



Los Alamos Study Group

Nuclear Disarmament • Environmental Protection • Social Justice • Economic Sustainability

Would Moving the Kansas City Plant (KCP) to Albuquerque Lead toward Nuclear Disarmament?

January 29, 2009; introduction 6/3/09

The following analysis incorporates work by Greg Mello, Darwin BondGraham, Trish Williams-Mello, and Peter Neils. Site visits and interviews in Kansas City in October 2008 were conducted by Greg, Peter, and Trish. Time limitations prevent inclusion of a much larger body of work by us three and others which supports the analysis and conclusions below both in general and in detail, extending them into other subtopics in both the policy and the legal domains. Should circumstances warrant we may add to the present remarks.

We have utilized extensive documentary review, Freedom of Information Act (FOIA) requests, and interviews with dozens of cognizant individuals in the federal government (Congress and the Executive branch), in Honeywell Federal Manufacturing and Technologies (in senior management and cognizant staff), as well as interviews with individuals formerly at Sandia National Laboratories (SNL) in weapons design and production, among still others. The analysis is our own, and I, Greg, the compiler, am responsible for any remaining mistakes.

If a reader has a serious interest in further details about any of the topics below, or in any other topic pertinent to the title question, we will try to assist, drawing upon the balance of this unpublished work and, if necessary and appropriate, additional research.

1. Background

On March 25, 2008, Chris Paine, the Director of the Nuclear Program of the Natural Resources Defense Council (NRDC), described for the National Nuclear Security Administration (NNSA) and others his organization's preferred weapons complex transformation strategy, involving consolidating "the bulk" of the nuclear weapons complex at three sites: the Pantex Plant near Amarillo, Sandia National Laboratories (SNL) in Albuquerque, and Los Alamos National Laboratory (LANL).

I think the Department needs to look at what I call the "Southwest Triangle" alternative of consolidating the bulk of the weapons complex into a triangle represented by Pantex, Sandia and Los Alamos. And also look at the prospect of consolidating uranium processing and fabrication operations either at Pantex or Los Alamos leaving the civilian storage facility that's just been constructed at Y-12 in place to deal with surplus uranium that has been transferred to the civil sector.¹

More recently Paine elaborated other aspects of this strategy, suggesting that NNSA

¹ Testimony of Chris Paine at the Washington, D.C. hearing regarding the Complex Transformation Supplemental Programmatic Environmental Impact Statement (CTSPEIS). (https://lasg.org/documents/CTSPEIS/EIS-0236-S4_FEIS_vol3b-2008.pdf - pp. 2-874 - 2-916)

...upgrade existing secondary manufacturing capabilities at LANL [there are no such capabilities] to meet this [NRDC-proposed production] requirement and transition all support for secondaries from Y-12 to LANL, including capabilities for surveillance, evaluation, testing, maintenance, and limited manufacturing of secondaries, as well as manufacture of materials and components for secondaries.

Once capability has been transferred to LANL, Y-12 will no longer have any role in support of nuclear weapons.²

The apparent primary current focus of this consolidation strategy is NNSA's Kansas City Plant (KCP), located in Kansas City, Missouri.³

The Los Alamos Study Group ("Study Group") and other parties believe these efforts are misguided in several ways. They also have been effectively concealed from the affected public. We oppose them.⁴

In a public meeting called by the Study Group in Albuquerque to discuss this consolidation strategy as regards KCP on August 25, 2008, Jay Coghlan of Nuclear Watch of New Mexico (NWNM) explained the rationale behind his group's extensive efforts to bring KCP's functions to Albuquerque.

In brief, Coghlan said NWNM hopes to "deconstruct" the nuclear weapons complex site by site, consolidating all work at the remaining sites. NWNM also hopes there will be very little work for KCP to do, in part because NWNM assumes the nuclear arsenal will decline dramatically in the relevant time frame. Under these and other NWNM assumptions, no actual "factory" – no new building – would have to be built in Albuquerque. Instead, NWNM believes or hopes KCP functions could somehow be consolidated into existing SNL buildings and functions.

Speaking to another aspect of the overall consolidation strategy, NWNM also believes that moving the remainder of the plutonium from Lawrence Livermore National Laboratory (LLNL), in part to LANL, is or could be part of a consolidation process that could help close LLNL entirely as a nuclear weapons site. At the August meeting, we did not discuss the potential implications of this plutonium consolidation strategy for LANL missions, facilities, and construction, an important subject.

The overall political strategy behind consolidation, as Coghlan explained on this occasion and as others also have expressed it before and since, is to "peel away" congressional delegations from the nuclear weapons complex in the hope of decreasing congressional support.

Assuming such a consolidation strategy was desirable and realistic – neither of which we believe to be the case – what overall policy goals would this strategy serve? Nuclear disarmament and ending nuclear weapons production are two possible policy goals. Neither NRDC nor NWNM

² Chris Paine, speech to staff of the Strategic Posture Review Commission, 8/1/08, Los Alamos Study Group files.

³ KCP's website is <http://www.honeywell.com/sites/kcp/>.

⁴ See Los Alamos Study Group Action Alert #89 and #90, <http://www.lasg.org/ActionAlerts/ActionAlerts2008.htm#AA89> and <http://www.lasg.org/ActionAlerts/ActionAlerts2008.htm#AA90>.

have unambiguously endorsed either goal, though at some times and places they have done so. On recent occasions both organizations have paradoxically endorsed nuclear production.⁵

In the defense of these organizations it is difficult for any of us to “walk back” – *all* the way back – from present U.S. nuclear policies to policies most of us would consider normative or ethical. Yet we must not shrink from doing so, and doing so very clearly. Nobody else is going to articulate what we want if we don’t do it.

The purpose of the present working paper is to examine and discuss “consolidation” as a non-profit strategy, as it applies to KCP. “Consolidation” is now placed in quotes because, in the case of KCP as in other cases, very little actual work would be consolidated. Realistically, in this strategy missions would be *relocated*, and expensive new factories built to house those missions in their new locales.

The organizations and individuals involved in developing and pursuing this strategy have not been forthright with citizens in the target areas. In the case of KCP, virtually no one in the peace, environmental, and social justice communities in Albuquerque knew of these consolidation efforts, which have been under way for about two years, until these plans were publicized by the Los Alamos Study Group.

Other weapons complex consolidation efforts by nonprofits, past and present, (in plutonium warhead core “pit” production, uranium processing and secondary manufacturing, and nuclear weapons physics) are beyond the scope of this paper.

