IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW MEXICO

THE LOS ALAMOS STUDY GROUP,

Plaintiff,

v. Case No. 1:10-CV-0760-JH-ACT

UNITED STATES DEPARTMENT OF ENERGY; THE HONORABLE STEVEN CHU, in his capacity as SECRETARY, DEPARTMENT OF ENERGY; NATIONAL NUCLEAR SECURITY ADMINISTRATION; THE HONORABLE THOMAS PAUL D'AGOSTINO, in his Capacity as ADMINSTRATOR, NATIONAL NUCLEAR SECURITY ADMINISTRATION,

Defendants.

AFFIDAVIT OF FRANK N. VON HIPPEL

State of New Jersey)
) ss.
County of Mercer)

Frank N. von Hippel, under penalty of perjury, hereby declares as follows this 6th day of January 2011:

1. My qualifications to address matters relating to U.S. nuclear-weapon policy are as follows: My training is in theoretical nuclear physics (Rhodes Scholar and Oxford University PhD, 1962). Since 1974, I have been on the research staff and faculty of Princeton University, currently as a Professor of Public and International Affairs. I co-founded and am still a Principal Investigator in Princeton's Program on Science and Global Security (formerly, the Program on Nuclear Policy Alternatives) where a major

focus of my research has been on technical aspects of U.S. nuclear-weapon policy. From September 1993 through December 1994, I was on leave as Assistant Director for National Security in the White House Office of Science and Technology Policy. For five years (1995-2001), I was a member of the External Review Board of LANL's Nonproliferation and International Security Division. I co-authored the American Physical Society's [the APS is the professional society of American physicists] 2004 assessment of the National Nuclear Security Administration's (NNSA) need for a Modern Pit Facility [*The Modern Pit Facility (MPF). No urgency for a MPF. Address key technical issues before proceeding*, http://www.aps.org/policy/reports/popa-reports/upload/pit_facility.pdf]. Since 2006, I have been co-chair of the International Panel on Fissile Materials, an international organization that advises the public and governments about the technical basis for possible policy initiatives to control and eliminate plutonium and highly enriched uranium, the two essential nuclear-weapon materials. The American Institute of Physics has published a collection of my articles on public policy in its "Masters of Modern Physics" series and, in 2010, I was awarded the APS 2010 Leo Szilard Lectureship Award for "outstanding work and leadership in using physics to illuminate public policy in the areas of nuclear arms control and nonproliferation, nuclear energy, and energy efficiency."

2. I make this affidavit in support of the Los Alamos Study Group's Motion for Preliminary Injunction. I am a member of the Los Alamos Study Group.

3. The Chemistry and Metallurgy Research Replacement (CMRR) project involves the construction of two facilities. The first, which is nearing completion, will

provide office and laboratory space needed to continue the study of the properties of plutonium and its behavior in the "pits" of US nuclear-weapon "primaries". The primary justification of the proposed second building, the Nuclear Facility (NF), is to support the mission of the TA-55/PF-4 facility at Los Alamos National Laboratory (LANL) to make plutonium pits. Since the 2003 Environmental Impact Statement, the estimated cost of the CMRR-NF has increased ten-fold while the usable space for plutonium work has been reduced by two thirds. It is difficult to believe that, had these increased costs and reduced capabilities been included in the 2003 EIS, the CMRR-NF would have been chosen over the alternatives. Fortunately, it is not too late to review its role and alternatives to its construction at this time.

