 8 and 15, and Appendix A).
(6) Because of the DOE/NNSA/DP-UC coverup the NWDI has remained uncorrected, putting the future security of the American people at risk.

If legal or congressional hearings on my case had been permitted in 1991–92, Risley would have testified and defended his report. Hence, the weapons programs and computer security/Machine C may have been corrected at that time and espionage may have been prevented. Similarly, if, during my 1987–1991 grievance proceedings, UC/LANL had permitted discovery on the security suspension issues, Risley would have testified that (1) Machine C was a clear path for espionage; (2) Mascheroni had *never* used Machine C—although nearly everyone in LANL's X Division had; (3) the infractions LANL claimed I committed were trumped up; and (4) the U.S. weapons programs were on the wrong track (see Addendum). Incidentally, on April 24, 1987, following the investigation of my case, UC/LANL, DOE-LAAO, and DOE-ALOO knew Machine C was a DOE security violation, a clear path for espionage (Addendum and Appendix A), yet did nothing to correct its existence.

In summary, in this letter and in Ref. 1, I emphasize (1) the urgency to correct mismanagement in the NWDI because it impacts the future security of the American people; (2) the House Appropriations' cuts should remain until the mismanagement is corrected; (3) the urgent need for a hearing—part closed, part open—for which at least three LANL scientists would be subpoenaed to testify and other distinguished scientists and professionals invited to participate to address the

mismanagement and coverup of the cited NWDI; (4) the need for legislation for an accountable, in-depth, funded, Science Panel review of the NWDI following the hearing; and (5) sponsorship of a Private Bill on my behalf following the hearing.

I am requesting to meet with you during the first week of October—or at your earliest convenience. I would very much appreciate your feedback.

Respectfully yours,

P. Leonardo Mascheroni, Ph.D., CEO
Tel: 505 662 3785
505 412 9193 (cell)

Attachment: Ref. 1, July 16, 2007 letter to Congress
Enclosed in separate emails: Addendum, Appendix B, Appendix C, and Documents

Documents:
Letter: Congressman J. Dingell to DOE Secretary J. Watkins, 04/03/1991;
Letter: R. James Woolsey to Sen. E. Kennedy, 07/13/2002 (Private Bill and Resolution attached);
Letter: NRDC, C. Paine to Sen. E. Kennedy, 07/10/2001;
Letter: FAS, S. Aftergood to Sen. B. Johnston and Cong. T. Bevill, 09/14/1992;
FAS *Secrecy & Government Bulletin*, S. Aftergood, Issue No. 14, 09/1992;
NY Times, "U.S. Redesigning Atomic Weapons," Bill Broad, 02/07/05;
San Francisco Chronicle, "Livermore Lab's Future tied to risky laser project…," Keay Davidson, 11/13/05;
DOE-LAAO, Operational Security, "Special Report to the Inspector General, DOE, on Dr. P. L. Mascheroni's "Q" Access Authorization," W. A. Risley, 09/21/1991;
DOE Quality Award to W. A. Risley, October 1993;
Santa Fe New Mexican, "LANL workers charged in molestations," Kathleen Parker, 02/26/1994;
New Mexico Dept. of Labor, Human Rights Division, "Determination on P. L. Mascheroni vs. Los Alamos National Laboratory," Director Medardo Sanchez, 06/07/1999;
Albuquerque Tribune, "House panel may hear fusion critic's case," L. Spohn, 12/13/1991;
Albuquerque Tribune, "Panel says FBI probe strange," L. Spohn, 07/29/1992;
Albuquerque Tribune, "FBI's 'strange' interrogation prompts questions, L. Spohn, 07/30/1992;
Statement to Office of Personnel Management, Phillip M. Lang, UC/LANL, Classification Group, 12/1988;
Albuquerque Tribune, "Aurora fusion laser may lose funds," L. Spohn, 09/15/1990;
Letter from UC Davis Prof. P. Craig to L. Mascheroni, 11/22/1988;
"Report of the Advisory Committee on the University's Relations with the Department of Energy Laboratories," M. Jendresen, Chair, 1999;
Letter: Nobel laureate, UC Santa Barbara Prof. W. Kohn to Prof. S. Drell, Chair, President's Council on the National Labs, 01/06/1993;
Letter: W. E. Brownlee, Chair, UC Academic Senate, to Neil Smelser, Chair, Academic Senate Committee on the National Laboratories, 01/27/1993;

Letter: Nobel Laureate, UC Santa Barbara Prof. W. Kohn to W. E. Brownlee, Chair, UC Academic Senate, 02/01/1993;
Letter from American Physical Society, P. C. Hohenberg, Chair, Panel on Public Affairs, and H. Winick, Chair, Comm. on International Freedom of Scientists to UC President J. W. Peltason, 10/13/1992;
"In the Supreme Court of the United States, October Term 1998, P. L. Mascheroni Petitioner v. Regents of the University of California, Respondents, Petition for Writ of Certiorari," Richard Harrington, Esq.

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GAO: Attention: Mr. James Noel, Assistant Director, Natural Resources, GAO
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Dr. Tom Cochran, Natural Resources Defense Council
Mr. Christopher Paine, Natural Resources Defense Council
Mr. Steven Aftergood, Federation of American Scientists
Dr. Walter Kohn, Nobel Laureate and UCSB Professor Emeritus,
Dr. Paul Craig, UC Davis, Professor Emeritus
Dr. Hugh DeWitt, LLNL Associate

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July 16, 2007

The Honorable John D. Dingell, Chair, Energy and Commerce Committee
The Honorable Bart Stupak, Chair, Oversight and Investigations Subcommittee, Energy and Commerce Committee
The Honorable Peter J. Visclosky, Chair, Energy and Water Development Subcommittee, Appropriations Committee
The Honorable David Hobson, Ranking Member, Energy and Water Development Appropriations Subcommittee
The Honorable Henry Waxman, Chair, Oversight and Government Reform Committee
The Honorable Edward M. Kennedy, Chair Seapower Subcommittee, Armed Services Committee and Chair Immigration, Refugees and Border Security Subcommittee, Judiciary Committee
The Honorable Jeff Sessions, Ranking Member Strategic Forces Subcommittee, Armed Services Committee, and Ranking Member Administrative Oversight and the Courts Subcommittee, Judiciary Committee

Honorable Members of Congress:

RE: Urgent need to correct DOE mismanagement of the U.S. nuclear stockpile and U.S. deterrence capability

This letter summarizes specific critical issues to justify our request for the following:
(1) a Science Panel review based on a debate between the DOE/NNSA-UC labs, LMFI, and other participants, as appropriate, designed to impact the U.S. stockpile, the lifetime of the stockpile, the Stockpile Stewardship Program (SSP), the replacement stockpile, projected targets for the stockpile, Complex 2030, and deterrence/policy; and
(2) consideration for a private bill on my behalf as recommended by the Honorable R. James Woolsey.

The Science Panel review will provide input to the review bodies requested in the Defense Authorization and Appropriation bills to address policy. In section 3, I address the four bills that could be modified during the legislative cycle, including the Conferences, as well as the suggested language that could be inserted into these bills during the rest of the legislative process.

In section 10, we name a few distinguished Los Alamos National Laboratory (LANL) scientists who could be subpoenaed to testify, under oath in closed hearings, on the critical areas of weapons science that are off track. The discovery generated by the private bill will necessarily address the same nuclear weapons/deterrence issues as well as mismanagement of computer security and retaliation; hence, the private bill could be pursued in parallel to the suggested review. We understand that additional work may be required to modify the language in the current bills—possibly requiring a new cycle of legislation; however, the correction of the

nuclear weapons and deterrence issues is compelling. I could arrange to be available to meet with any of you or your staff at your convenience.

1. Background to the current conflict in Congress related to DOE funding for weapons program activities

I have been writing to your respective committees since 1988 requesting Congress to mandate an in-depth review of the weapons science and security issues and my case related to the DOE/Defense Programs (DP)-University of California (UC) cover-up of mismanagement of the U.S. weapons programs, the nuclear stockpile, and (computer) security. On October 17, 1989, Chairman Dingell wrote to DOE Secretary James Watkins requesting a review of my case (letter attached in Appendix). No hearing was ever conducted. In 2000, former CIA Director the Honorable R. James Woolsey investigated my case and agreed to be my pro bono lawyer when he was still engaged in the practice of law. Woolsey found (1) that the U.S. judicial system had failed to hear my case; (2) that the suspension of my security clearance by DOE was improper; and (3) that I could be right on technical issues that impact U.S. deterrence/policy—letter to Senator Kennedy attached in Appendix. Woolsey recommended a private bill on my behalf to members of Congress.

The National Resources Defense Council (NRDC) reviewed my case and Mr. Christopher Payne wrote to Senator Kennedy on my behalf, copy of the letter is included in the appendix. The Federation of American Scientists—Mr. Steven Aftergood—reviewed my case and wrote to Congress on my behalf and reported on my case in the FAS report. UC Professor and Nobel Laureate Walter Kohn wrote to the Scientific Advisor to the UC President, Dr. Sidney Drell, regarding my case. Copies of these letters are included in the reference in footnote 4.

The detailed documentation of my case, submitted to members of Congress, shows that the direct consequence of my firing by LANL in 1987 has been that the U.S. has remained on the wrong track in nuclear deterrence. The consequence of this uncorrected mismanagement is the cause of the current rift between the House Appropriations Committee and the Senate Appropriations Committee on the nuclear weapons and deterrence issues (NWDI), i.e., the U.S. stockpile, the Stockpile Stewardship Program, the lifetime of the stockpile, the replacement stockpile [Reliable Replacement Warheads (RRWs)], the Complex of the Future (2030), the DoD's potential future targets, and U.S. deterrence policy. The House Appropriations Committee is requesting a $632-million cut in the weapons programs, while the Senate Appropriations Committee is requesting a funding increase. The House Appropriations Committee recognized the mismanagement of the NWDI and required that the Secretary of Energy, in consultation with the Secretary of Defense and the intelligence community, develop a deterrence policy in order to plan the stockpile of the future prior to any funding increase (section 3). The House Armed Services Committee is asking for a Commission review of the U.S. Strategic Posture addressing the NWDI by 2009 (section 3).

The Senate Armed Services Committee requests a Nuclear Posture Review (NPR), similar to that by the House, but addressing an erroneous time period, by 2009 (section 3). The Senate Appropriations Committee—represented by Senator Domenici—states that the Administration needs to continue with the (mismanaged) programs for three to four more years to complete studies on the RRW, followed by the development of policy based on the outcome of these

studies (section 2). Clearly, to minimize waste, these programs should be corrected as soon as possible, not continued. The roots of the disagreement are buried in the long-term cover-up of mismanagement of the NWDI—issues that I proposed to correct when I was a scientist in LANL's X-Division in the 1980s. My March 5, 2004 briefing to Congressman Hobson, attention Mr. Scott Burnison, and the documentation presented to him[1] —as well as to many staff in Congress, including Mr. Scott Schloegel, COS for Chairman Stupak— shows that in order to plan the future stockpile and the future Complex, (1) DoD must first submit the size, composition, and characteristics of the desired stockpile; and (2) DOE/NNSA-UC must have developed: (A) the modern 3D codes with proven predictive capabilities in the regime in which weapons operate, and (B), based on these codes, the science-based quantification of margins and uncertainties (QMU) for high-confidence certification of the stockpile (section 11). Science-based means that the equations in the physics models in the codes are derived from the fundamental law of physics—not from fudge factors. In contrast, the current understanding is a phenomenological one, reliant upon numerous fudge factors (section 11).

In 1997, then New Mexico State University Dean of Engineering Derald Morgan, DOE-Los Alamos Area Office Operational Security official William Risley, and I met with Mr. Andrew Richardson of the Government Reform Committee for several hours addressing areas of the NWDI and security mismanagement. The same day, William Risley, and I meet with Dr. Peter Pry, of the House Armed Services Committee (I met Pry in 1995). On around August 15, 2001, I briefed Mr. Phil Schiliro, Minority Staff Director, Government Reform Committee, by phone using the documentation[2] e-mailed to him about the mismanagement of the National Ignition Facility (NIF). He told me that he was interested in my case. In addition staff for Senator McCain (Mr. Fred Latrash, Mr. Carlos Fierro and others), and Senators Levin, Lott and others were briefed through the years. In 2003 I met with former Congressman Curt Weldon and in 2004 I met with Congressman Roscoe Bartlett.[3]

DoD must extrapolate the future U.S. stockpile assuming that the U.S. warheads are safe, reliable, and secure, with adequate nuclear efficiency, and that DOE/NNSA-UC certification is science-based (i.e., capable of instilling high confidence). The DoD projections will be based on projected enemy targets and the DoD Advanced SIOP Code calculations, which depend on the nuclear efficiency of the stockpile. The DoD reports indicate that nuclear weapons are not needed to deal with the dangers of the 21st century—unless the U.S. has a peer adversary. The documentation and recent intelligence community reports and the 2006 DoD Quadrennial Defense Review show that, because of China's projected gross domestic product (GDP) growth and its high defense budget, the probability that China could become a peer adversary by the 2020s is significant. Because of gross mismanagement by DOE/DP-UC of LANL's Machine C (computer), China very likely acquired all the nuclear efficient U.S.

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[1] P. Leonardo Mascheroni, "Call for Congress to Correct Department of Energy-University of California Mismanagement of the U.S. Nuclear Stockpile Impacting U.S. Nuclear Deterrence," February 3, 2004.

[2] P. Leonardo Mascheroni, "Hearing on the National Ignition Facility Leading to an Independent Review, as Recommended by GAO," August 15, 2001. This was directed to the Subcommittee on National Security of the Government Reform Committee (Chairman Shays and Ranking Member Kucinic). I stressed that "Congress must learn the facts to mandate an 18-month, funded, accountable national review of the weapons programs, NIF, and alternatives, for the Annual Certification of the Stockpile."

[3] A long list of staff and Members with whom I have met will be submitted upon request.

designs/MIRVs (see 1999 Congressional Cox report and documentation submitted to Congress by Mascheroni/LMFI). We know China developed a robust, nuclear-inefficient stockpile. China only needs the resumption of standard nuclear testing (at the 150-kt maximum yield) to develop a very large force of nuclear-efficient MIRVs that could overwhelm the U.S. systems—by the 2020s. Thus, a resumption of standard testing will not be in the best interests of U.S. security.

By examining the overwhelming evidence of DOE/NNSA-UC mismanagement of the NWDI, we show below and in our documentation that the House Appropriations position, i.e., to stop or diminish funding for key unmanaged programs until a defense policy is established, is a sensible plan. Thus, the Senate Appropriations position—to continue for four more years with mismanaged wasteful programs—should not be adopted during the Conferences. However, the DOE/DP-UC cover-up is misguiding members of Congress: For instance, Congressman Stupak stated during the debate of Congressman Udall's amendment last month that "the existing plutonium pit will remain reliable for 100 years." **This is untrue**. According to their speeches on the floor, some highly influential members of Congress are assuming that the labs are doing an outstanding job, that the SSP is successful, and that scientists and managers have high confidence in the certification of the weapons, including the proposed RRW, and the lifetime of the warheads, which is also untrue.