2. Moving KCP to Albuquerque would entail massive new construction.

There are no existing facilities at SNL which could absorb more than a small fraction of KCP’s functions under any conceivable stockpile plan or workload scenario. There is no significant inventory of *large, modern, underutilized, economically reconfigurable* facilities at SNL.⁶ Therefore moving KCP to Albuquerque would entail massive new construction, at SNL or elsewhere.

Large construction projects of any kind ignite powerful political constituencies. This is all the more so when the funding for construction and operation come entirely from elsewhere in the form of unearned income, when the decisions are not connected to economic realities but rather are the product of central planning, when the market for the product is guaranteed by the federal government for a long time (20 or 25 years in the case of KCP, or many parties no doubt think, in perpetuity), when pay exceeds national and regional norms (in the case of KCP, the average

⁵ Paine’s 8/1/08 speech advocates both nuclear abolition *and* preparing for indefinite nuclear production, including production at novel sites requiring large new capital investments. As recently as 8/15/08 Coghlan would not endorse halting plutonium warhead core (“pit”) production when asked by the author during a radio interview on KTAO radio (Taos, NM).

⁶ An additional requirement of *having operations in a centralized location* may be necessary for operational efficiency and the successful establishment of a new high-technology culture involving some 40 different product families, as moving KCP would require. These cultural and management requirements may imply a centralized manufacturing campus that would not be well served with a highly-balkanized layout. These centralized conditions may well be another factor militating against attempting to cobble together a “KCP” equivalent using a collection of existing SNL buildings, to the extent any appropriate, underutilized buildings exist at all.

annual salary and benefit package for employees now stands at \$95,000⁷), and when other economic regional opportunities are drying up.

Any KCP plant built in Albuquerque (KCP/ABQ) would employ between 1,750 to 2,100 workers, in addition to any current SNL employees involved.⁸ KCP currently employs 2,400 people and is shrinking toward a workforce of 2,100.

New manufacturing facilities, somewhere between 0.9 million (M) to 1.4 M total sq. ft. in size, would be required for any KCP/ABQ.⁹ The smaller of these construction options would also entail re-purposing all or part of as many as seven existing facilities at SNL.¹⁰ It is not clear; however, whether re-purposing any existing SNL facilities is possible, whether manufacturing operations could be conducted in such a manner, or whether SNL collocation is feasible at all, in any form.

Such a new building, or combination of new buildings, would rival the size of the very largest buildings in New Mexico, exceeding all but one building (Intel in Rio Rancho) or two (Intel and Cottonwood Mall) in the state in size.

On the basis of our long experience in New Mexico, both in government and advising government, we believe that such a function, and such a facility or combination of facilities, would bring about a significant change in Albuquerque's identity as a city, adding dramatically to its nuclear warhead functions and creating something close to a "full-service" panoply of nuclear missions in the city.

Under this scenario Albuquerque would not just host: 1) the world's second largest nuclear design laboratory, in dollar terms; 2) a huge nuclear warhead storage depot, the world's second-largest, or largest; 3) an expanding DoD nuclear command center¹¹; 4) a NNSA nuclear weapons administrative center, the NNSA National Service Center, the administrative hub for nuclear weapons materials transportation, rivaled in size and budget only by NNSA headquarters in Washington; but also would host 5) a factory – a huge factory by New Mexico standards – making about 85% of the parts for all U.S. nuclear warheads and bombs.

⁷ The KCRIMS proposal includes an average salary package of \$95,000. See Fact Sheet for Proposed Ordinance #080913, 9/11/08, <http://cityclerk.kcmo.org/liveweb/Documents/Document.aspx?q=%2f%2fH%2f1VURFsq3o5MwltCsjXVtQXXnzUYpxPJBIASiemJ7oLimOcw%2bqmkD0usWfsus>.

⁸ The difference between these two estimates mainly arises from the uncertainty about whether and to what extent combining administrative functions with SNL would be either feasible or desirable from the management perspective. This in turn depends on a number of factors, such as whether the KCP and SNL operating contracts are combined, whether KCP functions are located at SNL or elsewhere in Albuquerque, and in the former case, how many buildings are involved (with how much maintenance and overhead). See GSA & NNSA, "Environmental Assessment [EA] for the Modernization of Facilities and Infrastructure for the Non-Nuclear Production Activities Conducted at the Kansas City Plant," DOE/EA-1592, April 21, 2008 (EA), pp. 21, 85-86, and 98, http://www.gsa.gov/gsa/cm_attachments/GSA_DOCUMENT/EA_R2-q-142_0Z5RDZ-i34K-pR.pdf. It is not clear why the EA uses a workforce estimate of a little less than 2,000 workers (and why this figure must be inferred from others given), as opposed to 2,100 workers (the figure most often cited publicly for Botts Road employment in the KCRIMS proposal).

⁹ NNSA, Final EA, p. 14.

¹⁰ Ibid.

¹¹ Charles Brunt, "Kirtland To Watch Over U.S. Nukes," *Albuquerque Journal*, 11/9/08, <http://www.abqjournal.com/news/state/09111758state11-09-08.htm>

With Los Alamos National Laboratory (LANL) the designated plutonium warhead core (“pit”) manufacturing site, New Mexico would be, under this scenario, manufacturing all but a few nuclear weapons components. Nuclear weapons are already the state’s most lucrative “manufacturing” export, but to date these “exports” have been largely intellectual and ideological in nature. Under the nuclear consolidation scenario that would change. The state’s identity could not then help but shift, as would the self-understanding of its largest city, as well as its politics, economy, and culture.

NNSA’s business case analysis (BCA) analyzing KCP options, written by Science Applications International Corporation (SAIC), and bearing NNSA’s logo on its cover, concluded that collocation of KCP functions at SNL probably would not be feasible (nor, if assumed feasible, cost-effective).¹²

As SAIC wrote,

...[T]his study was not able to envision how to make this [collocation at SNL scenario] practical. The two alternatives to providing one million square feet of useful space inside the fence at SNL-AL are: (a) a line-item construction project and (b) a commercial development and lease on Government property. Both these alternatives are very challenging in terms of near-term planning, administrative approvals and execution. This makes formulation of an executable scenario to achieve the most optimistic savings problematic.¹³ (emphasis added)

In spite of its admitted lack of realism and its “problematic” character, the SAIC, under NNSA supervision, went ahead and analyzed this “most optimistic” case, collocation and consolidation at SNL in its BCA.¹⁴

While “near-term, planning, administrative approvals and execution” would indeed be “very challenging” for a line-item construction project at SNL, it is not clear why these activities need be completed right away under any scenario, because we question the magnitude of the savings NNSA could achieve by moving out of its existing BFC facilities. Without these great savings, the business case for moving from BFC, let alone moving in the “near term,” still less moving to Albuquerque, evaporates.

