



Los Alamos Study Group

Nuclear Disarmament • Environmental Protection • Social Justice • Economic Sustainability

May 21, 2009

Re: Senate Bill 1054 (Supplemental Appropriations): Section 406: tritium consolidation: support NNSA, close dangerous, wasteful WETF

Dear colleagues --

It has come to our attention that Senate Bill 1054, the supplemental appropriations bill, is being used as a vehicle for the Senate to inject itself into National Nuclear Security Administration (NNSA) management, specifically as regards [NNSA's December 19, 2008 Record of Decision \(ROD\)](#) (pdf) concerning consolidation of tritium functions among NNSA sites as well as a subsequent January 5, 2009 decision to consolidate gas transfer system (GTS) design activities at Sandia National Laboratories' (SNL's) California site.

As described in the [report](#), Section 406 of this bill is a "provision restricting spending on mission relocation of either [1] the design authority for the gas transfer systems or [2] tritium research and development facilities until an independent technical mission review and cost analysis is performed." (Numbering has been added to emphasize that these are different functions.)

This provision is not present in the related House legislation, [HR 2346](#).

We urge lawmakers to strike section 406 from the Senate bill and let NNSA manage the details of its tritium program as it sees fit. Why?

1. NNSA does not need and should not operate duplicative facilities handling large amounts of tritium. Tritium can and should be mostly consolidated, as NNSA has recognized. Consolidating nuclear material and the programs relating to it was a major purpose of the Complex Transformation Supplemental Programmatic Environmental Impact Statement (CTSPEIS) and previous related studies. The Savannah River Site (SRS) has now and will continue to have multiple continuing tritium missions, which may however appropriately shrink in scope and scale. It is not necessary to operate additional tritium facilities at Los Alamos National Laboratory (LANL), Lawrence Livermore National Laboratory (LLNL), and Sandia National Laboratories (SNL, in NM and CA), apart from the small-quantity uses NNSA has identified.
2. Much GTS design does not actually require the physical presence of tritium, especially tritium in large quantities, [as NNSA recognizes](#). Unlike the Senate, we do not presume to advise NNSA on where *all* this design work should be located, but to the extent it involves the active use of tritium we believe it should be located at (SRS), NNSA's designated tritium consolidation site.
3. As explained further below and in the attached excerpts from Defense Nuclear Facilities Safety Board (DNFSB) reports, we believe the Los Alamos National Laboratory (LANL) Weapons Engineering Tritium Facility (WETF) has been, and continues to be, a problematic facility. It has been partially de-inventoried due to seismic concerns and this de-inventoried process should continue at a rational pace over the coming few years, until the facility is eventually wholly de-inventoried. Removing most of the tritium from WETF apparently has been an NNSA goal for some time prior to the CTSPEIS decisions.

WETF's problems cannot easily be fixed. It is very close (less than 0.4 mile, if not closer) to LANL's largest fault, capable of a magnitude 7 earthquake; it is very close (0.25 mile) to the LANL site boundary; it is 0.5 mile from a public campground and surrounding national parklands; and it is surrounded by combustible forest.

In addition WETF has a number of design and operational problems, which have resulted in the facility's partial stand-down for approximately the past 7 months. WETF may require further operational changes or investments to just meet seismic requirements not present when it was built; like other nuclear facilities at LANL it is operating under a self-issued "Justification for Continued Operations" (JCO) despite its lack of compliance with seismic requirements. Or, in the alternative, WETF could be found incapable of meeting seismic performance standards this year.

It would be important to interview senior DNFSB officials regarding their views of comparative LANL and SRS tritium safety. To judge from DNFSB reports, SRS tritium activities have only a fraction of the problems reported at LANL's WETF. The DNFSB has earned our trust over the years. A summary of DNFSB WETF issues is available from our office as a single Word document.

4. While we generally applaud congressional review and want more of it, this bolt-from-the-blue, dead-of-night approach to legislation has to be decried. If the Senate wishes to legislate detailed management outcomes at NNSA, we think this unrelated bill is the wrong place to do it.

5. This proposed legislation ignores the fact that NNSA has *already* conducted at least *three* technical mission review and/or cost analyses of its weapons tritium missions as part of its (Weapons) Complex Transformation effort. The third one, a "technical mission review" (pdf) by Los Alamos based TechSource, concluded that further cost assessment, such as that requested in the bill, would not be salient. NNSA concluded much the same in the discussion of its ROD, although NNSA rejected TechSource's advice to keep its redundant tritium activities.

6. The TechSource review (lead author, Steve Guidice) appears to be unaware of, and makes no mention of, WETF's extensive operational and design problems or the increased seismic performance standards it must now meet. This and a lack of actual analysis in the report lower its credibility in our eyes.

7. We do not believe there is a need for much active GTS design per se. For some actors, delaying or avoiding SRS consolidation may be based on an underlying policy of extensive nuclear design efforts in support of new warheads such as the Reliable Replacement Warhead (RRW). As the TechSource report says, "Continued evolution of GTS design for a new LEP or replacement weapon will require a tritium R&D facility capable of conducting full-scale experiments and tests in support of the weapon program milestones." We believe the TechSource analysis reflects a relatively intensive, Cold-War style design culture and design process and its conclusions need to be seen in that light.

8. An incomplete summary of WETF's safety issues, as compiled from the DNFSB materials, would include these issues:

- The 2007 Probabilistic Seismic Hazards Analysis (PSHA) concluded that seismic hazards at LANL are higher than previously believed. A Justification for Continued Operations (JCO) authorizes nuclear and high hazard operations to continue while the impacts of the

new PSHA are evaluated. The JCO expires for WETF and 4 other facilities on June 30, 2009, meaning that facility-specific evaluations must be complete by that date.

- Hot operations at WETF have been suspended since October due to systemic pressure safety issues. A comprehensive review of potentially affected safety systems is underway to evaluate the full extent of pressure safety issues at WETF.
- As of early this year, WETF maintained some 71 primary tritium containers whose pressure exceeds or may exceed safe pressures; these vessels had no adequate secondary containment.
- As at many LANL facilities, at WETF there is a disturbing pattern of tolerance for unresolved safety issues, and an apparent informality of operations. This results in unsafe conditions and releases of tritium to waste or, we suspect, the environment.
- Lightning protection at WETF was inadequate for years, as was management response to the problem.
- There have been significant design issues relative to the fire suppression system, pressurization and depressurization systems, and the integrity of credited fire barriers.

Further background

A March 27, 2009 *Global Security Newswire* [article](#) discussing GTS design issues, by the respectable Elaine Grossman, is available. Ms. Grossman reports significant internal opposition to NNSA's consolidation decision, but those opposed are all anonymous. No quoted sources express opposition.

Relevant pages from the Final CTSPEIS concerning this issue are attached.

Thank you for your attention,

Greg Mello