On January 4, 2007, former NNSA Administrator Linton Brooks was fired for mismanaging security and weapons science. He was following the "DOE-UC culture of deception and denial that cannot reform itself," described in the 1999 President's Foreign Intelligence Advisory Board (PFIAB) (the Rudman panel) and was caught covering up mismanagement of security. On November 26, 2006, Brooks wrote a letter to the Senate Armed Services Committee stating that, based on DOE-UC/LANL and DOE-UC/LLNL work, "the conclusion of the JASON report is that most **plutonium pit types have credible lifetimes of at least 100 years.**" Dr. Sidney Drell, a founder and member of the JASON panel, testified to the Senate Armed Services Committee that the pit lifetime is ~100 years. Based on NTS data addressing pit lifetime, LANL weapons designers and the LMFI group know that this conclusion is grossly in error. Dissemination of this untrue statement is due to the serious mismanagement of weapons science. DOE/NNSA-UC have used fudged, unreliable code calculations and unreliable expert judgment to arrive at this (political) determination (see below).

It is known in the weapons design community that because the existing pits are nonrobust, designed very close to the cliffs, the science-based QMU certification of the remanufactured pits will be unreliable, with large uncertainties and inadequate margins; hence, they must be replaced. (The QMU certification must be performed using the modern 3D ASC codes with proven predictive capabilities, however it is now done using fudged, unreliable code calculations because the modern codes have not been developed.) Brooks' testimony to Congress (03/1/06) confirmed our statement of many years[4] that the pits were designed very close to performance cliffs; hence, they are the least robust to aging/remanufacturing of the

[4] P. Leonardo Mascheroni, "Request to Congress for a National Review Related to the Department of Energy/University of California Cover-up of Scientific Issues that Impact National Security and Sponsorship of a Private Bill to Enable Discovery Pertaining to the Department of Energy/University of California Cover-up of Scientific Issues that Impact National Security," May 7, 2003.

components in the nuclear package. The Life Extension Program (LEP) keeps the existing pits, but replaces all other components in the nuclear package that may need replacement. Replacing the pit means redesigning the warhead, hence, the introduction of the RRW. Consequently, the lifetime of the pits determines the lifetime of the stockpile, i.e., it determines *when* the existing stockpile must be replaced.

In contrast, LANL weapons designers (e.g., LANL Fellow John Pedicini et al., see section 10) and LMFI/Mascheroni concluded, based on the NTS data—not on fudged weapons code calculations, that pit lifetime is ~30–45 years.[5] This means the W76 stockpile should be replaced (e.g., with the RRWs) by ~**2013** because the stockpile will be unreliable **after 2013**. However, if the pit lifetime is 100 years, as NNSA concluded, based on fudged weapons code calculations, it need not be replaced until **2083**! Because the NTS data have more credibility than fudged calculations and expert judgment, the stockpile will likely be unreliable after 2013. Hence, U.S. nuclear deterrence will begin to fail after this, but DOE/NNSA/DP-UC will try to cover up this fact—and justify funding for NIF—for as long as possible.

If the DOE/NNSA-UC/JASON panel determination is correct—i.e., that pit lifetime is 100 years—there is no need for the RRWs for decades, and Complex 2030 can be based on the existing stockpile.[6] As the House Appropriations Committee has noted,[7] this contradicts the DOE/NNSA-UC's **main goal** of sustaining large funding for the SSP with development of the RRW, new pit facility, and Complex 2030. [In fact, in the late 1990s, NNSA Deputy Assistant Administrator for Simulation David Crandall told LANL weapons scientists that they should support the NIF because it increased the weapons budget.[8]] Clearly, the NNSA needed to change its own conclusion to increase its budget. Consequently, in January 2007, DOE/NNSA/DP-UC posted "NNSA Fact Sheet, Myth vs. Fact: The Truth about Plutonium Aging" on the NNSA Web site. This document contradicts the NNSA and JASON conclusions about the pit lifetime! In order to cover up and confuse Congress and the public, the NNSA altered what Brooks' letter to the Senate Armed Services Committee stated. NNSA now claims that the *lifetime of the **Pu**—not the lifetime of the **pit**—is 100 years,* i.e., "Now that plutonium lasts for 100 years, the country does not need the RRW." This fact—that the lifetime of the Pu in the pit **is not the lifetime of the pit**—is well known among weapons scientists and LMFI but not among DOE/NNSA-UC managers, Congress, and the public (see below).

The NNSA Fact Sheet states: "MYTH #1: The age of plutonium equals the age of a weapon…; MYTH #2: The age of plutonium is the primary driver for the Reliable Replacement Warhead

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[5] P. Leonardo Mascheroni, "The 'COMMISSION ON THE IMPLEMENTATION OF THE NEW STRATEGIC POSTURE OF THE UNITED STATES' Should Review the Issues Through 2025." Presentation to Mr. Bill Ostendorff, Chief Counsel, House Armed Services Committee, March 23, 2006.

[6] P. Leonardo Mascheroni, "Senator Sessions could correct U.S. nuclear deterrence by generating the science and technology review using the current legislation—prior to or during the Conference," dated 9/13/06, presented to MLA Major Shannon Sentell.

[7] The House Energy and Water Development Appropriations bill, H.R. 2641, Report 110-185, dated 6/1/07, posted 6/13/07.

[8] DOE Assistant Secretary Vic Reis asked the LANL Associate Director for Weapons to fire the dissenting scientist—name to be provided upon request.

(RRW)…; MYTH #3: Now that plutonium lasts for 100 years, the country does not need the RRW…; MYTH #4: The plutonium aging study derails NNSA's Complex 2030 plan as well as RRW…; MYTH #5: NNSA does not need the Consolidated Plutonium Center (CPC) now that plutonium will last longer than expected.…"

Pertaining to MYTH #1, by changing their own earlier conclusion (NNSA/Brooks/JASON panel) that stated the ***pit*** *lifetime* is 100 years to the ***Pu*** *lifetime* is 100 years, DOE/NNSA-UC managers now stress the well-known fact that the 100-year lifetime of the Pu *does not equal* the lifetime of the weapons. A **100-year pit lifetime**, on the other hand, does reflect the lifetime of the weapons.

Pertaining to MYTH #2, the managers claim that the 100-year **Pu lifetime** is not the driver for the RRW. However, if the pit lifetime is 100 years, as NNSA/Brooks and the JASONs concluded, there is no need for the RRWs. In an RRW, NNSA would replace the Be neutron reflector and conventional high explosive and some plastics with an easier to manufacture reflector with a safer explosive. However, the new reflector is a new material that has never been tested in the high energy density physics (HEDP) regime in which weapons operate. Furthermore, the modern 3D weapons codes cannot be developed because of the lack of detailed nuclear data (section 11). Consequently, the RRW *will not* reduce the likelihood that underground nuclear tests will be resumed and will not reduce the number of weapons in the stockpile.

Using the same deception, the managers claim in MYTH #3 and MYTH #4 that the 100-year Pu lifetime does not derail the RRW and Complex 2030. However, if the **pit lifetime** is 100 years, there is no need for the RRW or Complex 2030.

Using the same deception, the managers claim in MYTH #5, that the Pu lifetime does not derail the Consolidated Plutonium Center (CPC). However NNSA/Brooks/JASON concluded that the **pit lifetime** is 100 years, in which case there is no need for the CPC.

Clearly, the NNSA replacement of "pit" with "Pu" regarding the conclusions on lifetime contradicts Brooks' letter to the Senate, the JASON report, and Drell's testimony. The NNSA Fact Sheet exhibits (1) the NNSA and its labs have covered up gross mismanagement, i.e., the erroneous conclusion by the lab managers that the pit lifetime is 100 years; and (2) that **the JASONs endorse whatever the lab managers tell them.** In fact, the JASONs reviewed the QMU method and endorsed DOE/NNSA/DP and its lab managers' assertion that **the labs erred in predicting the tests only 24 times out of 1200 tests—or 2% of the time. This is not true.**[9] The labs erred several hundred times and the number of tests was 1030. Based on this lie, the DOE/NNSA/DP-UC and its labs managers and the JASONs are claiming that "expert judgment is excellent" (section 7). Expert judgment is used extensively in the selection of the fudge parameters and, more importantly, in the estimation of the uncertainties. The current QMU certifications, which are based on fudged calculations, not science based, are heavily dependent on the experts' calculations/estimations of the uncertainties. The margins must be larger than the uncertainties to pass certification. Because of the lie—that DOE/NNSA/DP-UC

[9] A detailed discussion is provided in reference 6 where we describe how a congressional staff, by addressing one of the weapons programs at NTS, could discover the lie.

and its labs erred only 2% of the time at NTS—the QMU certifications are unreliable, grossly in error. Hence, the QMU certifications for the RRWs—as well as those for the existing warheads and remanufactured pits—are grossly in error (section 7).

Because DOE/DP-UC has been managing LANL and LLNL for more than six decades. It has the monopoly on weapons design expertise. DoD does not "own" weapons design expertise, because it never managed a weapons design laboratory, i.e., LANL or LLNL. DoD does not have the Q clearance required to inspect "Secret Restricted Data." In other words, DOE/DP-UC has controlled all the panels that have reviewed the nuclear weapons programs—e.g., the JASONs, the National Academy of Sciences, DoD SAGSET, SEAB, DoD Defense Science Board, UC panels, etc. Without an unbiased, accountable, in-depth, funded review by a Science Panel (see section 3), it will continue this monopoly by controlling future panels. In fact, by listing the panel members (including the current members of the NAS reviewing the QMUs), it can be proven that most are successful managers paid by DOE or UC recommending funding for the programs.[10]

The reason for the 70-year discrepancy in the determination of the pit/stockpile lifetime, which clearly impacts national security and U.S. deterrence, is that the SSP Advanced Scientific Computing (ASC) Campaign has not yet developed the modern 3D weapons codes[11] (section 11). These codes are supposed to be developed by ~2019–2025. These 3D codes do not use fudging and are supposed to have proven predictive capabilities in the physics regime in which weapons operate—necessary for making high-confidence predictions. Thus, DOE/NNSA-UC is planning to use fudged weapons code calculations known to be unreliable for predictions, and unreliable expert judgment until at least 2019. The modern 3D codes with predictive capability must be validated in detail with high-fidelity nuclear data in the HEDP regime in which weapons operate. However, as the GAO found,[12] regardless of the fact that the U.S. performed over 1000 tests at NTS, the U.S. has neither the equations nor the high-fidelity HEDP nuclear data with which to validate these codes.

My 1986–1987 proposals to LANL were driven by the need for the U.S. to obtain the detailed nuclear data in order to perform code validation physics (CVP)—which I started at LANL in 1982—in order to prepare for a possible CTBT. The key reason why the U.S. does not have the correct equations, the detailed nuclear data, and the high-confidence CVP codes with proven predictive capability in the HEDP weapons regime—required for science-based quantification of margins and uncertainties (QMUs)—is that LANL fired me in 1987 rather than support my proposed effort. In the process, DOE/DP-UC overruled an official scientific panel review recommending support for my proposal. (An outcome that was not the anticipated result management was seeking when it appointed the panel.)

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[10] For instance, NRDC in "The Rise and Fall of the Third ICF Review" proved that the 1990 and 1997 NAS Koonin panels recommending NIF were biased.

[11] Office of Advanced Simulation & Computing, NNSA Defense Programs "Advanced Simulation & Computing ROADMAP National Nuclear Security through Leadership in Weapons Science," by Dimitri F. Kusnezov, Director, NA-114.

[12] GAO-06-261 Nuclear Weapons **"**NNSA Needs to Refine and More Effectively Manage Its New Approach for Assessing and Certifying Nuclear Weapons," pp. 8–9, February 2006.

Because the U.S. is using fudged, unreliable, code calculations in the application of the science-based QMU method, the labs can make **very** expensive calculations—with some of the world's most advanced computers—and claim that they are certifying a pit's lifetime, the RRWs, existing warheads, and that the SSP is successful. However, the code calculations are unreliable from the start because the equations are in error; thus this effort is wasteful (section 7). Hence, LANL designers, Pedicini et al., do not rely on code calculations for designing the RRWs but rather on scientific understanding (section 10).[13] Consequently, the application of the QMU method using fudged, unreliable calculations is faulty, with high uncertainty (error bars); hence, the discrepancy of 70 years in the lifetime determination (section 4). Furthermore, using the unreliable, expensive, fudged calculations in the QMU method and unreliable expert judgment, the labs are claiming that the SSP is working, that they are certifying the W88 pit, the W76, the W76 pit, the W87, the RRWs, etc. The DOE/NNSA/DP-UC managers are claiming they will achieve predictive capabilities for the modern 3D codes by 2019–2025—after NIF achieves ignition. They are planning that NIF will achieve ignition by ~2010 for DOE/NNSA-UC to acquire the detailed nuclear fusion data for code validation of the boost process. However, LANL weapons designers and LMFI/Mascheroni can prove that even if, by miracle, NIF achieves "hot spot ignition," this type of ignition is very far from the regime in which weapons operate.[14] NIF was *not* designed to address critical issues pertaining to the boost process in primaries—the fundamental process in weapons physics.[15]

The NIF data will be of academic value *only*—useless for the SSP/code validation of the boost process and pertinent processes in nuclear weapons science and a monumental waste of federal funds (section 8). Hence, with the current SSP facilities, which cannot acquire the necessary detailed nuclear data, the very expensive ASC Campaign is failing and will continue to fail—another multibillion-dollar waste of federal funds that will be covered up.[16]

As noted, the House Appropriations Committee is requesting a DOE-DoD-Intelligence review of the NWDI, ignoring the fact that DoD and Intelligence lack nuclear design expertise (they have never managed a design lab) and that the standard DoD panels that will be involved in planning the deterrence policy (e.g., SAGSET, DSB, etc.) on the nuclear weapons design and reliability issues will endorse the erroneous DOE/NNSA-UC position (e.g., 2001 NPR and the RRW competition). Similarly, the House Armed Services Committee is requesting a Commission on Nuclear Posture review that will base its recommendations on biased briefings by DOE/NNSA/DP-UC managers and on erroneous and biased weapons science reports. The Senate is requesting the 2009 NPR—addressing policy for only 5-10 years, not until 2030 as it should be—which will endorse DOE/NNSA-UC and continue the cover-up. It has been proven by many reviews in the past, since the 1980s, that these types of reviews will be based on flawed weapons science that cannot correct the NWDI. DOE/NNSA-UC will cover up following its "culture of deception and denial." Clearly, the members of any of the review panels addressing policy ought to base their recommendations on solid weapons science that

[13] Many influential Members and staff of Congress saw the 3D movies at the labs' theaters simulating the behavior of the weapons without realizing that the simulations are in error—admitted by the weapons scientists.

[14] See *San Francisco Chronicle*, "Livermore Lab's future tied to risky laser project. Fusion attempt fosters doubt in Congress and among scientists," by Keay Davidson November 13, 2005, enclosed in Appendix.

[15] See references in footnotes 1,4,5, and 6.

[16] See references in footnotes 1,4,5, and 6.

should be provided through an accountable, in-depth, scientific debate of the issues under a Science Panel. Furthermore, time has run out; the stockpile will likely be unreliable after 2013. Clearly, in order to correct U.S. deterrence using the optimum, affordable stockpile and the minimum, most economical Complex, an accountable, in-depth, funded review of the NWDI—independent of the DOE/NNSA/DP-UC management system, the kind we have been suggesting for many years—is urgently required (see section 3).