We agree with SAIC that building a *privately-owned, commercially-leased* factory for nuclear weapons within Kirtland Air Force Base (KAFB) makes no sense at all. Such a plan would be the worst of all worlds.

¹² NNSA, “Relocation of Non-Nuclear Production to an Alternate Location Business Case,” Revision 2, SAIC, October 18, 2007, http://www.gsa.gov/gsa/cm_attachments/GSA_DOCUMENT/Relocation_of_Non-Nuclear_Production_to_an_Alternate_Location_Business_Case_R2-x-u4J_0Z5RDZ-i34K-pR.pdf. The Final EA and subsequent Record of Decision (ROD) depend upon both Revision 2 and Revision 3 of this report. As of this writing we do not have Revision 3, though a summary of Rev 3 findings, which are very similar to Revision 2, is available in the EA in its Appendix B, on pp. 159-162.

¹³ Ibid., p. 26.

¹⁴ It is possible that SNL (i.e. Lockheed) might, if given the opportunity, publicly or privately exaggerate, inadvertently or intentionally, the capabilities of its existing facilities in order to minimize the apparent up-front costs and risks of absorbing KCP (“low-ball” the costs). This has happened before. As the EA notes (footnote 4, p. 7), “...the transition of neutron generator production to SNL/NM did not meet the pre-transfer forecasts regarding potential benefits and savings.” For all we know “optimistic” representations may have already been made. For more on this subject see also text and notes below.

Even with this collocation-at-SNL assumption, as well as other highly optimistic assumptions (e.g. regarding transition time), SAIC found that collocating KCP at SNL would not result in net savings. Even with these optimistic assumptions the Albuquerque option was estimated to cost NNSA \$856 million more than the KCRIMS proposal in the early years (up to 2016), while exposing NNSA to serious additional program risks, including the potential loss of component production for an extended period of years. A more realistic schedule for establishing a KCP/ABQ would push the early-year excess cost penalty well over \$1 B.

It is not clear why SAIC and NNSA chose, in their BCA, to analyze a scenario they believed to be impractical.

In the Final EA the only NM consolidation alternative analyzed by NNSA was the one that SAIC (and NNSA, on whose letterhead the SAIC study was published) had characterized as “problematic,” namely collocation at SNL.¹⁵ This is because other options generated insufficient potential economies to be worth the risks and costs. In other words, they were even more impractical.¹⁶

It is not clear why NNSA and GSA chose to analyze this impractical scenario in their EA.¹⁷

¹⁵ Final EA, p. 14.

¹⁶ Final EA, p. 19.

¹⁷ The impracticality of the KCP/ABQ option (and, even more so, of other non-Kansas City options), is discussed in the EA on pp. 6-7:

First, DOE had twice decided, after examining a number of alternatives outside of Kansas City in the 1993 EA and 1996 PEIS, to consolidate these activities for electrical and mechanical parts in Kansas City, and has been implementing these decisions for more than a decade. Second, as the 1996 record of decision concluded, the technical risk associated with relocating and requalifying these activities at one or more of NNSA’s other sites is great. This conclusion was confirmed by the Department’s experience in consolidating the manufacture of neutron generators at SNL/NM from Pinellas after the 1993 EA. [footnote 4] Third, studies conducted on NNSA’s behalf by Science Applications International Corporation (SAIC) indicated that moving these operations to a distant location would be prohibitively expensive (SAIC 2008).

A number of comments received on the draft EA stated that the federal agencies should evaluate alternatives at locations outside of Kansas City. Many of these comments suggested that NNSA should evaluate moving its KCP operations to SNL/NM in Albuquerque, New Mexico. Although NNSA believes that alternatives involving long distance relocations of production and procurement activities for these two types of nonnuclear components remain unreasonable, it decided to analyze several such alternatives in response to these comments.

Footnote 4 adds important detail:

While some savings have been realized by closing Pinellas, the transition of neutron generator production to SNL/NM did not meet the pre-transfer forecasts regarding potential benefits and savings. Specifically, the square footage requirement is 64% of the old operation while the capacity has been cut by two-thirds. Costs have risen to \$140 million per year, even more than the inflation adjusted cost for the product line at Pinellas. Production ceased for more than five years. SNL/NM acknowledges that it underestimated the cultural challenges in collocating design and production, including the observation that attempting to fabricate development components in a production environment was very difficult. Finally, SNL/NM concluded that building an autonomous production facility near a design facility was not cost effective as the final cost was more than double the original estimate (Sandia 2005).

KCRIMS, as well as any possible KCP/ABQ option, would involve significant downsizing in gross facility space from present operations. Operations at NNSA's BFC *apparently* use about 3.1 M sq. ft. (some of the included space may be unusable).¹⁸ The scale of the proposed Botts Road factory under KCRIMS is variously described as "about 1 million gross sq. ft.,"¹⁹ "1.4 million sq. ft.,"²⁰ and most recently "1.850 million sq. ft."²¹ It is not yet clear, given the range of nuclear weapons policies being discussed, that the gross physical space involved in any future KCP option, including any KCP/ABQ option, could be made much smaller than that proposed in KCRIMS. Minor decreases in administrative space might be possible in some collocation scenarios.

It is not clear to us that NNSA is using, or needs to use, all of its 3.1 M sq. ft. at the BFC. The most recent (February 2004) description of NNSA Project 99-D-127, "Stockpile Management Restructuring Initiative (SMRI)/KCP," is described as resulting in an NNSA footprint at BFC of 2.703 M sq. ft., noticeably less than 3.1 M sq. ft. This 7-year \$136 M project, which "allowed

The citation is to SAND2005-2873, also cited here. Members of the Study Group who have worked in the SNL neutron generator program and other SNL programs have told us of numerous problems encountered and/or generally support these conclusions. We believe the issues raised here by NNSA and SNL are highly credible.

The EA also addresses the impracticality of the KCP/ABQ option at pp. 143-144:

Although the federal agencies believe alternatives involving long-distance relocations of KCP's production and procurement activities remain unreasonable, they have decided to analyze several such alternatives in response to these comments....The federal agencies believe these new alternatives continue to be unreasonable because of their high cost, risks of delay in resuming production, and (as to those that make use of existing space at LANL or SNL/NM) their failure to fully achieve the benefits of a modern manufacturing facility.