4. The timing of the Obama Administration's decision to make a firm commitment to CMRR-NF, as reflected in one sentence on p. 42 its 2010 *Nuclear Posture Review Report*, appears to have been based on the perception that this was required to obtain enough Republican Senate votes to ratify the New START Treaty [See Henry Kissinger, George Shultz, James Baker, Lawrence Eagleburger and Colin Powell, "Why New START deserves GOP support," *Washington Post*, 2 December 2010]. It was not, to my knowledge, based on any revisit to a consideration of alternatives to CMRR-NF in light of its huge cost increase. The backing for CMRR-NF in 2009 *Final Report of the Congressional Commission on the Strategic Posture of the United States* similarly appears to be the result of an attempt by a polarized group trying to find a political way forward on nuclear reductions for the Administration and Congress. It was hoped by the Obama Administration that, by committing to the CMRR-NF at Los Alamos and the

Uranium Processing Facility at Oak Ridge, it could also get enough votes to ratify the Comprehensive Test Ban Treaty (CTBT). At this point, that seems to be a vain hope. The Obama Administration sees US ratification of New START and the CTBT as essential to maintaining the credibility of the Nonproliferation Treaty, under which the nuclear-weapon state parties commit to pursue nuclear disarmament in exchange for the non-weapon state parties committing to abstain from acquiring nuclear weapons. It is this political calculation, which has nothing to do with the technical value of CMRR-NF or alternatives to it, that Deputy LANL Site Manager and the Federal Roger Snyder is referring to in paragraph 27 and the Federal Defendant's Opposition is referring to at p. 18 top in their 20 Dec. 2010 affidavits. It is also the US treaty commitment to pursue nuclear disarmament that the Federal Defendant's Opposition affidavit disparages when it ridicules the Los Alamos Study Group's "political agenda of complete nuclear disarmament" (p. 23, bottom).

5. There is no objective need to cut corners in establishing the need or lack thereof of parts or all of CMRR-NF, the cost of which has ballooned far beyond original estimates, in a new, in-depth review of alternatives. There is no anticipated need to produce new pits for U.S. nuclear weapons for several decades. In 2006, the JASON group of consultants published a congressionally commissioned review of the pit aging studies done by LANL and the Lawrence Livermore National Laboratory (LLNL). The review concluded that "Most primary types have credible minimum lifetimes in excess of 100 years as regards aging of plutonium; those with assessed minimum lifetimes of 100 years or less have clear mitigation paths that are proposed and/or being implemented."

The oldest pit currently in the U.S. operational stockpile was produced in 1979, which is 32 years ago. For needed replacements of pits that have been subject to destructive testing and for the production of pits for experiments, even the existing TA-55/PF-4 production rate, which has been administratively limited to about 10 pits/year, is adequate.

6. NNSA plans to upgrade the single-shift capacity of TA-55/PF-4 to at least 80 pits per year by 2022 [*FY2011 Biennial Plan and Budget Assessment on the Modernization and Refurbishment of the Nuclear Security Complex*, Table D-2, 2010]. This is the same capacity that Los Alamos estimated in 2003 would be achievable if "some existing non-weapons missions may be moved elsewhere to provide about 3,000 square feet of additional floor space for pit manufacturing activities" [*Summary of TA-55/PF-4 Upgrade Evaluation For Long-term Pit Manufacturing Capacity*, LA-UR-03-2711]. This was certainly a modest requirement compared to the $3.7 to 5.8 billion monstrosity that CMRR-NF has turned into.

7. It is worth recalling that, in 2003, the same year NNSA published the CMRR EIS, it also published a draft Environmental Impact Statement (DEIS-0236) on a proposed $2-4 billion Modern Pit Facility that would have had a one-shift production capacity of 125-450 pits per year. The already-mentioned review by the American Physical Society, which concluded that this capacity was vastly oversized, contributed to the NNSA withdrawal of this proposal. Since that time, the downsizing of the U.S. stockpile and the findings on the expected longevity of the existing US pits have more than vindicated this decision. Given that the estimated cost of the CMRR-NF is now

$3.7-5.8 billion, its justification is similarly obsolete by now. Maximum flexibility should be preserved to rethink its design and the alternatives to building it at all.

The foregoing is signed and declared under penalty of perjury to be true and correct.

Dated: 6 January 2011

Frank N. von Hippel

SUBSCRIBED AND SWORN TO before me this 6 day of January 2011, by Frank N. von Hippel.

Notary Public

My Commission Expires:

Mary N. Chiorello
Notary Public
Expiration Date: 10-25-2011
Commision ID #2351633