In 1991, I started requesting Congress to mandate an accountable, in-depth, funded review of the SSP/ICF fusion ignition program. Since 2002, I have also been requesting that Congress mandate an accountable, in-depth, funded review of the NWDI and give consideration to my request for a private bill. As a consequence of Congressman Dingell's 1989 letter, in November 1991, the DOE-Los Alamos Area Office Operational Security Manager William Risley issued his report to IG John Layton and the DOE Secretary. His report exhibits gross mismanagement of weapons science and security. It recommends immediate reinstatement of my clearance and funding for my proposed program. O&I Staff Director Jeff Hodges informed me that the subcommittee was going to conduct hearings on my case; however, it did not. In 1987, I filed a grievance against my LANL managers. In 1990, the Hearing Officer recommended deletion of the firing memos because they were based on lies—i.e., I should have been reinstated in my job—and that UC should pay the cost of the grievance because LANL managers started the conflict. In February 1991, four years after I filed grievance, DOE/DP-UC/LANL Director Sig Hecker chose to ignore the Hearing Officer's recommendations. Furthermore, in 1990 the New Mexico Department of Labor/Human Rights made a determination in my favor.

In 1991, I filed a lawsuit in California, but the California court concurred with UC that it was "inconvenient" for the UC Regents to have the lawsuit in California, therefore I should file in New Mexico—where they knew the statute of limitations would kill the suit. (Hecker waited four years to rule on the grievance—the "administrative process"—so the statute would kill the suit in New Mexico.) During 1991–1999, judges in New Mexico and California, strongly biased for DOE-UC, agreed with UC that my case should not be heard. The U.S. Supreme Court agreed with DOE-UC and declined to hear my case. After reviewing the record, the Hon. R. James Woolsey, a man with a very distinguished résumé, acting as my pro bono attorney, recognized that the judicial system had failed me and recommended a private bill to Congress (section 10). His recommendation is the key reason I have sustained my effort in the United States.

The media has emphasized that Congress has been failing in its oversight responsibility and that, perhaps, the current Congress may be different. I have a long list of examples showing lack of oversight. What now seems clear is that Congress must subpoena LANL RRW Design Team Leader John Pedicini and team members and address the mismanagement of the pit lifetime, the RRW competition, and the NWDI. Congress could also subpoena one of the best U.S. nuclear weapons computational scientists, LANL's Dr. Charles (Chuck) Cranfill. I could also testify under oath, see section 10.

The New Mexico Congressional Delegation's public record of "fiercely" defending funding for DOE/DP-UC at all cost and ignoring oversight is highly visible. During the debate of Congressman Udall's amendment, Congressman Hobson stated, "This…isn't really about

national security. It is all about jobs at these DOE weapons facilities. In particular, the Los Alamos National Laboratory…fears the loss of jobs." Congressional staff and members have been siding with DOE/NNSA-UC and dismissing or ignoring my case, which impacts national security and DOE-UC funding, without proper investigation. For example, former Armed Services Committee Counsel Bill Ostendorff (now NNSA Acting Administrator) met with me several times following his appointment to the Committee in 2004, and before his appointment to NNSA in 2007. When I met him, in March 2004, he was unaware of the mismanagement issues. In e-mail to me, he stated that he was investigating the issues. The documentation shows that he used the information I gave him and my documents to generate legislation in the National Defense Authorization Acts. He requested the GAO report that discovered the lack of detailed nuclear data[17] and read the 1991 DOE-LAAO "Risley" report. He did not call Woolsey. After he was briefed by DOE/NNSA-UC management, he dismissed my request for a hearing, consideration for my private bill, and the Risley report recommendations. He informed me that the Committee would not hear about the mismanagement of the NWDI and/or my case. He, thus, the Committee, has certainly failed with oversight of DOE/NNSA-UC; however, had Ostendorff pursued my case (oversight), he would surely not now be the NNSA Acting Administrator.

He is not alone. In fact, DOE Deputy Secretary Clay Sell did the same thing when he was the clerk for Senator Domenici's Energy and Water Development Subcommittee. He declined a briefing by the GAO about the NIF—GAO produced a report about mismanagement of NIF that I helped to generate. Likewise, Ed McGaffigan,[18] with whom I met when he was an advisor to Senator Bingaman, is now a Commissioner for the Nuclear Regulatory Commission, as is Dr. Pete Lyons, a former LANL Deputy Associate Director familiar with my case, who joined Domenici's office (on leave from LANL) as his Science Advisor. (I can cite many other examples.) It would appear, that association with the suppression of my case and denial of my request for a hearing is one of the keys to success for some congressional staffers.

The 1991 DOE-LAAO Risley report received public coverage and was addressed by the Federation of American Scientists (Steve Aftergood). A copy was given to me by DOE-LAAO; however, DOE Albuquerque sent the FBI to my home to confiscate the report because UC/LANL told DOE Albuquerque that it was classified—although it was not. The UC lawyer requested Federal Judge John Conway to seal the Risley report. This was a clear effort by UC to obstruct justice. Conway refused to hear my suit; however, following an appeal to the 10th Circuit Court of Appeals, the suit was sent back to California. The report was part of my legal

[17] See references in footnotes 1,4,5, and 6.

[18] According to the *Los Alamos Monitor*, "Regulators licensed dirty bomb materials for fake company," 07/13/07 by R. Snodgrass, a GAO sting earlier this year uncovered an apparent weakness in the nation's nuclear safeguard system that could have enabled unauthorized people to obtain materials to build a 'dirty bomb,' GAO officials testified before a Senate investigative subcommittee Thursday…Edward McGaffigan, Jr. NRC Commissioner told the Senate Subcommittee that the NRC has taken a number of corrective steps to improve the adequacy of the agency's procedures. 'GAO may have found a unique vulnerability, or there may be more left for us to discover. We intend to find out,' he stated in a prepared text."

In my case, after phone calls to DOE managers, McGaffigan always agreed with them. He refused to meet with weapons scientists and DOE official William Risley despite the fact that he read the 1991 DOE-LAAO OS Risley report and extensive documentation. The documentation shows that the New Mexico Congressional delegation could have corrected damaging mismanagement impacting deterrence in 1988.

documentation in California and New Mexico and was included in the appendix to my Petition for *Certiorari* to the U.S. Supreme Court.

I believe action from Congress to allow me to present my case to a judge—my right as a citizen, protected by the Constitution, to due process—is long overdue. Any hearing on my case will comprise the need to address the DOE/NNSA-UC mismanagement of the NWDI; hence, the private bill provides a venue for addressing the mismanagement of the NWDI.

This memorandum summarizes some critical issues to justify our request for (1) a Science Panel review based on a debate between the DOE/NNSA-UC labs, LMFI, and other participants, as appropriate, impacting the U.S. stockpile, the lifetime of the stockpile, the SSP, the replacement stockpile, projected targets for the stockpile, projected Complex 2030, and deterrence/policy; and (2) consideration for my private bill. The Science Panel review is to provide input to any of the panels addressing policy in the reviews requested in the bills. In section 3, I address the four bills that could be modified during the legislation cycle, including the Conferences, as well as the suggested Science Panel review language that could be inserted in the bills during the rest of the legislative process. We understand that additional work may be required to modify the language in the current bills—possibly requiring a new cycle of legislation, however, the correction of the NWDI is compelling. The documentation submitted to Congress, part of which is expanded below, shows that (1) the ongoing confusion/conflict in Congress is due to cover-up of DOE/NNSA-DP mismanagement; (2) funding for the SSP—as suggested by the House—should be cut until the Science Panel and Policy reviews are complete; (3) the mandated reviews will not uncover the cover-up and will not correct the NWDI/deterrence/policy; (4) to correct NWDI/policy there is a need for an accountable, funded, in-depth, Science Panel review—one in which LMFI can debate the labs—in order to correct gross mismanagement by DOE/NNSA-UC of the stockpile, the Stockpile Stewardship Program (SSP), the Complex, and U.S. nuclear deterrence. Clearly the negotiations during the Conferences, which, up to now, have ignored the need for the Science Panel review to correct weapons science, will not correct the NWDI/policy. In view of the urgency, a new cycle of legislation may need to occur in order to protect national security.

A detailed report addressing the NWDI discussed in this report will be completed by mid August. If requested, I will e-mail you my September 13, 2006 presentations (four meetings) to Senator Jeff Sessions, attention Military Advisor Shannon Sentell. He prepared a report to the Senator and told me during the meetings that he understood weapons science and was interested in the issues. I believe that he is now at the Pentagon. Last year, I had the opportunity to brief Appropriations Committee staff Mr. Scott Burnison on September 15, 2006, about some areas addressed in the report to the Senator. He suggested a document to him. I briefed Mr. Scott Schloegel, COS for Congressman Stupak, in June 2005, and on three occasions in 2006. In an e-mail to me (dated August 15, 2006) Schloegel suggested that I try to work with the majority in his committee as well as with other pertinent committees.

2. Is this conflict in Congress due to DOE/NNSA/DP-UC cover-up of gross mismanagement and lack of oversight?

The conflict in Congress between the House and the Senate produced by the DOE-UC cover-up of mismanagement in science and security is visible. During June 19–21, 2007, the House

addressed the FY 2008 appropriations bill for the DOE/NNSA. Because of ongoing mismanagement, this bill cuts the defense/weapons activities budget by $632 million: LANL's budget will be reduced by ~$300M and Sandia's by ~$100 M. New Mexico Congressman Tom Udall introduced an amendment with the goal of restoring $192 million for the Accelerated Scientific Computing (ASC) and Science "Campaigns" and the Readiness and Technical Base and Facilities (e.g., Pu pit production) at LANL by transferring the funds from the NNSA Nonproliferation account. My quotes below are from the Congressional Record, pp. H-6714-6760. Quoting Congressman Udall:

> The scientists at LANL are the best in the world and they work with a commitment to both national security and the pursuit of scientific knowledge. In recent years, there have been administrative and managerial difficulties, which we all agree are unacceptable. Nevertheless, the mission of the lab and the workers are the two things that I will always fiercely defend.
>
> Stockpile stewardship, the core mission at LANL, certifies to the President every year that the nuclear stockpile is safe, reliable and accurate. My amendment will help ensure the stability of that mission and thus the rigor of our Nation's security, while also building a bridge to the future. It will restore funding to the President's request for three specific areas, including upgrades to the Road Runner computer; the readiness and technical base and facilities at LANL; and the scientific campaign. In so doing, I propose to reduce spending in the office of the NNSA Administrator…I believe that the cuts in this bill to our Nation's premier national security laboratory hurts the core mission and inhibits the laboratory's ability to transition toward the necessary work on energy independence.

I know that Congressman Udall is well intentioned, but he has been misguided by DOE/NNSA/DP-UC upper management. Udall stated to the press that Los Alamos has to diversify to retain jobs, and I agree that the Lab could do this. Furthermore, weapons scientists could work on the funded Nonproliferation programs—at the Lab or with a change of station to DC—rather than in the reduced, funded weapons programs (we do not want people to lose their jobs). I also know that the New Mexico Congressional delegation "will always fiercely defend" funding for LANL, thus, the managers of DOE/NNSA-UC/LANL as well. In my documented reports to Congress, since 1987, I have suggested in-depth reviews in the weapons programs because of mismanagement. Since 1990, I have been suggesting cuts in the weapons programs (called science-based SSP since ~1993) because of mismanagement. Because of mismanagement, the Annual Certification Process (ACP) is founded on fudged weapons code calculations known to be in error and on unreliable "expert judgment"—discussed below and in our documentation.

Udall's amendment was rebuffed in a 312–121 vote.

Ranking Member Hobson disagreed that the cuts impact national security. He believes the cuts put the weapons programs in the proper perspective—on the right track on nuclear deterrence:

> I know the administration and some Members, those from New Mexico, are not pleased with the cuts to the weapons program. I have heard from the other body, and they may claim these funding reductions somehow threaten our national security. I also recognize it is politically convenient to move money from a so-called bureaucracy in Washington to what is portrayed as a field-level purpose. Sorry, folks, but I don't buy either of these arguments, and I strongly believe this bill puts our nuclear weapons programs in the proper perspective.

He stressed that he did not believe that cuts in the SSP—by even $1 billion—impact national security, and he believes conventional explosives—which should be considered for selected deterrence missions—is under funded:

> I honestly can't tell you how much our national security is protected, whether we fund the nuclear weapons account at $6.5 billion, $6 billion, or even $5.5 billion. And I certainly can't tell you what benefit we will gain by adding $192 million back to the weapons program and devastating NNSA's management office, as the gentleman proposes…I also sit on the Defense Appropriations Subcommittee, as does my chairman, and we both are all too aware of the funding shortfalls in the conventional defense area to believe that nuclear weapons are somehow a higher security priority.

More importantly, Congressman Hobson stressed that the U.S. first needs a national strategy for nuclear weapons, with a clear set of military requirements (e.g., size, composition, efficiency, etc., of the stockpile). Only then will DOE/NNSA-UC be able to project the future stockpile and the future Complex:

> So after years of looking at this from virtually every angle, I can tell you definitively that what we need is a national strategy for nuclear weapons and a clearly defined set of military requirements that is derived from that strategy. Then, and only then, will NNSA be able to lay out what a modern weapons complex capability of producing a specified number of reliable replacement warheads will look like

In fact, in March 2004, I briefed Hobson's legislator Scott Burnison on the projected future targets, stockpile, lifetime of stockpile, replacement stockpile, SSP, required facilities for the SSP, and size of the future Complex. Since then, I have kept him informed. (I have also kept many staff in Congress informed since 1987 and I have a record of the documentation and briefings.)

Hobson stressed that the amendment is about jobs at LANL and economic development for New Mexico, not about national security:

> This amendment isn't really about national security. It is all about jobs at these DOE weapons facilities.
>
> In particular, the Los Alamos National Laboratory is in the gentleman's State of New Mexico. This lab has held a preeminent place at the Federal trough for years, and now fears the loss of jobs because of this bill's recommended funding levels. Los Alamos has the largest number of employees of any DOE field site, with employees who receive the highest level of compensation, and a lab that has the highest overhead rate of any DOE operation. All told, Los Alamos receives close to $2 billion a year from our bill, plus additional reimbursement of work from other agencies. And I cannot tell you what we get in return for that investment. I do know that Los Alamos has chronic management problems, and I can read a long litany of security failures, safety accidents and costs and schedule overruns brought to you by the 9,000 highly paid folks at Los Alamos. Don't let anyone tell you that these problems are a thing of the past. DOE just informed us this week of yet another security screwup at Los Alamos, and this is after a number of others. Given this track record, do we really believe adding another $192 million will improve security? I would argue our national security might actually be improved by cutting 1,800 jobs from a facility that can't seem to manage sensitive information. We would have a lot less people to

watch."

Chairman Visclosky defended the cuts and stressed that he is against funding new weapons, the Reliable Replacement Warhead (RRWs), and ongoing mismanagement:

> …they were thoughtful cuts, given a number of considerations.
>
> …some of these [restored] moneys would find their way back into the proposal made by the administration that we have eliminated in this bill for a new nuclear weapon [the RRWs]. As we have extensively pointed out in the committee report language, since the termination of the Cold War, since regional conflicts such as Kosovo, since 9/11, we have not developed a new nuclear strategy. This is not a time to build a new nuclear weapon…
>
> We had serious security breaches at Los Alamos in December of 1999, June of 2000, November of 2003, May of 2004, July of 2004, in 2005, in 2006. There was an incident in January of 2007 that made *Time* magazine. This has got to stop…

But what bothered Chairman Visclosky the most was retaliation against those doing excellent work, those who dissent with the bad DOE/NNSA/DP-UC management and are punished for being right:

> But the breach that causes me and should cause every Member here the most heartburn is what happened to a gentleman by the name of Shawn Carpenter. Mr. Carpenter worked at [a DOE lab in New Mexico], Mr. Carpenter was concerned about security at [the lab], and Mr. Carpenter went to the Federal Bureau of Investigation to express his concern. He did not go to a local newspaper. He went to the FBI, and he was terminated. There was a trial relative to that wrongful termination. And I would point out that the gentleman who fired Mr. Carpenter, and he subsequently won a judgment of $4.6 million for wrongful termination, got a bonus. He got a bonus after he fired Mr. Carpenter, and Mr. Carpenter went to the FBI to protect the secrets of this Nation as far as our nuclear security.