The possibility of a "hybrid" option that uses existing facilities at SNL and LANL is rightly dismissed on p. 144:

The agencies concluded this alternative is wholly unreasonable because it would not meet NNSA's need to modernize and consolidate KCP's activities: (1) dispersing KCP's production activities between the two weapons laboratories would require NNSA to replicate many capabilities at each laboratory; (2) dispersing these activities would prevent NNSA from improving utilization of capital assets; (3) over 50% of nonnuclear components are currently procured from more than 350 commercial suppliers under a procurement system managed by KCP, and dividing these responsibilities between the two laboratories would require that each lab manage a subset of these suppliers and the supply chain staffs at each lab would need to increase to handle these procurement responsibilities; and (4) as KCP currently manages the scheduling for nearly all major non-nuclear components and assemblies, dispersing its products to LANL and SNL/NM would result in a significant increase in scheduling complexity of procurements and deliveries.

The EA discusses comments critical of its business case analysis – which is not, strictly speaking, part of NEPA analysis except as regards alternative selection – extensively on pp. 158-163.

¹⁸ NNSA KCP factsheet, http://nnsa.energy.gov/defense_programs/documents/KCPFactSheet_v8-1.pdf.

¹⁹ Ibid.

²⁰ EA, p. 13.

²¹ Kansas City Planning & Development Department, Staff Report, Case No. 670-S, September 2, 2008, <http://cityclerk.kcmo.org/liveweb/Documents/Document.aspx?q=%2f%2fH%2f1VURFsq3o5MwltCsjXVtQXXnzUYpxPJBIASiemJ7oLimOcw%2bqmkD0usWfsus>. The wide variation in these numbers is unsettling.

the KCP infrastructure to be altered and greatly reduced from the current plant profile, substantially reducing costs to operate the KCP,” was completed just 3 years ago, in FY2005.²²

It is not clear what changes in NNSA policy since 2005 have resulted in a complete turnabout in NNSA plans, from a methodical 7-year-long capital investment in upgrading existing facilities to suddenly abandoning those facilities in favor of new, locally-financed and –owned construction at another site.

One way NNSA might build a smaller factory (in Albuquerque or Kansas City), at least in principle, might be to further increase outsourcing beyond the level contemplated in KCRIMS. This idea is problematic from the management perspective and is discussed further below.

One can imagine other scenarios in which it might be possible to have or build a smaller nuclear weapon component factory. These include: a) having fewer nuclear weapons; b) making fewer kinds of components for them; or c) making those components at a slower pace. Note that to affect design capacity NNSA would need to view these desirable changes as non-retrogressive.

At the moment it is unknown whether the nuclear arsenal will be declining beyond the levels proposed by the Bush Administration and assumed in the KCRIMS proposal, which is to say a decrease from around 10,000 to around 6,000 total warheads and bombs. While the arsenal *could* decline further – a figure as low as 1,000 total warheads and bombs is sometimes mentioned²³ – this outcome, its timing, and the degree of weapons innovation which might be involved (all of which bear on the KCP workload and the capacities which NNSA would want to design into the plant) are highly speculative at this point. NNSA cannot plan for speculative outcomes. Prudent managers in any enterprise will not save, say, 10% of a buildings’ overall cost to end up with only half the capability, especially in an uncertain decision environment.

As far as KCP production capacity is concerned it is not realistic to assume that U.S. will have a dramatically smaller nuclear stockpile than is now planned, as much as some of us would prefer that outcome. It is, unfortunately, also prudent to assume that *if* a much smaller stockpile is chosen it might involve new warhead manufacturing or substantial modification – the “build down” approach.²⁴ These are not our own preferred outcomes but they are possible.

If the arsenal does decline to significantly lower than the planned 6,000 warheads and bombs it is likely to do so at a rate too slow to be relevant to decisions about near-term capital investments for KCP. The future size and composition of the nuclear arsenal are likely be the subject of intensive domestic and international debate and diplomacy. These take time. It is likely that any reductions in U.S. nuclear arms would be linked to reductions in Russian nuclear arms, to as-yet-unforeseen diplomatic breakthroughs regarding missile defense, and to other positive developments.

²² NNSA FY2005 Congressional Budget Request [CBR], Volume 1, p. 301ff, http://www.cfo.doe.gov/budget/05budget/content/volumes/Volume_1.pdf.

²³ For example see Jay Davis, “A Functional look at the Nuclear Force,” Weapons and Complex Integration Distinguished Speakers Series, June 27, 2008 [find link].

²⁴ See for example Elaine Grossman, “U.S. Air Force Might Modify Nuclear Bomb,” *Global Security Newswire*, 9/26/08, http://www.nti.org/d_newswire/issues/2008_9_26.html#B8705677 and “Military’s RRW Alternative Is Warhead Life Extension,” *Global Security Newswire*, 9/12/08, http://www.nti.org/d_newswire/issues/2008/9/12/be15fee4-2ec3-4922-b25b-1a46023a926b.html.

Instead of these hypothetical positive developments, which could in principle allow KCP downsizing over time, U.S.-Russian relations are deteriorating, and Russia has been re-investing in nuclear weapons for some years now.²⁵

Even if the arsenal were to shrink dramatically and with non-regressing assurances, with required responsive production capacity shrinking at KCP, the physical scale of KCP would not scale down proportionately. The overall scale of KCP would not decline in proportion to stockpile size, the number and complexity of Life Extension Projects (LEPs) undertaken, or even to the required production capacity.

According to NNSA, the choice of whether or not to produce Reliable Replacement Warhead (RRWs) will make no difference in needed facility size at KCP.²⁶ We suspect this may be true though we cannot be sure.

Why? At present KCP is responsible for about 40 product lines of three general types: special materials, electrical components, and mechanical components.²⁷ Each of these capabilities has some minimum size in terms of equipment, physical space, staff, and support functions. Common functions are also required, ranging from administration and purchasing to metrology, waste management, and dozens of others. Some of these too have minimum sizes. All must be sized not just for production but also for contingencies and long-term personnel continuity, assuming a nuclear deterrent is to be maintained. This is not what some of us want, but it's the reality.

We can suppose that if the U.S. arsenal were only 10% of current size, with no "breakout" capacity provided for at all, a facility to house KCP functions presumably could be *somewhat* smaller than KCRIMS – but not *that* much smaller, because the number of component types and associated production lines would not be *that* much smaller. KCP's functional requirements and scale are functions of the diversity of its product lines, not a quest for economies of scale.

What about outsourcing? Further increases in outsourcing beyond that proposed in KCRIMS would likely be problematic. KCRIMS would increase the fraction of component outsourcing by 15% from its present level.²⁸ There are limits to outsourcing, because of security and security-related costs, low production volumes and associated high per-unit costs, the unpredictability of possible production runs (e.g. emergency new production that might follow a negative surveillance finding), and the coordination and feasibility of just-in-time production and deliveries under future economic conditions.