To my knowledge, this is the first time a Chairman/Chairwoman in the Armed Services or Appropriations Committees has introduced the case of retaliation by the DOE/NNSA-UC management system against an employee for being right into a hearing. I note that the New Mexico Congressional Delegation failed in its oversight of this case; however, Mr. Carpenter was able to get a trial against management. In my case, however, despite a Laboratory grievance in my favor, security investigations in my favor, and lawsuits filed from 1987 until 1999, my lawyers were unable to get a legal hearing/trial on my case because the DOE/DP-UC managers opposed and successfully blocked any legal hearing on my case. The DOE-UC managers denied my right to due process. The record was reviewed by former DCI, the Honorable R. James Woolsey, my former pro bono lawyer, who noted the strength of the case and that the U.S. judicial system had failed; thus, he recommended a private bill.

During the recent congressional hearing, Oversight and Investigations Subcommittee Chair, Stupak, stated that (1) the Life Extension Program (LEP) can sustain the existing stockpile; (2) the NNSA manages the LEP so funding from NNSA should not be transferred; and (3) the JASON Report states that the pits will remain reliable for 100 years, thus, we do not need the RRWs:

> Rather than commit billions of dollars to manufacturing another generation of nuclear weapons, our existing nuclear arsenal can be sustained using the life extension program managed by NNSA. If we cut $193 million from it, there will be no way we can maintain this life extension program. The JASON Report, a panel of independent nuclear weapons experts, reported last year that the existing plutonium pit will remain reliable for 100 years, far longer than the 45 or 60 years. We don't need new weapons. Let's put the money where it will do the most good, to secure ``loose nukes'' around the world. Support the chairman in this position, and do not support the Udall amendment.

In 2005, I met with Stupak's COS, Scott Schloegel, for over an hour to address my presentation titled "Ensuring the Right Nuclear Stockpile for U.S. Deterrence," dated June 21, 2005. This presentation addressed the same NWDI noted above. Chairman Stupak does not know that (1) the JASONs' lifetime determination is based on fudged code calculations known to be in error; and (2) the science-based certification of the LEP is also based on fudged calculations. Thus, because the weapons science is wrong, his argument is based on wrong information and should be corrected as soon as possible (see below).

Also during the hearings Strategic Forces Subcommittee Chair Tauscher (D-CA) supported the House bill, particularly the funding increases for the National Ignition Facility (NIF):

> Before explaining my amendment, I want to congratulate Chairman *Visclosky* and Ranking Member *Hobson* for the bill before the House today. It is a strong testament to their talents. Among its achievements, the bill provides substantial increases for two broad national priorities that I have long championed, nuclear nonproliferation activities to prevent the spread of weapons of mass destruction and the materials and technologies that can be used to create such weapons, and scientific research on technologies to reduce our dependence on foreign sources of energy and on fossil fuels in general. The committee report takes a series of bold actions involving the Nation's nuclear weapons program, including directing the Department of Energy to reevaluate its plans for modernizing the nuclear weapons complex and demanding rapid consolidation of weapons-usable nuclear material. I want to commend the Energy and Water Subcommittee for their fine work.
>
> The bill also provides critical funding increases to a lesser-known national priority, the National Ignition Campaign, which is being carried out at the Lawrence Livermore National Lab in my district. When the NIF is completed in fiscal year 2009, it will be a scientific tool unlike anything the world has ever seen. The National Ignition Facility will give U.S. scientists unprecedented insight into nuclear weapons phenomena, without nuclear explosions, and thus play a crucial role in the science-based stockpile stewardship program, which ensures the safety and reliability of our nuclear deterrent without nuclear testing. I commend the committee for its support of this critically important program.

The California Congressional Delegation, like the New Mexico Congressional Delegation, has been supportive of the UC management of the labs and multi-billion-dollar funding for the labs' projects, regardless of gross mismanagement. For the reasons we note in section 8, it is known that the 30-year, $32-billion-NIF campaign will fail to achieve its goal of ignition. Hence, funding NIF from DOE/NNSA/Defense Programs' budget is a mistake; it should be funded from DOE/Office of Science for academic research. As Congressman Hobson stated "It is all about jobs at these DOE weapons facilities."

In fact, according to the DOE/NNSA-UC managers, NIF is the DOE/NNSA-UC facility planned to achieve fusion ignition in the physics regime in which weapons operate in order to provide the detailed nuclear data needed for weapons code validation by 2010—a major goal of the SSP/ASC Campaign. As explained in our documents, the development of weapons codes with proven predictive capability is critical to the NWDI. These codes should be used for design and science-based certification of the existing and replacement stockpile (the RRWs) and the determination of the pit/stockpile lifetime. Thus, they should be developed *prior* to designing and developing the RRWs and the determination of pit lifetime. The RRWs are supposed to replace the existing pits/warheads at the end of their lifetime, e.g., 30–45 years (see below). A long lifetime for the pits/stockpile, e.g., 100 years, benefits the NIF because DOE/NNSA/DP-UC does not need to science-base certify the pits for a long time; hence, the goal of ignition can be delayed for many decades to come. This means that after it fails in 2010, NIF could increase its laser energy and try again for ignition and fail again and be funded for a very long time—always trying for ignition and failing. Since the 1970s, all the ignition lasers predicted by the DOE/DP-UC fudged weapons codes failed to achieve ignition. It is not surprising then that DOE/NNSA-UC managers calculated a long lifetime for the pits.

On the Senate side, on June 18, 2007, the *Washington Post* reported:

> Sen. Byron L. Dorgan (D-N.D.), chairman of the Appropriations subcommittee handling the nuclear program, has indicated he is thinking along the same lines, according to a senior Democratic staffer familiar with his views. "The Tauscher approach makes sense," the staff member said. He noted that senior Bush administration officials had not publicly supported the RRW program despite a request by Sen. Pete V. Domenici (R-N.M.), a former Appropriations subcommittee chairman and a proponent of the new warheads. The Senate subcommittee is expected to provide limited funds for the program "so we have a couple of years to gather information while the next administration lays out future requirements."
>
> …Rep. Ellen O. Tauscher (D-Calif.), chairman of the House Armed Services subcommittee that handles strategic weapons, said in an interview last week that she expects that the question of future U.S. nuclear weapons policy will be passed to the next administration, since the Bush White House is preoccupied with other subjects. [“Congress Seeks New Direction for Nuclear Strategy,” by Walter Pincus, *Washington Post* Monday, June 18, 2007.]

Such an approach, continuing to gather information, will generate biased reviews known to be in error—a venue already used by the House Appropriations and Armed Services Committees that generated the SEAB review of the Complex and some NAS and JASON reviews that can be shown to be in error.

Senator Domenici’s statement on the Senate floor on June 19 shows sharp disagreement with the House bill and the cuts. For instance, the Annual Certification Process, a mission of the SSP and its Campaigns, is currently based on fudged weapons code calculations known to be in error, not on the high confidence, science-based certification the DOE/DP-UC managers told Domenici they were going to do:

> And, each year, the directors of the three national nuclear weapons laboratories must certify to the President and through him to the rest of the United States, that our nuclear weapons are reliable. That certification process assures Americans, and warns our adversaries, that the nation’s nuclear

> stockpile will be able to continue to perform its basic mission – prevention of a nuclear weapons exchange. [http://domenici.senate.gov/news/record.cfm?ref=1&id=277232]

Science-based certification should be based on the QMU method using codes with proven predictive capability; however, according to SSP-ASC managers, this method will not be developed until 2019–2025.

Senator Domenici addresses six decades of DOE/DP-UC management of the labs and Complex and that the DOE/DP-UC managers/experts well advised the government. In fact, the Defense Programs-UC upper managers managed all the U.S. nuclear weapons design labs for six decades. Thus, on the nuclear weapons and deterrence issues, they have been controlling nuclear weapons expertise. (Currently, these managers are under DOE/NNSA.) Hence, these managers have controlled all the recommendations the President and Congress have received during the past six decades. These are the same managers who mismanaged weapons science and computer security—visible since 1987—and who developed the wrong, nonrobust, U.S. stockpile for deterrence, as NNSA Administrator Brooks acknowledged (see later). Furthermore, because of mismanagement of DOE/NNSA/DP-UC/LANL's Machine C, China acquired the U.S. MIRV designs and—if it chooses—will have the capability to develop them in a couple of decades. Unfortunately, the record shows that Congress, in particular the New Mexico Delegation—failed with oversight:

> During these six decades, discussion of the nature and size of our nuclear deterrent has been literally constant. Each year, hundreds of scientists, engineers, and global strategists devote innumerable hours and days to intense discussions of the proper strategy for this nation and the proper nuclear stockpile to implement that strategy. Each year, Presidents have recommendations, based upon the work of specialists inside and outside the federal government. Since the end of underground testing of our nuclear weapons stockpile, America has relied on a concept called Stockpile Stewardship to try to keep our nuclear weapons resources certifiably reliable…Our strategy has been simple: the most reliable weapons without underground testing, upgraded as strategy dictates. [*Ibid*]

Unfortunately, as stressed by former NNSA Administrator Brooks, all our existing nuclear weapons were designed close to the cliffs of performances, nonrobust and unreliable—thus the need for the RRWs.

Senator Domenici recalled part of Senator Lugar's legacy for reduction of the stockpile and protection for the Nonproliferation Program and for his support for the SSP:

> At the same time, the United States has embarked on a major reduction in the size of our stockpile, and in the nuclear stores of other nations. We have done this through programs that this Senator has supported during the past 20 years…Because of these initiatives – Nunn-Lugar, Nunn-Lugar-Domenici, the Nuclear Cities Initiative, the Global Initiative for Proliferation Prevention, the Nuclear-Non-Proliferation Research and Development Program, and others – our world is safer. In total, under Nunn-Lugar we have deactivated 6,982 warheads, 644 ICBMs, 485 ICBM silos, 100 mobile ICBM launchers, 155 bombers, 906 air-launched cruise missiles, 30 strategic missile submarines, and 194 nuclear test tunnels. Indeed, 9 more warheads were deactivated in the last month. We have offered thousands of Russian nuclear scientists alternative pay and occupations, in hopes that they will be less susceptible to blandishments from other parties…we will have in our nuclear stockpile by 2013 fewer weapons than at any time since the

> era of President Eisenhower…So, this two-pronged approach – international cooperation against proliferation and for elimination of weapons, coupled with the inception of Science-Based Stockpile Stewardship – has been America's strong response to the need to reduce the danger of both nuclear weapon stockpiles and underground nuclear testing. [*Ibid*]

Support for reducing the stockpile does not affect LANL's and Sandia's funding. Support for the SSP increases the labs' funding. It is possible that this two-pronged approach was beneficial both to improving global security and to increasing funding for the SSP; thus, ultimately increasing the labs' funding. In any case, DoD and the intelligence community should be in charge of estimating the size and military characteristics (including nuclear efficiency) of the future stockpile based on projected future targets—a fact that I stress in my documents.

Protecting this nuclear weapons/SSP investment has been consistent with what the New Mexico Congressional Delegation, not just Senator Domenici, has done for six decades. The SSP mission has been to maintain the enduring stockpile by refurbishing/remanufacturing the components in the stockpile. According to LANL's weapons scientists, NTS tests, and documentation, the secondary is robust. Thus, all the components can be remanufactured and science-base certified—i.e., certified using the correct, non-fudged, weapons codes with proven predictive capabilities—except for the pit. According to DOE/DP-UC documents, the most unreliable component is the pit; however, DOE/NNSA/DP-UC, the lab managers, and the JASONs, thus the "experts," claim that the pit will last 85–100 years. Consequently, following the DOE/NNSA/DP-UC experts, who happen to be strong supporters of the NIF, the stockpile could last 85–100 years. In fact, Dr. Sidney Drell, a founder of the JASONs and a staunch supporter of NIF and the UC management of the labs, testified to the Senate that the stockpile could last 100 years—thus, NIF could last 100 years doing academic work (the only thing it will ever be capable of doing).

On the other hand, on June 15, at the Woodrow Wilson Center in Washington, NNSA Acting Administrator D'Agostino noted that the W76 may be unreliable and should start to be replaced by the RRWs by around 2012:

> In the near-term, we will continue warhead life extension programs (LEPs). They remain an essential element of our overall strategy to manage risk. Nevertheless, we will begin now and demonstrate by 2012-14 the ability to design, develop, produce, and certify RRW options optimized for:
> • Increased performance margins so we can continue to certify without nuclear tests, and
> • Ease of manufacture, and enhanced safety and security.
> We will reduce the stockpile further as we gain confidence with RRW and make progress on Complex 2030.
>
> We are often asked: If today's stockpile is safe and reliable, why start on RRW now? Why not wait a few years when you know more? The need to start now is driven by two basic reasons. First, the introduction of the RRW system provides the benefit of additional diversity in the nation's sea-based nuclear force. RRW will replace a portion of W76 warheads deployed on the Trident system. That particular warhead comprises a high percentage of our planned future strategic nuclear deterrent force under the Moscow Treaty. Although we have not uncovered any problems with the W76, it is prudent to hedge against a catastrophic failure of that system by introducing a genetically diverse warhead design into the submarine launched ballistic missile

force.

This is the same kind of statement made to Congress by former Administrator Brooks and D'Agostino since 2005, based on flawed weapons science and lack of input from DoD about the nuclear efficiency that may be required for the stockpile of the future. Briefly, leaving important details for the submitted documents [see footnote 11, and sections 7 and 11] and for the upcoming document, the submarine fleet, the heart of U.S. nuclear deterrence, has two warheads: the W76 and the W88. The yield of the RRW (RRW-1, RRW-2) is the same as the W76, ~100 kt, but the weight of the RRW is that of the W88, which has a yield of around 500 kt. In the future, the DOE/NNSA/DP-UC plan is to replace both the W76 and the W88 with RRWs. Consequently, because of the large uncertainties, the RRW represents a reduction by a factor of ~5 in nuclear efficiency. However, because of the new materials in the RRW and lack of detailed data in the HEDP regime, these uncertainties are very likely underestimated; thus the QMU certification is in error. It can be seen that the RRW nuclear efficiency is around the efficiency of the Chinese or Russian stockpiles. A detailed analysis is given in the documentation and in my upcoming document. Is this low-efficiency, low-yield, replacement stockpile adequate to deter China should China choose to become a peer adversary? This answer should be provided by DoD after a projection of the future targets and Advanced SIOP calculations—what the House Appropriations is requesting. Once this is known, the U.S. can project the future stockpile, future SSP, future Complex. Continuing with mismanaged programs will be a major waste of tax funds.

The cover-up of mismanagement of the lifetime of the stockpile is very visible. On one hand, the DOE/NNSA/DP-UC managers are telling Congress and the nation that the existing pit/stockpile can last 100 years (thus the stockpile is robust to aging); and, on the other, that the pit/stockpile should be replaced starting in 2012—when the average lifetime is around 30 years (thus the stockpile is nonrobust). As the House Energy and Water Development report noted, DOE/NNSA/ DP-UC wants the maximum budget. This can be accomplished if (1) DOE/NNSA-UC starts the development of new warheads by 2012; and (2) DOE/NNSA/DP-UC keeps funding for the NIF for 50–100 years. Clearly the NWDI, i.e., the utility of the NIF, the pit/stockpile lifetime, the reliability of the existing stockpile, and the reliability of the RRWs, are weapons science issues that must be resolved through an in-depth, unbiased, Science Panel review. Continued funding of programs on the wrong track is wasteful and damages our national security.

Domenici is endorsing the proposition that the stockpile is unreliable after 20–25 years of age, i.e., the lifetime is ~25 years, and that it should be replaced because of degradation:

> Almost a decade ago, in a speech at Harvard University, I outlined… a cut in American nuclear weapons…That is, a stockpile commensurate with the anticipated international threat to our nation. Critical to that concept was, and remains, the principal of reliability and the continuous battle against degradation of our present stockpile. No serious expert advocated simply keeping the very same physical weapons we had 20 or 25 years ago, with no upgrading or improvements. At some point, the degradation of components in those weapons would mean that the certification necessary form the three weapons labs' directors to the President couldn't be honestly made. In short, without upgrades and continuous non-physical monitoring, our nuclear weapons deterrence could be put in serious doubt. Yet, at this very time, the youngest weapons designs in our arsenal are 20 to 25 years old. Age-related component degradation could impact several different systems

> at the same time, calling into question reliability. For the past several years, this Senate has supported on a bi-partisan basis spending the money necessary to protect our stockpile from degradation. At the same time, we have recognized that some of our systems are too complicated, pose risks to workers, and need substantial upgrading. [Sen. Domenici, *Ibid.*]

Because of the coverup, Senator Domenici is unaware that "the best minds of the nation during the last 20 years" (since 1987) mismanaged the SSP, RRWs, lifetime, Science Campaign, Security, etc., and in the process produced the wrong stockpile, the wrong Complex, the wrong SSP, etc., for U.S. deterrence. He does not know that the annual certification to the President is made using fudged, unreliable weapons code calculations and unreliable expert judgment, i.e., that the certification is not honest. Thus, the House cuts are justified until the correction is made through the Science Panel review.

In contrast, Sen. Domenici stresses that (1) the House cuts will send nuclear strategy in the wrong direction—the programs are already off track, DOE/DP-UC does not know the lifetime of the current stockpile and the certifications are made with fudged weapons code calculations known to be in error; (2) a nuclear strategy has been in the making by the best minds in the nation during the last 20 years—most of the best minds have been biased, paid by DOE/DP-UC programs, controlled by DOE/NNSA-UC management, covering up gross mismanagement in weapons science and security thus in error[19]; (3) a new direction in nuclear strategy is required, which should be the consequence of a 3- or 4-year intensive study addressing the RRWs—these studies have been in gross error and fraudulent and will be biased; (4) following this study, a nuclear strategy can be forged—thus, the U.S. nuclear strategy will be based on flawed weapons science; (5) the U.S. should fund the strategy now 20 years in the making—continuing with a wrong strategy based on flawed weapons science will damage national security;

> This background brings me, Mr. President, to the present Energy and Water Development Appropriations Bill for FY08 proposed by the House Appropriations Committee and scheduled for House Floor action this week…<u>That bill…would send American nuclear deterrence strategy in a new, and absolutely unknown, direction…More than 20 years of intensive study, by some of the best minds in the world, could begin to be overturned by enactment of a single appropriations bill. The new direction wouldn't be enacted as the result of 3 or 4 years of intensive study and hearings by all of the relevant committees of Congress.</u> It wouldn't result from convocation of the best minds at our disposal. It wouldn't result from the kind of pain-staking analysis of future risks that any prudent American would demand from its government. No, that new path would begin by a single appropriations bill, devised by a small group with the best of intentions, but far from public view and analysis…that new path would begin by a single appropriations bill, devised by a small group with the best of intentions, but far from public view and analysis. Note an important

[19] Issue addressed in the submitted documentation and in the upcoming report. The panels that have been involved in reviewing the weapons programs since the 1980s are known; they include DOE/DP, UC, White House panel, NAS, JASONs, SAGSET, SEAB, DSB, AAAS. The membership is known so it is not difficult to prove that the majority of members are paid by DOE and UC. Many distinguished DoD managers with weapons design knowledge were lab managers taking a leave from the Lab and paid by DOE. Most of these DOE/DP-UC upper managers were involved in planning the SSP, which failed or is failing. Critical NTS data—addressing the lifetime—is missing. The SSP failed to develop the modern codes with predictive capability. Many of the important reviews in the past provided recommendations known to be biased and in gross error. For instance the 1990 NAS Koonin report noted that the future NIF will cost $400 million, twice the cost of the Nova laser but with sixty times more laser light energy. The NIF cost turned out to be 10 times higher and it is 7 years overdue.

> point…The funding cuts are proposed now; a new strategic direction will be forged later in this decade. Such an approach is absolutely backwards. We should forge the new direction, if one is believed appropriate in a world of increasing threats to our security, after great study. We should fund our present strategy, 20 years in the making, now.
>
> …the Reliable Replacement Warhead…is a proposed new element of Administration policy. The intent of the RRW, to enable increased reliability and design simplification in weapons of comparable explosive yield is, in my view, a very appropriate consideration, which may well result in the ability to maintain still smaller future stockpiles supported by a still smaller future weapons complex. But, as other legislators have suggested and as I noted in the last paragraph, I agree that a study of the complete role of the RRW in the nation's nuclear deterrent is appropriate. That study must involve far greater resources than those involved in the House Report language. Furthermore, Congress will have many opportunities to review and finalize any decision for actual deployment of the RRW, but the funds proposed for investment in the RRW now should provide the detailed data to underpin any future Congressional decision to shift portions of our deterrent to that design.
>
> Stockpile Stewardship is absolutely vital to our national security. As long as this nation requires a nuclear deterrent in our defense or in support of our allies, we must maintain the skills and infrastructure that support the viability of that stockpile…The House bill does irreparable harm to the Stockpile Stewardship Program. It cuts all funding for the new CMRR facility which would replace the present facility, which will be inoperable after 2010. Without a new facility, our nation will not be able to support the pit mission, which is a single point failure in the complex. Without a viable pit capability, the U.S. Nuclear Deterrent is vulnerable. The House bill cuts the Nuclear Material Safeguard and Security Upgrade, required to meet the Design Basis Threat around the key nuclear facilities that contain special nuclear material; it would cut stockpile services, the foundation of the production capability for our nation; it would cut almost in half our pit mission, the critical component of our nuclear deterrent systems; it would cut funding for the repair and elimination of old and unused facilities that now drain funds from required new facilities; it would cripple advanced computing, the key to Science-Based Stockpile Stewardship; force the shutdown of LANSCE, the accelerator needed for a variety of research; and, cut the Z machine, another component of our non-physical testing regime."[*Ibid.*]

It seems clear that cutting the funding now for the RRWs, ASC, CMRR, pit fabrication, LANSCE, Z, thus the SSP, prior to forging the strategy, is the right approach—the House Appropriations approach. Furthermore, the ICF funding for LANL, about $10M should be cut. DOE-UC/LANL's ICF endorses NIF and collaborates with DOE-UC/LLNL's ICF program; it does not compete with LLNL. LANL's ICF program has no laser, wasted around $1 billion invested in ICF at LANL, and the program manager, Dr. Doug Wilson, is the same manager who participated in the mismanagement of this program.[20] These ICF scientists should work at LLNL—if LLNL wants them. Because the programs can be shown to be off track, they should be cut until a new, corrected strategy founded on strong weapons science is put in place.

Because of the DOE/NNSA-UC mismanagement of the NWDI, i.e., stockpile, SSP, the Complex, and deterrence during many years, I have been asking Congress to cut funding for the NIF Ignition Campaign, the Science Campaign, and the ASC Campaign; and facilities associated with pit production, the RRWs, SSP, etc., **until** an in-depth Science Panel review is carried out. Senator Domenici supports continued funding for wasteful programs until the

[20] See references in footnotes 1,4,5, and 6.

RRW study is completed in three to four years. This strategy of continuing without correcting weapons programs will not correct U.S. strategy and time has run out. The U.S. stockpile will likely be unreliable after 2013. As noted by Congressman Hobson, the bottom line is jobs, thus, protection of funding for the labs in New Mexico and California, not national security. For at least the last 20 years, the Congressional record shows that Senator Domenici, as every member of the New Mexico Delegation, e.g., Senator Bingaman, former Congressman Richardson, Congresswoman Wilson, Congressman Udall, etc., has been supporting the DOE/NNSA-UC labs' management position and protecting funding for New Mexico. Similarly, Congresswoman Tauscher has been protecting funding for California. We know that the easy political solution for the upcoming Senate Appropriation bill is to follow the guidelines stated in the House and Senate's National Defense Authorization Act and the Senate Appropriations bill, which will restore funding for the New Mexico labs without corrections in the mismanaged programs.

During the upcoming Conferences, the House and the Senate have to compromise. Staff and Members will receive many presentations from the DOE/NNSA-UC managers defending funding for their programs based on biased reviews. In the past, the political solution has been to return the funding for the labs. Nevertheless, without correcting weapons science, the compromise has, in the past, not corrected wasteful mismanagement. This is why the House is now supporting the cuts until an NPR is presented to Congress in 2009—unaware that time has run out. Unfortunately, the 2009 NPR, like the 2001 NPR, will be based on biased reviews that cover up (or ignore) 20 years of gross mismanagement of the NWDI. It is clear that the basis of the confusion is due to cover-up of mismanagement of science and security in the NWDI—Congress cannot correct weapons science through debates. Furthermore, because the stockpile may need to be replaced by 2013, and the U.S. needs about 20 years to replace the stockpile, time has run out. The Science Panel review is critical to correct the confusion in Congress and to provide input to the proposed Commission, DoD, and DOE reviews (see below). Inclusion of the Science Panel review will likely need a new cycle of legislation; however, not doing it now further damages U.S. security. Without such a review, Congress, DoD, and DOE will remain confused and in conflict, unable to correct the NWDI and to develop U.S. nuclear strategy for many years to come.

In sum, the DOE/NNSA/DP-UC and lab managers are visibly contradicting themselves and misleading Congress. On one hand they are protecting NIF funding by calculating long lifetimes, and on the other hand they are stressing that the stockpile should be replaced as soon as possible—by 2012. The pits are nonrobust, designed close to the cliffs of performance. With the current SSP, they cannot be replaced and *science-base,* QMU certified. Life extension keeps the pits while refurbishing/remanufacturing everything else in the warheads. Thus, using the SSP life extension program, the lifetime of the pits determines the lifetime of the stockpile. Based on the labs' input, the JASONs concluded that the lifetime of the pit is 85–100 years, thus the existing stockpile could be maintained for 85-100 years. This long pit lifetime will delay the goal of ignition and will keep the NIF running for as long as the managers want. However, the NNSA wants to start replacing the W76 stockpile with the RRWs by 2012. Replacing the stockpile by 2012 would imply that the pit lifetime is around 30 years, i.e., that the stockpile could be unreliable after say 2013. In short, there is a discrepancy of **~70 years** on a critical NWDI issue that impacts national security. The House Appropriations seems to be adopting the DOE/NNSA/DP-UC claim that the lifetime of the pits/stockpile is around 100

years, while the DOE/NNSA/DP-UC and the Senate, while adopting that lifetime, are acting as if the lifetime may be 30 years!

In sum, the lifetime of the pits/stockpile is a critical issue impacting when the stockpile should be replaced because it will become unreliable after that time. This is a weapons science issue clearly impacting nuclear deterrence/policy. The reason for the discrepancy is gross mismanagement of weapons science. For instance the *science-based QMU* certification that should be used for stockpile design, certification, and *lifetime determination* has not been developed—the mission of the SSP/ASC Campaign. It has not been developed because the managerial system did not develop codes with proven predictive capabilities in the physics regime in which weapons operate. Now the system cannot develop these codes because, with the current SSP, it cannot acquire the detailed nuclear data to validate/develop the codes (see section 11). New facilities must be incorporated into the SSP and the DOE-Office of Science should fund the NIF, Z, and other such facilities based on academic merit (see section 11). The House Appropriations Committee's proposed cuts are consistent with these conclusions. The JASON panel, like most of the panels that review the DOE/DP-UC programs, is controlled (paid) by DOE/DP-UC. It should come as no surprise that these panels consistently endorse DOE-UC laboratory managers and protect their funding and their well-paid jobs.

The U.S. spends around $25 billion a year on the NWDI (addressed in the NDAA). The cost of the 18-month Science Panel review to provide input to the proposed Commission, DoD, and DOE reviews is ~$25 million, a very small percentage of this budget. A new cycle of legislation would likely need to be introduced. The Private Bill discussed below is a promising option that should be pursued in parallel to the legislation.

3. Is our proposed Science Panel review required in order to fix U.S. nuclear strategy/policy?

Clearly, Congress is confused and, if the lifetime is ~30 years—as we believe it is, based on NTS data, not fudged calculations—time has run out for making timely corrections. The only way to develop the correct nuclear strategy/policy is by correcting the weapons science first, ASAP. As we stress in our documentation[21] and in this report, the proposed RRW program and the competition between the labs for the RRWs has been mismanaged and covered up. The RRW program should not be funded. The RRW-1 (for the Navy) was certified with fudged, unreliable, weapons codes using fudge parameters that force the calculations of the yield to agree with some NTS tests. The certification was not done using the modern 3D codes with proven predictive capabilities in the HEDP weapons regime. Hence, the certification is unreliable. The RRW-1 should not be included in the stockpile, thus, its design was a waste of funds (section 7). Similarly, the RRW-2 (for the Air Force) program is another waste of funds and should be cut. By the same token, the current SSP does not have the modern weapons codes for determining lifetime and certifying the remanufactured pits, e.g., the W88. DOE/NNSA-UC failed to determine pit lifetime and the certification of the W88 is unreliable. Hence, the Pu facilities—e.g., Pu pit facility, Consolidated Plutonium Center— and pit fabrication facilities should not be funded. The ASC program cannot develop the modern 3D codes with predictive capabilities because it lacks the detailed data; thus, it should not be

[21] See references in footnotes 1,4,5, and 6.

funded until the SSP facilities are corrected. The House Appropriations Committee is right because it is forcing the NPR/DOE-DoD-Intelligence review first and requesting a DOE-DoD Intelligence review. However, the review, as described in the current language, will be biased and in error. Nevertheless, with the inclusion of the Science Panel review, expanded below, the recommendation will be based on solid weapons science. Pending the results of the fair, accountable review, the House Appropriations would consider funding according to the recommendations.