We cannot help but suspect that KCRIMS itself relies on unrealistic assumptions about vendor stability and reliability in a period of economic weakness, and possibly also on unrealistic assumptions about reliability, cost, and predictability of transportation in a world approaching, or

²⁵ See for example Luke Harding, "Russia challenges west with nuclear overhaul," *Guardian*, 9/27/08, <http://www.guardian.co.uk/world/2008/sep/27/russia>.

²⁶ According to senior NNSA officials, the scale of the future KCP facility is completely independent of RRW policy decisions. Personal communication with William Ostendorff, NNSA Deputy Administrator, September 2008.

²⁷ NNSA, "Kansas City Plant, National Security Asset," January 2008, http://www.gsa.gov/gsa/cm_attachments/GSA_DOCUMENT/FactSheet2008_R2-q-142_0Z5RDZ-i34K-pR.pdf.

²⁸ NNSA KCP factsheet, http://nnsa.energy.gov/defense_programs/documents/KCPFactSheet_v8-1.pdf.

more likely past, the all-time peak in oil production rate.²⁹ (As the weeks have passed since the present paper was first drafted, these remarks have only gained in importance and we hope also in credibility with our federal audiences.)

Honeywell Federal Manufacturing and Technologies (HFMT) President Vince Trim, KCP's chief operating executive, discussed some of these outsourcing issues in an interview with Todd Jacobsen:

Because the complex is based on maintaining capability, it is very difficult to try to put a commercial business case around what is done in the complex because commercial entities want growth, they want predictability, and we do not have a lot of that in the complex. We looked at it, and I think many have, and it is not that it is impossible or could not work, but picture trying to shop obsolete technologies across the country or to try to get companies interested in doing work that might be obsolete or only has one unique purpose and requires heavy capitalization. It would still be expensive because you have to maintain the capability. It has worked in some circles in DoD if you have a predictable demand and you know that you need X number of deliverables over a certain period of time then you can load all those costs in a better price and get the recovery and make a business case out of it. Trying to put that business case around nuclear weapons is very, very difficult. We have looked at it because we want to find new ways to deliver value to the NNSA.³⁰

The “disarmament” activists who want more outsourcing of nuclear weapons production in order to avoid centralized nuclear weapons employment are by this means seeking nuclear weapons investment in multiple corporate organizations (and located in multiple places), all of which have strong incentives for market expansion and growth, and multiple political opportunities to promote that agenda. Consolidation with outsourcing may very well prove to be a kind of political diaspora, generating more constituent interest in more congressional districts than before “consolidation.”

As noted above, some have suggested that warhead component R&D (SNL) and production (KCP) could be combined, *potentially* saving a little money and space (roughly 12% of the currently-required effort, according to SAIC). Two of our advisors who worked at SNL (one in neutron generator production) have told us that this combination would be unwise – and would be recognized as unwise by production managers. This is also SNL's official view.³¹

It is not clear to what extent current and hoped-for “work for others” (WFO in NNSA budgeting argot – work for non-NNSA entities such as other federal agencies, industry, and foreign governments³²) influences the proposed nature and scale of KCP operations and therefore the nature and scale of the manufacturing space required for KCP.^{33,34}

²⁹ See discussions at www.theoil drum.com.

³⁰ Vince Trim interview with Todd Jacobsen, *Nuclear Weapons and Materials Monitor*, 8/4/08, pp. 8-10.

³¹ See Lani Sanders, et. al., “Transfer of the Neutron Generator Production Mission to Sandia: Lessons Learned for Nuclear Weapons Complex Consolidation and Collocation of Production and Design,” May 2005, SAND2005-2875.

³² NNSA, “Kansas City Plant, National Security Asset,” January 2008, http://www.gsa.gov/gsa/cm_attachments/GSA_DOCUMENT/FactSheet2008_R2-q-142_0Z5RDZ-i34K-pR.pdf.

In sum, any KCP/ABQ would require construction of more or less the same factory space as is proposed for KCRIMS and would require the employment of more or less an equivalent number of workers. There are of course many unknown factors involved in moving a plant of this type and size anywhere; however, moving out of state creates an even greater problem hiring the skilled workers necessary, or training what workers are available, in addition to transferring some critical personnel. The required scale of KCP operations, wherever they are located, is relatively insensitive to nuclear policy choices.

3. The problems associated with privatization in Kansas City affect Albuquerque options to an equal or greater degree.

Since any KCP/ABQ collocated with SNL would be “impractical,” according to SAIC and NNSA, the most realistic KCP/ABQ option for the bulk of the work is likely *private* development *outside* KAFB.³⁵ Both for the sake of speed (which is said to be needed to avoid the greater costs of operating the BFC, an assumption we question) and in order to avoid federal land acquisition and associated administrative balkanization of federal military land holdings in Albuquerque.³⁶

With operations in Missouri, New Mexico, and Arkansas, Kansas City Plant customers include the NNSA, DOE, national labs, DoD, other government agencies, United Kingdom and industry partners....Our unique expertise extends beyond the nuclear weapons complex to benefit national security, enhance the global competitiveness of U.S. businesses, and promote nonproliferation. Our Work for Others program helps others develop new processes and products, while defraying NNSA costs.

³³ EA, p. 148: “...workforce reduction estimates presented in the draft EA...did not take into account the anticipated increase in work that KCP would perform for other entities at the new facility.” NNSA anticipates future WFO to require approximately 220 full-time employees (EA, p. 71), about 10% of the total.

The increase in WFO has affected the space required for KCP operations at the BDC:

Since 1996, KCP has rearranged and consolidated several product lines into a smaller process-based configuration. While this consolidation has been somewhat successful, KCP’s workload (including its work for other agencies – i.e. its “work for others”) grew beyond forecasts during this period, so the reduction in facility square footage was not as great as anticipated in 1996. (EA, p. 142)

Growth in WFO contributes an unknown part of the growth in total space thought required for KCP at the BFC, which grew from 2.3 M sq. ft. in February 1998 to 2.7 M in February 2004, a 17% increase, as comparison of DOE and NNSA descriptions of Project 99-D-127, Stockpile Manufacturing Restructuring Initiative, Kansas City reveals. As previously noted, NNSA claims it uses 3.1 M square feet today at the BFC today.

³⁴ The EA mentions an apparent requirement for “high bay, clear span” factory space in its discussion of Alternative 3 (p. 10), and Alternative 4 (p. 12). Alternative 2, by definition reasonable, does not include such space. We do not know whether, or why, “high bay, clear span” space is needed. Neither do we understand why such space could not be economically provided within NNSA’s existing BFC facility, including on the building perimeter if necessary for access, if in fact that has not already occurred.