Such a review should be based on an unbiased debate of the weapons science impacting the NWDI. The accountable, in-depth, funded Science Panel review in which we (LMFI) participate and debate the DOE/NNSA-UC labs seems to be the only venue for correcting U.S. weapons science. The recommendations from the Science Panel should be used by the Commission or the Secretary of Defense and/or the Secretary of Energy to develop the correct U.S. nuclear strategy/policy. We are requesting[22] that the following paragraphs/sentences in bold be inserted in Sec. 1046 of the House National Defense Authorization Act, H.R. 1585:

> (B) **SCIENCE PANEL. In consultation with the chairman of the Committee on Armed Services of the House of Representatives and the chairman of the Committee on Armed Services of the Senate, the chair of the Commission shall appoint a Science Panel composed of 16 scientists to review the science and technology (S&T) issues pertinent to the nuclear stockpile, the Stockpile Stewardship Program (SSP), the Annual Certification Process (ACP), and Complex 2030 in detail; thereby protecting U.S. nuclear deterrence. The Science Panel is to provide input and recommendations to the Commission on the S&T areas. Members of the Panel shall be appointed from among private United States scientists with knowledge and expertise in the S&T areas pertinent to the stockpile, SSP, ACP, and infrastructure, who are not affiliated with DOE or its contractors; thus, independent from the DOE and its contractors. The input to the Commission shall be based on a formal, in-depth, unbiased, accountable, scientific debate of the issues**.
>
> (e) REPORT.—
> Not later than December 1, 2008, the commission shall submit to the President, the Secretary of Defense, the Secretary of Energy, the Secretary of State, the Committee on Armed Services of the Senate, and the Committee on Armed Services of the House of Representatives a report on the commission's findings, conclusions, and recommendations. **The Commission report should include the recommendations from the Science Panel to the commission and the documentation of the accountable, in-depth-scientific review/debate among the participants.** The report **and documentation** shall identify the strategic posture and nuclear weapons strategy recommended under subsection (c)(2)(B) and shall include—
> (1) the military capabilities and force structure necessary to support the strategy, including conventional means of providing global strike capabilities;
> (2) the number of nuclear weapons required to support the strategy, including the number of replacement warheads required, if any;
> **(3) An assessment of alternatives (i.e., the LMFI-UAH option) to that currently pursued impacting the stockpile, the SSP, the ACP, and infrastructure in order to assure protection of U.S. deterrence.**
> (4) the appropriate qualitative analysis, including force-on-force exchange modeling, to calculate the effectiveness of the strategy under various scenarios;

[22] Our documentation shows that this is essentially the same request that we have made since 2003.

(5) the nuclear infrastructure (that is, the size of the nuclear complex) required to support the strategy;
(6) an assessment of the role of missile defenses in the strategy;
(7) an assessment of the role of nonproliferation programs in the strategy;
(8) the political and military implications of the strategy for the United States and its allies; and
(9) any other information or recommendations relating to the strategy (or to the strategic posture) that the commission considers appropriate.

(f) FUNDING.—Of the amounts appropriated or otherwise made available pursuant to this Act to the Department of Defense, $**25,000,000** is available to fund the activities of the commission **and Science Panel**. **The organization challenging the current DOE laboratories' position (LMFI-UAH) with personnel of approximately 50 scientists, cost of $17M) should be paid from this funding. The time spent by some of the scientific members of the Panel and staff personnel estimated at $3M should be paid from this funding.**

TERMINATION.—The commission **and Science Panel** shall terminate on June 1, 2009.

With proper modification, these paragraphs could be inserted into any of the four bills currently in Congress, which, because of the confusion due to DOE-UC cover-up of mismanagement, request a nuclear posture/nuclear deterrence policy review *without a Science Panel review.* These bills are:

(1) The Senate National Defense Authorization Act (NDAA) S 1547, Report 110-77, introduced on 6/5/07, posted around 06/11, introduces a mandate in Sec. 1061 for the DoD Secretary to perform a 2009 Nuclear Posture Review (NPR) addressing a time period of only **5–10 years.** This time period should be **until 2030.** In order to correct the stockpile, the SSP, and the Complex, the U.S. needs ~20 years. This review is an update to the 2001 NPR and the areas to be reviewed are consistent with the areas in (2) below. It is intended for the next president to inform Congress about the proposed new U.S. policy on nuclear deterrence/"nuclear posture" and, as the previous NPR, it *will not* be based on an unbiased Science Panel review recommendation. Very likely, it will be based on the erroneous DOE/NNSA-UC pit lifetime determination endorsed by the JASON panel (see below). On 3/21/07, one of the founders of the JASONs, Dr. Sid Drell, testified to the Strategic Forces subcommittee on the pit/stockpile lifetime and size of the future stockpile—both estimates likely in error. The language could be corrected to include a Science Panel review to be performed and completed by 2009.

(2) In Sec. 1046, the House NDAA, H.R. 1585 establishes a "Congressional Commission on the Strategic Posture of the United States," with the purpose to examine and make recommendations with respect to the long-term strategic posture of the United States. We have explained how the language could be changed to include the Science Panel review to be performed and completed by 2009.

(3) The House Energy and Water Development Appropriations bill, H.R. 2641, Report 110-185, dated 6/1/07 posted 6/13/07, which reduces the NNSA/Defense Program (weapons activities) request by around $632 million. This stresses DOE/NNSA-UC mismanagement and mandates that the Secretary of Energy, in consultation with the

Secretary of Defense and the intelligence community, formulate the nuclear policy prior to funding critical programs. Until this policy is given to the Appropriations Committees, this bill cuts all funding for the Reliable Replacement Warheads (RRWs), Complex 2030, Pu facility, etc. The report exhibits waste (nearly $100M was invested in the RRW competition and the Complex 2030 and Pu facility studies) and mandates increased oversight—opposing the DOE/NNSA-UC position. Despite visible mismanagement, the House increases the budget for the National Ignition Facility (NIF), an anticipated waste of nearly $10 billion invested in inertial confinement fusion (ICF) ignition. It will become apparent in 2010, when NIF fails to achieve ignition. The DOE-DoD-Intelligence review will not include the Science Panel review. It has been reported that the White House would veto this bill (American Institute of Physics, 06/14/07). The language could be corrected to include a Science Panel review to be performed and completed by 2009.

(4) The Senate Energy and Water Development bill—not yet posted—will disagree with the House position, judging from the statements made by Senator Domenici, Senator Dorgan and the White House. The language could be corrected to include a Science Panel review to be performed and completed by 2009.

An analysis of the reasons for the confusion in Congress and within the Administration indicates two main causes: (1) The cover-up of mismanagement of weapons science impacting critical areas; and (2) the failure of DoD to project the stockpile of the future.

The cover-up impacts a number of areas: (1) The estimate of the stockpile's lifetime; (2) the fact that the U.S. developed the wrong stockpile for deterrence; (3) the lack of weapons codes with proven predictive capabilities for design and science-based certification of the existing and replacement stockpile; and (4) the lack of detailed nuclear data for validation of the codes, thus development of codes with proven predictive capabilities (see below). Clearly, because of the visible mismanagement, an in-depth review of the nuclear weapons and deterrence issues—as we have been telling Congress in our briefings and reports since 1987—is needed.

4. How do we know DOE/NNSA-UC is mismanaging the stockpile, the SSP/nuclear weapons programs, and deterrence?

The NNSA recently conducted a competition between LANL and LLNL for selection of the RRW design. Congress was interested in planning Complex 2030, which is founded on the need to replace the existing stockpile with the RRWs and a determination of when the replacement should take place, i.e., the lifetime of the stockpile. According to LANL weapons scientists, the DoD Project Officers Group (POG) determined that LANL won the competition. The NNSA overruled DoD and decided that LLNL won the competition. The NNSA justified its decision based on the unproven claim that LLNL's design was closer to a design tested in the 1980s. In other words, because the NTS data has more credibility than the calculations, the LLNL design was considered more reliable than the LANL design, according to NNSA Administrator D'Agostino. The Nuclear Weapons Council endorsed NNSA. However, according to the LANL Design Team, the DOE/NNSA/DP-UC committed fraud with the data during the competition. The LANL Design Team leader is LANL Fellow John Pedicini. Many emails about this have been published on an Internet blog (http://lanl-the-rest-of-the-

story.blogspot.com/), three authored by Pedicini. I have asked some LANL scientists about the issues and received explanations. We have proof that this is not the first time DOE/NNSA/DP-UC has ignored or changed the NTS and other secret data.

Pedicini et al. have been investigating two issues since around 1994: (1) The lifetime of the pits based on four to five NTS tests that measured yield as a function of age, thus lifetime; and (2) how to replace the existing, nonrobust stockpile with a robust one. In fact, NNSA Administrator Brooks testified (03/1/06) to Congress that the existing stockpile is not robust. It was designed too close to the cliffs of performance; hence, it should be replaced. The time for replacement depends on the lifetime of the pit. This determines the lifetime of the warhead. In several colloquia, Pedicini concluded—based on NTS data—that the lifetime of the pits could be less than 30 years and 40 years at most. During the 1990s, LANL and LLNL adopted a lifetime of 30–45 years. Recently, the labs concluded that the pit lifetime is 85–100 years! Reviewing pit lifetime, the JASON panel (i.e., Drell) recently endorsed the DOE/NNSA-UC lab managers' position. The NNSA endorsed the JASONs' position. The lifetime defines when the U.S. should replace the stockpile. This determination is critical for protecting U.S. deterrence. Both labs claim they can design the RRWs and that they can certify the old and new designs—using fudged weapons code calculations with deficient credibility. The NNSA and JASON panels agree.

In the 1980s, based on the few NTS shots discussed at the Weapons Working Group (WWG) meetings at LANL, we concluded, that the lifetime of the pit was around 30–40 years. In the 1980s, as a scientist in X-Division, I started Code Validation Physics (CVP), now used broadly by the labs but with fudged calculations. CVP permits the development of codes with proven predictive capability, hence, codes without fudge factors. By choosing the fudge factors, weapons designers force the calculations to agree with the data. CVP has many critical applications, among them is the design and science-based certification of any stockpile the U.S. may need, and science-based determination of the lifetime of the stockpile.

If the average lifetime of the pits is ~**30 years**, the U.S. stockpile should be replaced by ~**2013**. (The most numerous warheads in the stockpile are the submarine-launched W76s.) In this case, after 2013, the stockpile is unreliable, i.e., lacking reliability for deterrence. Because of its projected GDP and defense budget, China is a nation that could become a peer adversary by 2018–2025. In fact, the 2007 DoD and intelligence community reports are consistent in their assessment that the probability that China could become a peer adversary by the 2020s is significant. Thus, U.S. deterrence would fail around the time China could choose to become a peer adversary. In this case, the U.S. should urgently try to correct the stockpile, the SSP, and the Complex without using standard nuclear tests.

If the U.S. resumes nuclear testing, China will surely resume nuclear testing. Because of the Chinese GDP, GDP growth, and China's current capabilities, China will have the nuclear capabilities to overwhelm U.S. missile defenses by the 2020s. China already acquired—surely through DOE/NNSA-UC/LANL's Machine C—all the nuclear-efficient U.S. weapon designs (i.e., nuclear efficient U.S. MIRVs).

It is also accepted that because of the improved missile/weapon accuracy—confirmed by DoD's Advanced SIOP code predictions—we do not need tactical nuclear weapons to deal

with rogue states, e.g., Iran, North Korea, etc., and terrorists groups, etc. Furthermore, in the future Russia will not have the defense budget to threaten the West, thus Russia alone will not be a peer adversary. However, if tensions develop, Russia and China could become allies.

The stockpile (size, composition, nuclear efficiency), SSP, Infrastructure, and Complex 2030 depend on the projected targets and DoD Advanced SIOP code calculations, i.e., the probability that China could become a peer adversary. In our documentation,[23] we stress that there are five possibilities for the SSP depending on that probability. The critical issue defining the facilities for the proper SSP is the need to acquire detailed data in the high energy density physics (HEDP) regime. Consequently, U.S. nuclear deterrence policy in the future depends very strongly on weapons science and DoD projections.

If the pit lifetime is ~**100 years**, the stockpile should be replaced by 2083. If the lifetime is 60 years it should be replaced by 2043; 50 years it should by 2033; 40 years it should be replaced by ~2023, and so on. Depending on the lifetime, the U.S. could maintain the current stockpile without testing from less than a decade to many decades to come. As noted, in order to develop a replacement stockpile, the U.S. needs ~20 years, thus the earliest possibility would be in 2028. The current position of Congress seems consistent with the following: (1) China cannot be a peer adversary for a long time, e.g., for the next 40–50 years; and (2) the U.S. has plenty of time to correct—if needed—the stockpile, the weapons programs, and deterrence, e.g., 40–50 years. However, if the lifetime is 30–40 years, as the NTS nuclear data indicate, the U.S. cannot correct the stockpile until 2028; thus deterrence will fail at the time when China could become a peer adversary. The mandated 2009 NPR and future national security depend heavily on three issues: stockpile lifetime; the probability that China could become a peer adversary; and the replacement warheads—the Robust Middleweight Warheads (RMW) proposed by LMFI, instead of the RRWs. Because the earliest the stockpile could be corrected is ~2028, and after 2013 the stockpile could be unreliable, the Science Panel review should start as soon as possible, to be completed by 2009.

5. How can a discrepancy of 70 years exist regarding stockpile lifetime—a critical issue impacting national and even global security?

LANL Fellow Pedicini is a weapons scientist not a manager, leader of the LANL Design Team. Pedicini et al. (like LMFI) have been extrapolating the lifetime from NTS data—which contain errors and uncertainties—while the DOE/NNSA-UC and its lab managers are endorsing unreliable, fudged, weapons code calculations known to be in error, and unreliable expert judgment to predict the lifetime. These calculations have much larger uncertainties than the data. Thus, the discrepancy between the experimental data and the unreliable calculations for the determination of the lifetime could be a factor of 3.3—a very large factor. While Pedicini et al.—as many weapons scientists, including LMFI—believe in the NTS data, the DOE/NNSA-UC upper managers and their controlled panels (e.g., the JASONs) believe in code calculations known to be in *gross error*. According to the LANL scientists, during the RRW competition it became clear that the DOE/NNSA-UC managers had manipulated the data, committing fraud in the process, in order to select the Livermore design over the Los Alamos design.

[23] See references in footnotes 1,4,5, and 6.

6. Why did DOE-UC fail to determine the critical lifetime issue using many NTS tests when tests were still permitted?

Because DOE/DP-UC opposed the proposed CTBT in 1986–1987, it chose to mismanage the weapons programs, to cover up, and to retaliate against scientists who were proposing an approach of preparation for a treaty. In the 1980s, as part of the process toward a CTBT, some of us suggested that we needed NTS tests to determine (1) the robustness of the nonrobust stockpile; (2) the pit lifetime; and (3) to acquire detailed nuclear data using our proposed Microfusion and Microfission facilities. DOE-UC retaliated against such scientists at LANL and LLNL and covered up its mismanagement, setting the U.S. on the wrong track for the future. I address these issues in my documents.

7. How do we know that DOE/NNSA/DP-UC weapons codes could be grossly in error?

The mission of the Advanced Scientific Computing (ASC) campaign is to develop weapons codes with proven predictive capabilities. ASC claims—in reports posted on its Web page—that it will develop codes with predictive capability for weapons' design and science-based certification by ~2019–2025. ASC is stating that until that time the labs will perform calculations using fudge factors, i.e., by fudging or by "calibrating the codes." ASC also confirms our claims in its reports that fudged calculations do not have predictive capability; that these fudged calculations are useful only for small interpolations. Furthermore, ASC states that the uncertainties for the fudged calculations increase as a function of the age of the stockpile due to the changes produced by remanufacturing and aging. Assuming the fudged code calculations are 3D and properly set up, if the fudged calculations are calculating a lifetime of say 45–100 years, according to an ASC report the error bar could be nearly 100%—thus 45–100 years. Because of the large errors, the scientists have no confidence in these calculations. Furthermore, the oldest age of a primary/pit tested at NTS is 28 years. Such a primary/pit showed a significant decline in the yield due to aging. The bottom line is that because of the large uncertainties due to the changes (aging and remanufacturing), the fudged calculations are clearly in error. The calculations ought to be performed with validated codes that have proven predictive capabilities in the regime in which weapons operate. A detailed argument is provided in our documentation.

The situation is actually worse than what I describe above. On 2/21/07, a DOE/NNSA/DP-UC/LANL X-Division manager presented LANL weapons scientists with the "official" lifetime calculations in a colloquium titled "Pit Lifetime Assessment." The labs adopted an elemental approach based essentially on inserting equation of state (EOS) as a function of age in the weapons codes—data obtained in the Enhanced Surveillance Program/accelerated Pu aging. Some distinguished weapons scientists and LMFI noted that those calculations calculate only the lifetime of the Pu metal in the pit—not the lifetime of the pit. For instance, the aging of the welds in the pit and the stockpile-to-target test effects on the aged pit, or corrosion, are not taken into account—issues addressed in my documents. The lifetime of fabrication features, e.g., welds, holes, tube, corrosion, etc., dominate the lifetime of the pit. Furthermore, enhanced surveillance can address only the low energy density physics (LEDP) regime. **The dominant phenomena determining yield as a function of age is the boost process, or boosting, which is an HEDP regime process.** The 3D Modern codes with proven predictive

capability in the HEDP have not been developed. Thus, the labs' pit lifetime calculations, endorsed by the NNSA and the JASONs, are *grossly* in error because they do not take the cited effects into account.

Furthermore, the JASON panel recently investigated the science-based certification of the stockpile, known as the quantification of margins and uncertainties (QMUs). The JASONs agreed—without review—with the NNSA/DP and its lab managers' assertion that the labs erred in predicting the tests only 24 times out of 1200 tests—or 2% of the time.[24] This is not true. The labs erred several hundred times and the number of tests were 1030. This lie impacts the estimate for the uncertainties, thus the full science-based design and certification of the stockpile (see below). In my 2006 report to Senator Sessions/Sentell, I suggested a way for Congress to prove that DOE/NNSA-UC is lying by addressing the labs' predictions in the NTS Halite/Centurion program.

The RRW[25]s are designed using fudged weapons code calculations that do not have predictive capabilities—confirmed by ASC. During the Cold War (NTS testing), the fudged calculations were useful for making small interpolations between similar designs—everything else was kept constant in the designs, dimensions, materials, fabrication, except for the variation of a variable. The designers designing the RRWs are replacing at least one critical component, the Be reflector, thus the RRWs are not an interpolation of the tested designs. The fudge parameters are chosen such that the code predictions of the yield and a few markers agree with data from a chosen set of NTS tests. The process of minimizing the uncertainties, which is extremely expensive, necessitating considerable computer power, is known as baselining. ASC confirms that these fudged, baselined calculations that are forced to agree with data cannot predict the uncertainties. Regardless, the uncertainties are estimated using the fudged calculations and designers' expert judgment, which can be proven unreliable; thus, the uncertainties are in error. Furthermore, detailed nuclear data that describe the Pu pusher effect—corresponding to a subsystem—are missing from the database (section 11). Thus, it is known that pertinent cliffs are not included in the QMU analysis even using fudged calculations (section 11). Designers claim that the RRWs are designed far away from **all** the cliffs—which is incorrect. This kind of QMU analysis is certainly flawed. The JASON report that reviewed the QMU can be proven to be grossly in error. It endorsed the labs in the lie that the labs only erred 2% of the time.

8. How do we know that NIF will fail in 2010?

NIF is the facility in the SSP that is supposed to acquire detailed HEDP data for code validation—impacting the SSP and its ASC campaign. In 2010, the NIF Campaign is supposed to achieve "hot spot" ignition—a delay of 7 years and a cost overrun of ~$4 billion with

[24] JASON, JSR-04-330, "QUANTIFICATIONS OF MARGINS AND UNCERTAINTIES (QMU)," March 23, 2005, pp. 15-16.

[25] The first article about the RRWs, in which I was quoted, was written by Bill Broad in the New York Times, U.S. Selecting Hybrid Design for Warheads January 7, 2007. The article is included in the appendix.

respect to the original plan. The NIF showstoppers were discussed in detail in my 1993 Microfusion proposal to DOE and Congress.[26] We know that NIF will fail because:

(1) such ignition was predicted with unreliable, fudged weapons codes with inadequate physics models—known to be in error—codes that cannot have predictive capability (Furthermore, the fudge parameters to make realistic estimates for NIF's ignition are unknown.);
(2) the predictions contradict the NTS Halite Centurion (H/C) data:
    a. The planned hot spot ignition driven by precisely timed shocks was never achieved in the weapons programs. It was tried at NTS many times by LANL.
    b. The NIF capsule convergence ratio and in-flight aspect ratio are outside the limits of those that were successful at NTS.
    c. The NTS H/C fusion ignition data show that ignition was achieved at energy levels 55 times higher than those of NIF and that a lower level of energy consistently failed;
(3) many tries for ignition are anticipated due to the large uncertainties:
    a. For example, the single-line, short-wavelength laser light breaks its own optics.
    b. Taking into account limited resources, a laser that destroys itself trying to achieve ignition is a very poor choice.

NIF is very poor in laser energy and relies on quasi-adiabatic compression driven by ablation, which is a very inefficient process. In the weapons programs, the capsules that performed were driven by the exploding pusher effect, e.g., the Pu exploding pusher effect in boosting. The hot spot ignition—quite different than volume ignition in weapons—is produced by three precisely timed shocks. This type of ignition predicted by unreliable weapons codes (e.g., LASNEX) is extremely sensitive to the known uncertainties. Because of the uncertainties, the implosion velocity can be a factor of 2 off, which translates into a factor of 64 off in the yield—thus failure. Even if successful, NIF's hot spot ignition is irrelevant to the science-based understanding of boosting. A key capsule that we will be able to study in the Microfusion facility (section 11) contains a very thin shell of Pu, which is exploded by energetic hot electrons—the exploding pusher effect. In this case, the ignition is robust volume ignition with mixed Pu, very similar to the type that happens in boosting. This type of capsule, which strongly contributes to the science-based understanding of boosting, can never be studied in NIF.

DOE-UC/LLNL and DOE-UC/LANL are supposed to compete, but, because of DOE/DP-UC opposition, LANL scientists were never permitted to make any formal presentation to an official review panel against LLNL/NIF. Because of DOE/DP-UC opposition to a fair review, the NIF fusion ignition program—composed of the laser and the ignition capsules—was never reviewed in a comprehensive way. Because of our requests, in 2001, the SEAB reviewed the laser—but not the ignition capsule—and found showstoppers. In 2005, the JASONs reviewed the NIF capsule—but not the laser, and found showstoppers. When both showstoppers are combined, the chances for NIF to achieve ignition are nil—as we have stressed in our

[26] P. L. Mascheroni, 'Request to Congress for a National Review of the Pulsed HF Laser Driven Laboratory Microfusion Facility for Defense Applications, Commercial Energy, Transmutation of High Level Waste, and Tritium Breeding," November 15, 1993. This is a 16-volume document of which about 9 volumes are dedicated to scientific issues and 7 address the legal documentation/case and newspaper articles. Over the years, about 75 copies have been sent to Congress.

documentation to Congress since 1987. The 1987 DOE-UC/LANL Canavan panel review of my Microfusion proposal agreed with me that NIF cannot achieve ignition.[27]

A science-based QMU analysis addressing the uncertainties for ignition and the margins for the NIF was never done—which should have been done in 1989 by the 1990 NAS Koonin panel. If an honest analysis had been presented to the 1990 NAS Koonin panel, this biased panel could not have recommend the NIF program (NIF changed its name several times). Furthermore, DOE/DP-UC/LLNL lied to the NAS that NIF would cost $400M (stated in the 1990 NAS report), an issue we commented on to the NAS during the review. The cost for the NIF laser plus NIF targets is now ~$5 billion—thus the NAS erred by a factor of ~12 .

In 2001, GAO investigators found that all the official panels that review the NIF were composed of "cheerleaders" for the NIF. The GAO[28] recommended a review of the NIF independent from the DOE/DP-UC—reported on in the *Albuquerque Tribune*.[29] In 2001, a GAO investigator told me that then Appropriations Committee Clerk Clay Sell refused to be briefed about the NIF. Mr. Larry Spohn, an *Albuquerque Tribune* reporter wrote extensively about ICF and NIF after interviewing many scientists and politicians. In 2001 Senator Tom Harkin presented an amendment against the NIF —in which he named me—and in favor of an independent review of the NIF. Senators Domenici, Kyl, and others opposed Harkin's amendment. In 2001, Spohn interviewed Clay Sell who told him that Sen. Domenici and he had decided to fund the NIF because NNSA Administrator Gordon requested it, not because of scientific merit (reported in the *Tribune*). Numerous articles about my case and the NIF were published.[30]

Despite the effort to which DOE/NNSA-UC will go to cover up NIF's failure, the failure of NIF in 2010—a $5-billion failure impacting the $6.5-billion-a-year SSP—will demonstrate to the world that the U.S. has unreliable codes to certify its nonrobust stockpile. In other words, it will make clear that the U.S. stockpile could be unreliable—inadequate for deterrence. The damage this will cause for U.S. nuclear deterrence may be significant.

9. Why do all the official panels (e.g., JASON, NAS, DOE-UC, etc.) on the nuclear weapons issues endorse the DOE/NNSA-UC management position and help to cover up?

Part of the problem has to do with the existing culture. The 1999 President's Foreign Intelligence Advisory Board (Rudman panel) concluded that DOE-UC has a "culture of deception and denial that cannot reform itself." Creation of the NNSA has not accomplished the hoped for reform; hence, the 2007 Defense Science Board (DSB) recommends that DOE should not manage the weapons programs and design labs. Early this year, NNSA Administrator Linton Brooks was fired because he was caught covering up security problems. On 06/14/07 Congressmen Dingell and Stupak wrote to DOE Secretary Bodman about an 01/19/07, IMI-1 incident attributed to LANL's new LANS management team, which "poses

[27] See references in footnotes 1,4,5, and 6.

[28] GAO-01-677R "Follow-up Review of DOE's National Ignition Facility"

[29] See references in footnotes 1,4,5, and 6.

[30] See references in footnotes 1,4,5, and 6.

the most serious threats to national security," that the DOE/NNSA-UC was covering up. The culture has not changed.

The DOE/NNSA-UC upper-level managers manage both the U.S. nuclear weapons design labs, i.e., LANL and LLNL. [According to *Time*, 06/14/07, "The chairman of LANS LLC (manager of LANL), Gerald Parsky, is a current member and former chairman of the Board of Regents of the University of California, which has long played an important role in running Los Alamos. Parsky, a personal friend of President George W. Bush and his father, President George H. W. Bush, has served as a political appointee in five Republican administrations and is a major GOP donor. Last week, Parsky was named chairman of the board of Lawrence Livermore National Security, LLC."] They pay, thus control, all the scientific experts in nuclear weapons design. Most of the members of the pertinent advisory panels/committees, thus U.S. weapons science and development, are upper managers directly or indirectly paid by DOE or UC. These panels/committees always support funding for the agency's programs after providing minimal constructive criticism. Many of the panel members are members of the JASON, NAS, SEAB, DSB, and STRATCOM SAGSET panels, most of them close to DOE-UC, paid by DOE-UC. I address the names of the upper managers providing critical advice to government in my upcoming report. They will be involved in the mandated panels that will be reviewing the DOE/NNSA-UC weapons programs.

There have been wasteful programs, e.g., Light Ions at Sandia, that have survived many NAS panel reviews. This program was closed by Sandia—not because of a review recommendation, but because of an obvious showstopper: the beam could not be focused. It took a lot of my work to get the 1990 NAS Koonin panel to recommend closing LANL's wasteful KrF-Aurora laser program—after it initially recommended funding for it. In 1990, DOE/DP-UC/LANL wasted all the funding invested in its ICF ignition program, about $1 billion. However, weapons scientists at the labs who questioned management's scientific position and false information to Congress and DOE were retaliated against, regardless of being proven scientifically right by peer review—as in my case.

10. Is there a quick way to prove that the lifetime calculations, the stockpile, the SSP, the Complex, and deterrence are in error?

Yes, there are two venues that I believe should be pursued in parallel:

(1) Congress should conduct a closed hearing and subpoena LANL Fellow Pedicini et al. as soon as possible. Pedicini has had a very distinguished career as a nuclear weapons designer. Also subpoena LANL retiree and affiliate Dr. Chuck Cranfill, one the best weapons scientists and computer physicists in the U.S. These scientists should tell Congress that the lifetime calculations are in error, that they can be proven to be in error, and that the DOE/NNSA-UC system is covering up mismanagement.

(2) Sponsor Leo Mascheroni's Private Bill. The Honorable R. James Woolsey already reviewed the legal record and recommended a private bill to some members of Congress. The legal record is not controversial. I filed a grievance that proved that LANL management's accusations were based on lies. The hearing officer subsequently ordered the firing memos to be deleted from the file. The 1991 DOE Los Alamos Area Office Operational Security report

by William Risley is in my favor. It recommended immediate reinstatement of my clearance and funding for my proposed program. It exhibited gross mismanagement by LANL in weapons science and security. DOE-UC opposed legal hearings on my case and tried to seal this report. Woolsey discovered that the U.S. judicial system failed in my case. Furthermore, Woolsey was present at my presentation to the U.S. Nuclear Strategy Forum.

In addition, in 2006, Woolsey suggested an updated review of the technical issues by a LANL Senior Fellow whom he knows well. Two senior LANL scientists reviewed my documents. Woolsey has a letter of recommendation addressing CVP and my proposals/case. A conversation with him will likely confirm that the U.S. judicial system failed to hear my legal case and that the only venue for justice is through the private bill. He will likely discuss that discovery by the Court of Claims should address the scientific issues, my Microfusion and Microfission proposals, CVP, and related deterrence issues. Some weapons scientists will be subpoenaed and will testify on the issues. The hearing should address the same issues that Congress needs to address to correct the stockpile, SSP, the Complex, and deterrence.

(3) You might also consider inviting former CIA director, the Hon. R. James Woolsey, who was a nuclear weapons negotiator during the Cold War and is familiar with my case, to provide feedback to the committee in a classified forum. Woolsey may tell you that China could become a peer adversary at the time when the U.S. stockpile will be unreliable, and about the pertinence of a reliable, well-tailored stockpile for negotiations.

(4) If you wish, you may consider subpoenaing Dr. Raymond Gary Lee, now retired, who was in charge of computer security for LANL's X Division, as well as for my group, when LANL managers (one now a convicted criminal) opted to arrange for the suspension of my security clearance in retaliation for my having gained the recommendation of an official peer review panel in 1987

(5) I, as well as University of Alabama Vice President Morgan, could testify to this hearing under oath.