³⁵ We refer here and elsewhere to Revision 2 of the SAIC BCA. There is a Revision 3, which we do not have as of this writing, the conclusions from which are summarized on p. 158ff of the Final EA. The overall conclusions have not changed between revisions. A measure of the optimism employed in these reports – or the political pressure applied – is the inclusion of a Los Alamos National Laboratory (LANL) option. LANL is a very poor location for a non-nuclear manufacturing facility for a host of geographic reasons.

³⁶ The reasons collocation at SNL would be “impractical” imply that any KCP/ABQ external to SNL but within KAFB would also be impractical.

We believe the problems, issues, and long-term greater costs associated with private development will apply in spades in New Mexico, to at least the degree we see in KCRIMS.³⁷

Surely any large government-funded construction project in New Mexico which is not subject to the most careful line-item review and project management protocols, including any government-funded development (and especially one culminating in private ownership) will engage New Mexico's state and local political machines. And no matter where outside KAFB KCP/ABQ was located, large subsidies are virtually assured, as are the resulting inequities.

Mesa del Sol and SunCal, two recent land developments in Albuquerque, show what is possible. In the case of Mesa del Sol, long-term subsidies exceeding \$600 million dollars have already been acquired in tax increment financing alone, as 1000 Friends of New Mexico and New Mexico Voices for Children have noted.

The state-approved TIDDs [tax increment development districts] for [SunCal](#) and [Mesa del Sol](#) (both in Bernalillo County) will siphon a combined **\$52 million annually** from the [state general fund](#) to pay the developers' bills for infrastructure. This pre-approved capital outlay to private developers for the next 25 years **amounts to the combined general fund capital outlay given in 2008 to 31 of the state's 33 counties**, with only Santa Fe and Bernalillo counties excluded. Over the 25 year life of just these two projects, the state will have diverted over \$1.3 billion in general fund revenue.^{38,39} (emphasis and links in original)

Additional infrastructure construction subsidies (about \$24 million) and millions of dollars in subsidies for specific industries and companies located at Mesa del Sol are also in place.⁴⁰

The annual scale of these existing Albuquerque-area tax increment subsidies is 20 times that proposed for KCRIMS in Kansas City (\$52 million vs \$2.6 million per year). Those who

³⁷ KCRIMS is not a strictly private development. The KCRIMS facility would at first be owned by an agency of the City of Kansas City, the Planned Industrial Expansion Authority (PIEA), which would issue bonds for site development and construction. The developer would build the facility, and lease the land from PIEA under a lease-to-own arrangement. NNSA would in turn lease from the developer. After 20 or 25 years, the developer would own the site and the facility in fee simple. Thus KCRIMS would be a partnership between local government, NNSA, GSA (under whose auspices all this is being arranged) and a developer yet to be chosen. Other public- and private-sector actors also would be involved in funding some of the local infrastructure development needed. There are indications that GSA and PIEA do not themselves understand the financing of this plan, or if so they have not shared their full understanding with local journalists. See Rob Roberts, "Main players struggle to explain financing for NNSA plant," *Kansas City Business Journal*, 10/29/08, <http://kansascity.bizjournals.com/kansascity/stories/2008/10/27/story3.html?b=1225080000^1721175&surround=etf>

³⁸ 1000 Friends of New Mexico, "TIDD [Tax Increment Development District] Factoid No. 1," 8/1/08, <http://www.1000friends-nm.org/2008/08/01/tidd-factoid-no-1/#more-167>. See also New Mexico Voices for Children, "Bipartisan bill to halt raid of state General Fund: \$1.1 billion in future state General Fund promised for just two developments," 1/30/08, http://nmvoices.org/pressreleases/pressrelease_2008_bipartisanbill.html.

³⁹ Andrew Webb, "Funding For Mesa Del Sol Debated," *Albuquerque Journal*, 12/10/06, <http://www.abqjournal.com/news/metro/519786metro12-10-06.htm>.

⁴⁰ Mesa del Sol's largest industrial tenants to date are in the film industry, which receive a direct 25% subsidy of New Mexico expenses from the state. See for example Dan Mayfield, "Bill Would Cap Film Credit," *Albuquerque Journal*, 2/1/08, <http://www.abqjournal.com/news/xgr/281731xgr02-01-08.htm>. The solar equipment industry is the second largest class of tenants at Mesa del Sol; these companies also receive subsidies and location incentives.

advocate bringing another huge nuclear weapons employer to Albuquerque are playing with nuclear-subsidy fire.

With worldwide capital markets in crisis and what augers to be a prolonged, deep recession now underway, New Mexico politicians are likely to listen very attentively to any sales pitch that involves two thousand high-paying jobs and a half-billion-dollar construction project. In a worst-case scenario, if the KCP were moved to Albuquerque you can be certain that not all the “available” jobs will be filled by New Mexicans. There will be a certain number that are filled by skilled workers that are transferred from KCP. New Mexico politicians are very likely to offer whatever subsidies are necessary to bring this plant to New Mexico – bleeding tax coffers for other (less violent or even “green”) purposes.

The same forces and people who would support these subsidies – that is, nearly every New Mexico politician – can also be counted upon to fiercely protect any future KCP/ABQ, once established, against any and all budget cutbacks. Some will aggressively seek other developments that might find institutional synergies with the new plant and related local industries, both nuclear and military. New Mexico’s nuclear military corporate powerhouses can be counted upon to smooth this development (and the career paths of helpful politicians) in every way.

4. New Mexico is one of the most corrupt states in the U.S.

The abuse of power by public officials goes back a long way in this state [New Mexico], said Special Agent Marcus B. McCaskill, with the FBI’s White Collar Crime Program. Their motivation is a desire for more money, more power or both...“We get Fs in New Mexico from every ethics group in the nation,” he said. “It’s a universal problem but it is a problem worse in New Mexico. We are in the top five in the nation.”

Special Agent In Charge Thomas C. McClenaghan explained that public corruption is one of the hardest cases to make.

“I think we could put our entire office of 117 agents in this state on public corruption and we wouldn’t be able to cover it all because there is so much,” he said...

“Our weeks are pretty busy and the cases are intensive in terms of resources needed,” McCaskill said. “Our whole squad could be devoted to public corruption and we still wouldn’t have enough people.”

McCaskill travels around the United States in the course of his work and spoke of encountering a “corruption perception” about New Mexico.

Employees of companies involved in brokerage services, investment banking and asset management are actually reluctant to do business in New Mexico because of that negative perception.

“It bothers me,” he said, “when people say they don’t want to do business in New Mexico because ‘you’ve got to pay to play.’”⁴¹

Government-funded construction is often a fertile ground for corruption. The history of New Mexico, including its recent history, is anything but an exception. Consolidating the nuclear weapons complex into such a milieu invites a host of problems and dangers – political, managerial, and worse.

5. Should any KCP/ABQ option be chosen, New Mexico’s identity as a state, its extensive history of nuclear promotion, and its political structure would assure that KCP’s functions, which up to now have had little or no effect on nuclear policy, would become politically potent.

“Nuclear missions and technologies don’t come to New Mexico to die – they flourish here,” former Albuquerque Center for Peace and Justice Coordinator Maria Santelli recently said.

New Mexico is a nuclear “hothouse” and has been for 65 years, and New Mexico-based nuclear promotion has if anything strengthened in recent years. With Senator Domenici’s retirement looming every effort was made to protect, diversify, and stabilize this promotion. New Mexico’s nuclear promotion didn’t begin with Senator Domenici. It extends back at least to the days of Clinton Anderson, and it shows little sign of dying away.

Few politicians are as powerful as Senator Domenici was. Yet the reality of New Mexico’s nuclear promotion is not confined to any single person or to a single state’s congressional delegation. New Mexico’s nuclear institutions have carefully woven a web of political influence that knows no boundaries. The idea that the influence of *any* state’s nuclear weapons facilities is largely confined to that state’s congressional delegation is – well, quaint.

In part this influence is financial. Political money goes where it needs to go to get the job done. The more powerful influences, however, are due to these institutions’ roles in the development of nuclear ideology, which flows more freely than money in a society like ours. This society, made vulnerable and weak by these influences, now stands prey to despair about its future and staring directly at decline and possible fall.

New Mexico, in its culture and civil institutions as well as in its government, is very far along toward becoming not just a “nuclear colony” unwilling and unable to resist laboratory initiatives, but *an active partner* in promoting nuclear institutions and technologies, nuclear weapons among them.

In our experience, New Mexico’s poverty is openly or tacitly cited by a wide range of New Mexico opinion leaders as a reason to support nuclear weapons on virtually every occasion. This perverse attachment has been likened to the “Stockholm Syndrome” in which hostages come to identify with those who threaten them, or to a feudal system involving fealty to a powerful lord, or to an abusive interpersonal relationship.

The combination of 1) poverty, 2) a small population and overall state economy with high net federal spending (New Mexico has led all states in net federal spending per capita since 1981) and, within this category, 3) high *nuclear weapons* spending, 4) New Mexico’s historic role in

⁴¹ Carol Clark, “White collar crime’s a dirty business: FBI battles a state load of public corruption,” *Los Alamos Monitor*, 4/22/08, <http://www.leni5.com/cgi-bin/storyviewarchive.cgi?075+2008423.News.2008421-3049-075-075007.archive+News>.

nuclear weapons development, and 5) the constant, powerful public relations efforts on the parts of New Mexico's nuclear institutions, has led to the growth of a *nuclear weapons identity* in New Mexico, which includes the widely and strongly held perception that New Mexico is "dependent" on nuclear weapons spending.

This illusion is endlessly amplified by leading authorities, including and especially political leaders and among these Senator Domenici above all, whose political career was based on this illusion. Senator Domenici learned that elections can be won easily on the basis of bringing nuclear "pork" to New Mexico, even if that pork does not result in economic development. It is the *perception* that matters electorally. That perception or myth is eagerly disseminated by uncritical news outlets to form one of the most enduring political ideas in New Mexico. One of Senator Domenici's lasting legacies is his outsized contribution to the political myth of nuclear economic dependence in New Mexico.

This modern New Mexico myth sustains our peculiar political alchemy, one that transmutes the cry of the poor – and increasingly, of the endangered middle classes – into a cry for nuclear weapons pork-barrel spending, which spending sustains and legitimates a national security paradigm that omits any concern for their real security.

Nuclear dependence has thus become our state's official brand of identity politics, informing and debasing a wide variety of decisions, from what issues to place front-and-center in current political campaigns (protection of jobs at the labs, of course!) to the name of our minor league baseball team (the Isotopes).

All available data show that even the most liberal New Mexico politicians (e.g. Tom Udall), have wholeheartedly supported nuclear weapons and nuclear weapons institutions, even when this support conflicts with other aspects of their political identity. There is no reason to think that future New Mexico politicians will not do the same to the very best of their ability. If these elected officials place themselves on committees which deal with laboratory affairs in any way they will be not just *enthusiastic* lab supporters but *powerful* ones as well.

In this regard the following anecdote can stand for many. In 2007, the New Mexico Democratic Party refused to oppose Senator Domenici's reelection even when he became weakened by scandal.⁴² The reason for this, as explained by one of Mexico's most senior Democratic leaders, was his proven ability to get money for New Mexico.⁴³ In the New Mexico context "getting money," given Domenici's committee positions, means getting money for the national labs. In other words, it was more important to the New Mexico Democratic Party to preserve for as long as possible maximum nuclear lab spending than it was to run any serious candidate against the state's senior Republican, even when he was weakened. (Subsequently Senator Domenici announced his retirement for health reasons at the conclusion of his term that ended in January 2009.)

As this anecdote and many others that could be mentioned show, the nuclear laboratories and military facilities in New Mexico have played an important role in pulling state politics to the political right. Adding KCP's functions to the mix, even discounting any future military-industrial locational decisions that might flow from that decision, would only intensify those

⁴² For a quick refresher on this scandal see for example http://en.wikipedia.org/wiki/Pete_Domenici.

⁴³ Anonymous senior Democratic informant.

forces. Among other effects, increasing the nuclear-military dependence of the NM 1st Congressional District increases the probability of Republican congressional victories, in the pattern of Heather Wilson (conservative, 5 terms) or Steve Schiff (moderate; he died in his 5th term) before her.

Anecdotes about the influence of the NNSA labs on New Mexico political and cultural institutions would make fill volumes. Their upshot is that New Mexico currently possesses no institutions capable of resisting nuclear expansion.

6. Poor New Mexico – so far from God and so close to Los Alamos.

The social and economic outcome associated with New Mexico's nuclear fealty is plain. New Mexico is unique among the states in its combination of high poverty rate (25.5% for children, the 4th highest among states, and 18.1% overall, the 3rd highest among states)⁴⁴, its high and growing income disparity (6th among states and rising)⁴⁵, its low median family income (48th among states)⁴⁶, and its consistent last-place standing in composite measures of overall social health, with a score significantly lower than next-to-last Mississippi.⁴⁷

New Mexico ranks poorly among the states in K-12 education (43rd) and health care (49th), though we do excel at crime (2nd among states).⁴⁸

New Mexico's economic standing relative to other states has fallen in the past three decades, coincidentally or not at the same time real laboratory appropriations have dramatically increased. New Mexico's social performance has in fact fallen over the last decade.