Discovery in my case will verify the following: (1) DOE/DP-UC covered up (A) the mismanagement of LANL's Machine C computer—a sure path for espionage; (B) the mismanagement of weapons science; (2) my former immediate supervisor (Dr. Bill Mead)—who had the support of the DOE/DP-UC/LANL director, thus the system, was a criminal, a child molester who spent time in the Los Alamos County jail; (3) my former group leader (Dr. Doug Wilson) was a security risk with many security infractions (Among them, he treated a highly classified notebook as unclassified while carrying it all over the world.); (4) my former division leader (Dr. Mike Henderson) mismanaged Machine C and weapons science and covered up; (5) the LANL Associate Director (Dr. John Browne, later the director) and Director (Dr. Sig Hecker) mismanaged weapons science and computer security and covered up; (6) in the process of retaliating against me for having gained a scientific recommendation for my proposal, DOE/DP-UC upper management set the U.S. on the wrong track in nuclear deterrence; and (7) the U.S. stockpile, the weapons programs/SSP, the Complex, and deterrence must be corrected—consistent with the congressionally mandated reviews.

The Private Bill seems much less controversial than generating the in-depth science review—and could be pursued in parallel to the request for the Science Panel review. It involves only the Judiciary Committees in the House and the Senate. It could be easily justified on the basis that it is necessary to protect constitutional rights, i.e., the right to due process. It could be passed quickly. It is possible that the court could issue a ruling quickly and that Members of Congress will have the pertinent legal documentation from the court to support the in-depth Science Panel review.

11. Is there a way to correct the stockpile and deterrence?

Yes, the stockpile and U.S. deterrence can be corrected through Code Validation Physics (CVP). I started developing CVP in 1982 in LANL's X-Division. The time interval describing the evolution of the nuclear package is divided into subintervals. The subintervals define subsystems. At each of the subintervals during the evolution, "gates" are introduced. These gates record the values for the pertinent variables describing the evolution of the system. For each pertinent variable (e.g., the yield), there is a design value, a range of operations, a maximum and minimum value. The cliffs of performance for pertinent variables define the maximum and minimum values for those variables. For these variables, margins and uncertainties are evaluated at each gate. If the margins are larger than their respective uncertainties at the gates of a subsystem for all the pertinent variables, the subsystem passes certification. The CVP codes do not have fudge factors. They rely on improving the physics models and algorithms in the codes such that they are able to predict the values of the pertinent variables and their uncertainties at all the gates. The process of developing the CVP codes is a step-by-step process that requires improving the physics models in the advanced 3D codes (e.g., the ASC codes) followed by detailed comparison of the predictions with high-fidelity nuclear data at the gates at each step.

Currently, this science-based certification process for the calculations—which is a variation of an old engineering method—is known as the quantification of margins and uncertainties (QMUs). Despite the very large number of tests—over a 1000 nuclear tests—the U.S. failed to acquire the detailed nuclear data required for code validation at the gates. In 2003, DOE/NNSA-UC adopted the QMUs as the method for science-based certification. However, instead of using codes with proven predictive capabilities—no fudge factors—the labs are using unreliable, fudged, code calculations. The fudge factors are chosen such that they force the calculation to agree with the measured yield, thus it cannot predict the large uncertainty.

Currently, detailed data for CVP can be obtained only in the low energy density physics (LEDP) regime. Typically this is the first subsystem. The facilities for doing this are LANL's DARHT, LLNL's FXR, and JASPER. According to LANL Director Anastasio, the labs are far from understanding spall, melt, caviton formation, and matter under extreme conditions *from first principles*. Today, the understanding is *phenomenological using fudged calculations.*

The DOE/NNSA/DP-UC system has known since the 1980s about the need to acquire detailed high energy density physics (HEDP) nuclear data to develop codes with proven predictive capabilities that do not use fudging. Using CVP, in 1984, Mascheroni et al. predicted the upcoming Antares laser's long-pulse experiments performed by Dr. Marvin Mueller et al. in 1985. In 1986–87, Mascheroni correctly predicted—using a few fudge factors—a capsule yield

in the NTS Halite Centurion shot (LLNL was off by a factor of 50). Mascheroni et al. proposed the Microfission and Microfusion facilities at LANL during 1986–1987 to acquire the detailed nuclear data for CVP. Two panels of scientists (1984 and 1987) recommended Mascheroni's work. The CVP codes are required for science-based design and science-based certification. The CVP codes permit the design and science-based certification of the optimum U.S. stockpile and Complex, i.e., the cheapest minimum stockpile and Complex that will guarantee deterrence. The NNSA has estimated that over $150 billion is necessary to correct the stockpile and Complex 2030. We think it is much higher than this. It is possible that nearly $100 billion could be saved by developing the correct, optimum Complex 2030, founded on the nuclear efficient, reliable, Robust Middleweight Warheads (RMWs) proposed by LMFI.

The Microfission facility—a large spherical chamber at NTS with a full set of diagnostics—has a maximum yield of 700 tons and a conservative cost estimate of $1.5–$2 billion. It is driven by primaries designed to provide detailed HEDP data. It could be built in around 3–4 years. The technology is straightforward. The Microfusion facility at NTS is driven by a high efficiency, multi-line, pulsed, 100-MJ, hydrogen fluoride (HF) laser. The laser program can start outside of NTS with relatively little funding and scale up very quickly as a function of successfully achieving its milestones. It will acquire data at much higher levels of HEDP than the Microfission facility. The facility is high tech and has a broad range of defense and civilian applications, e.g., development of affordable, environmentally clean, inexhaustible, commercial fusion power. (The 16-volume, 1993, LMFI Microfusion proposal included the prediction of global warming impacting the earth by ~2010–20.) Our proposed Microfusion facility will cost around $2 billion (in 1993 dollars) and could be built in ~15 years. The Microfission facility would need a Low Threshold Test Ban (LTTB) of 700 tons max yield. The total cost for the LMFI-proposed facilities is around $3.5 billion, significantly less than NIF's cost (~$5 billion including NIF targets). NIF should be funded from the DOE-Office of Science account.

The proposed Microfission facility with 700 tons of yield max does not permit full boosting, a critical issue. Without achieving full boosting, China cannot develop efficient MIRVs. China performed only 40 nuclear tests; thus, according to CVP, the uncertainties are large, hence, China *cannot* develop a nuclear efficient stockpile.

The Microfusion facility will achieve robust volume ignition—in the regime in which weapons operate—and provide the robust ignition fusion data required for development of CVP codes that address the HEDP regime.

CVP codes valid in the full nuclear weapons regime are validated using the NTS data in the archives and the detailed data from the Microfusion and Microfission facilities. Theoretical physics complemented by conditional probability theory (Bayes theorem and generalized Kalman filter analysis) shows that the detailed data are critical to reduce the theoretical uncertainty. Without the detailed data, ASC cannot reduce the theoretical uncertainty. Thus, without the LMFI proposal, the multibillion-dollar ASC will be a waste of funds. With the LMFI proposal, all of the investment in ASC will be a worthwhile investment.

We note that up to 2 kt of yield can be contained and concealed. The documentation shows that China already acquired—surely through DOE/NNSA-UC/LANL Machine C—all the U.S.

nuclear efficient weapons designs. Thus China could build a 2 kt microfission facility and apply CVP and develop efficient MIRVs that could overwhelm the U.S. missile defense systems. This could be a damaging technological surprise.

A CTBT as currently considered could be violated unless intrusive internal inspections are permitted. The best option for the U.S. is an LTTB (700-ton limit) for 15 years—which, through the Microfission facility, permits the development of the optimum U.S. stockpile and Complex—followed by a Microfusion facility with a rigorous CTBT. The treaties should be intrusive such that the yield in the facilities could be verified as required. Details are given in our documentation. We think that treaties with China and Russia are very important for national and global security—areas that the Commissioners and/or mandated DoD-DOE-Intelligence reviews will address.

The current SSP should be corrected and include either a Microfission or a Microfusion facility or both. When a return to standard (150-kt yield limit) testing is included as an option there are only five possibilities for the SSP. The level of safety and secure access for the warheads will likely be comparable for all of the SSP options. Each SSP option allows for a set of minimum uncertainty levels for the pertinent variables at each of the gates of the warheads. These uncertainty levels determine the level of reliability and the level of nuclear efficiency, thus the quality of the stockpile. For instance if the stockpile needs to be highly efficient, then it would need the inclusion of both the Microfission and Microfusion facility into the SSP to achieve the minimum uncertainty possible, thus maximum efficiency. The LMFI proposed RMWs are highly efficient MIRVs with a high level of reliability—the type required to deter the powerful peer adversary China could choose to be.

Consequently, if the U.S. decides to continue with the zero yield test ban, the best option for U.S. deterrence is to include the Microfusion facility in the SSP as soon as possible.

Clearly, the optimum U.S. nuclear strategy depends on nuclear weapons issues that have been mismanaged and can be uncovered only through a funded, in-depth, accountable Science Panel review—in which the LMFI alliance team participates—of the stockpile, SSP, Complex, and deterrence/policy. LMFI will form an alliance with universities and corporations at the location in which laser development starts.

12. Does Congress need to correct the governance of the weapons design labs and the Complex?

Yes. In view of visible mismanagement, the 2007 DSB, recommended that DOE should not manage the nuclear weapons design labs and the Complex. Because a return to standard nuclear testing will be against our national security interests, the U.S. depends heavily on weapons code calculations to protect our nuclear deterrence. As noted, the labs do not compete with one another—they are coordinated by DOE/NNSA-UC upper management (e.g., by Mr. Gerald Parsky, see section 9). This has been clearly exhibited in the recent RRW "competition" discussed in section 4. DoD does not have nuclear weapons design expertise. In order to protect competition in this critical area impacting the safety, reliability, and security of the stockpile, *DoD should manage one weapons design lab*. DoD will not be managing the Complex, thus both the fabrication and disassembly of weapons will be controlled by civilians,

i.e., DOE. Consequently, for DoD to manage one weapons design lab is consistent with the Atomic Energy Act of 1954 (Chapter 9, Military Applications of Atomic Energy). DoD could, for instance, manage LMFI.

13. Why will the currently mandated DoD and DOE reviews and the Commission review fail?

The DoD review that the Senate Armed Services requests will likely be done by the DoD members of the Nuclear Weapons Council, which includes the STRATCOM Commander (and SAGSET), DoD POGs, and DOE/NNSA, in consultation with the DoD Defense Science Board, DoD Defense Policy Board, and Secretary of State, hence, upper managers. Using recent reviews (e.g., the RRW competition, JASON panel reviews, AAAS panel review), it is clear that on the weapons science issues there is a significant disagreement between the DOE/NNSA-UC managers and the weapons scientists at LANL. Thus, because nuclear weapons science is fully controlled by DOE/NNSA-UC management, management's erroneous position prevails on the nuclear weapons issues. As noted, many of the accomplished members of the DoD advisory panels are paid by DOE and UC. Typically, as noted in their reports, these panels meet with laboratory managers and do not address the details (the devil is in the details). They do not meet with the scientists and formally debate the hard weapons' science issues.

Similarly, the DOE review that the House requests will likely be done by the same kind of distinguished, accomplished managers, paid by UC or DOE, who have a record of protecting funding for the agencies and do not address the details. Thus the DoD and DOE reviews will largely agree with the position of the DOE/NNSA-UC managers—at the cost of national security.

The Commissioners, as well as all the review panels, like the JASON panels, NAS panels, etc., meet only with upper managers when they interview personnel at the DOE-UC labs and receive presentations from a few scientists selected by the managers. Thus, a Commission or DOE-DoD-Intelligence review on the weapons science issues will inevitably agree with DOE/NNSA-UC upper management's position.

14. How could Congress correct the U.S. stockpile, SSP, Complex 2030, and U.S. deterrence?

Congress could accomplish this by modifying current legislation and/or introducing new legislation. The homework has been done. It has taken 20 years. We believe there is compelling evidence to justify the funded, in-depth review of the nuclear weapons and deterrence issues and the introduction of the Private Bill. There are two venues to generate the correction: one through the funded in-depth-Science Panel review, and the other through the Private Bill, which should be pursued concurrently. The Private Bill's discovery process should address the same areas as the Science Panel review. In view of the severe House cut in funding for the weapons programs ($632.2M) and the strong possibility that the stockpile may need to be replaced relatively soon, e.g., by 2013–2017, we believe it is worth the attempt to modify the NDAA, H.R. 1585, Sec. 1046 now. Another possibility could be to modify the Senate NDAA, S. 1547, Sec. 1061 mandating the DoD Secretary to consider the recommendation of a funded Science Panel review and extending the review time to include 2025–2030. Around

$20M in funding will be needed to pay the Science Panel review members ($3M) and the LMFI-Alliance scientists (~$17M) for around 18–24 months.

In 2006, I addressed the mismanagement issues in two detailed reports to Senator Sessions titled "Senator Sessions could correct U.S. nuclear deterrence by generating the science and technology review using the current legislation—prior to or during the Conference," dated 9/13/06, and had four meetings with former MLA Major Shannon Sentell. He told me by e-mail that he prepared a report to the Senator. The Senator was interested in having hearings on the Complex 2030. Sentell felt that I could perhaps participate in this hearing. We also know that when Congressional staff ask DOE/NNSA-UC managers, their responses are very negative regarding our proposal and hearings on my case. This issue is explained very well in our documentation. We urge the staff to make an *in-depth* investigation and to call former CIA Director James Woolsey (Tel: 703 377 0809). My upcoming document to Congress addresses most of the details and updates the cited documents—since a number of official reviews have occurred in the interim.

Summarizing, if the language of the House NDAA is modified such that the mandated Commission will be required to base its recommendation on the recommendation of a Science Panel review—in which LMFI (and others) can participate to debate the DOE/NNSA-UC labs—Congress can correct U.S. nuclear deterrence. The Science Panel should be composed of scientists who are not connected to DOE-UC, hence, independent of this system. It will provide unbiased input to the proposed Commission, DoD, and DOE reviews on the NWDI. The Commission, as currently established by the House bill, will not correct deterrence. Similarly, the Senate-mandated DoD review and House-mandated DOE review will not correct U.S. deterrence. Without the independent Science Panel review, the Commission and these reviews will continue to endorse the DOE/NNSA-UC position on the weapons science issues. The Conferences on the bills will not include the Science Panel review, permitting the NWDI to continue on the wrong track. The language should be modified by introducing the funded Science Panel review, as discussed above. The inclusion of the Science Panel in the legislation may require a new cycle of legislation. In addition the Private Bill should be introduced because of the merits discussed in section 10.

Respectfully yours,

P. Leonardo Mascheroni, Ph.D., CEO

Attachments:
(1) R. James Woolsey's letter to Senator Kennedy dated July 13, 2002
(2) Draft of the Private Bill and Resolution
(3) Congressman Dingell's letter dated April 3, 1991
(4) *New York Times* article on the RRWs by Bill Broad, dated January 7, 2007
(5) *San Francisco Chronicle* article about NIF by Keay Davidson, dated November 13, 2005

CC: The Honorable R. James Woolsey
Ms. Debby Willie, Office of Mr. Woolsey
Ms. Nancy Bonomo, Office of Mr. Woolsey
University of Alabama at Huntsville Vice President J. Derald Morgan
GAO: Attention Dr. William Lanouette, former investigator
Mr. James Noel, Assistant Director, Natural Resources, GAO
Ms. Gene Aloise, Director, Natural Resources, GAO
Dr. Marvin M. Mueller
Mr. Richard Harrington, Esq.

APPENDIX