Why doesn't any of this change for the better? New Mexico has weak political institutions, including a volunteer, sparsely-staffed legislature that meets at most 8 weeks per year. Its flagship university is weak and increasingly dependent upon military-related funding. There are very few if any fresh social and economic development ideas percolating from the University of New Mexico and (to the author's knowledge) none which question the "positive" role of nuclear spending in the state, or for that matter question the dominant economic development paradigm at all. New Mexico's state environmental bureaucracy, partially dependent upon the Department of Energy (DOE) for funding, tolerates without a murmur large-scale nuclear waste disposal in open shallow pits at Los Alamos not 200 yards from historically-utilized springs and directly

⁴⁴ Census Bureau, American Community Survey, 2007 estimates, tables R1701 and R1704. See also Sean Olson, "24% of N.M. Kids in Poverty," *Albuquerque Journal*, 8/27/08, <http://www.abqjournal.com/news/state/271148506090newsstate08-27-08.htm>.

⁴⁵ The measure used is the ratio of top and bottom income quintiles. Jared Bernstein, Elizabeth McNichol, and Andrew Nicholas, "Pulling Apart: A State-by-State Analysis of Income Trends," Center on Budget and Policy Priorities, 4/9/08, <http://www.cbpp.org/4-9-08sfp.htm>.

⁴⁶ Census Bureau, American Community Survey, 2007 estimates, Table R1902.

⁴⁷ Sandra Opdycke and Marque-Luisa Miringoff, "The Social Health of the States 2008," Institute for Innovation in Social Policy [IISP], Vassar College. <http://iisp.vassar.edu/socialhealth08.html>. (This is the successor to the Fordham Institute of the same name.) In its 2008 report, IISP found that New Mexico was the only state to receive an "F" in what IISP has found to be the top three indicators of overall social health: child poverty, high school completion, and health insurance coverage. New Mexico was one of only 3 states with no "A" in *any* social health category. IISP judges that New Mexico has been dead last among states in social health over at least the past 5 years. See also Damon Hill, Fatima Portugal, and Greg Mello, "New Mexico's Economic & Social Health: Existing Policies Are Failing," Los Alamos Study Group, 10/25/05, <http://www.lasg.org/NMecon05.htm>.

⁴⁸ See <http://www.morganquitno.com/>.

above an EPA-designated sole-source aquifer. A single highly-conservative privately owned newspaper serves more than half the state's population. New Mexico has a low rate of unionization (7.8% vs. 12.0% nationally in 2006).⁴⁹

The list of weak or compromised civil society institutions in New Mexico could be greatly extended. The point is this: these striking weaknesses in civil society assure there will be little vigorous public debate about most serious public issues in New Mexico – including and especially nuclear weapons.

7. The far greater political potency of nuclear weapons spending in New Mexico, as opposed to Missouri, is rooted in the fact that DOE and NNSA spending is far more significant in New Mexico than Missouri.

In Missouri, nuclear weapons jobs are important to at least two members of the state's congressional delegation, Senator Kit Bond and Rep. Emanuel Cleaver, in whose district those jobs lie – *important, that is, among other important concerns*.⁵⁰ In New Mexico, nuclear weapons jobs are a political *obsession*. They determine not just congressional votes but play a heavy role in the choice of committee assignments as well.

We have discussed the political myth of nuclear economic dependence in New Mexico. Now let's look at raw spending numbers – the facts upon which the myths are based – and compare the two states. Within the states, we will compare the two congressional districts in question: New Mexico's 1st Congressional District and Missouri's 5th Congressional District.

According to the Bureau of Economic Analysis (BEA) the gross state product (GSP) of Missouri for 2007 was \$229.5 B. DOE spending provided \$0.465 B or just 0.2% of this. From the same source, the 2007 GSP of New Mexico was \$76.2 B, of which \$4.375 B or 5.74% was provided by DOE spending.

DOE spending is thus 29 times more important to the New Mexico economy than it is to the Missouri economy. That is, the fraction of GSP composed of direct DOE spending is 29 times greater in New Mexico than in Missouri.

Within DOE spending, the fraction of GSP provided by NNSA "Weapons Activities" spending, a subset of DOE spending overall, in New Mexico is 16 times more than in Missouri. For New Mexico, the fraction of total income supplied by NNSA nuclear weapons spending is 3.4%.

New Mexico is by far the most nuclear weapons-oriented state in raw dollar terms. If (weapons) money talks elsewhere, it shouts into a bullhorn in New Mexico. The next-most nuclear weapons dependent state, Tennessee, has a nuclear weapons activities/GSP ratio just *one-tenth* that of New Mexico.

The small size of New Mexico's economy and population figure amplify these effects. Every additional dollar in federal spending causes a fractional increase in the New Mexico GSP that is

⁴⁹ Census Bureau, *The 2008 Statistical Abstract*, <http://www.census.gov/compendia/statab/tables/08s0644.pdf>.

⁵⁰ The liberal Senator McCaskill isn't mentioned here. No doubt she favors nuclear job retention in Missouri but her vote for overall nuclear weapons spending, to the extent such spending forestalls other national priorities and requires cuts in other Missouri spending existing and proposed, ought not to be prejudged. Similar considerations apply to every political representative, but in the present context we judge that Senator McCaskill especially is not a reliable vote for the interests of the nuclear weapons enterprise. Rep. Cleaver's background and values likewise do not auger for nuclear promotion, though these particular KCP jobs, and the KCRIMS plan, with the assistance it may provide to other federal and private developments, are in his district.

three times as great as that dollar would in Missouri, just because Missouri has a three-fold larger economy. What would be small or medium-sized developments elsewhere loom large, economically and politically, in New Mexico.

An additional 2,000 or so people making an average of \$100,000 per year would loom very large indeed in Albuquerque, all the more so if a new factory to house them were built, which as we have seen would be required. These workers would number about 60% of the workforce of Albuquerque's largest manufacturing employer, Intel, with its 3,300 employees, but they would almost assuredly be paid considerably better.

The same disproportionate economic and political impact shows up at the congressional district level. DOE spending is much less important economically in the Missouri 5th Congressional District (CD) than in the New Mexico 1st CD.

In 2007 the total income in New Mexico's 1st Congressional District was \$15.6 B, according to the Census Bureau. In Missouri's 5th Congressional District it was \$14.5 B, a comparable number. In New Mexico's 1st Congressional District, 2007 DOE spending was \$2.289 B, some 15% of total income.

In Missouri's 5th Congressional District, 2007 DOE spending was \$0.436 B, only 3% of total income. Thus DOE spending comprises a 5 times greater fraction of income in New Mexico's 1st Congressional District than it does in Missouri's 5th Congressional District.

[Further sections await updating and final editing]