

## PLUTONIUM “TRIGGERS” FOR NUCLEAR BOMBS



Plutonium pits—carefully fabricated spheres of metal—and high explosives are the “triggers” for modern thermonuclear weapons. The U.S. manufactured pits at the Rocky Flats Plant near Denver until 1989, when the FBI raided the facility to investigate environmental crimes, effectively ending industrial-scale plutonium pit production.

### THE U.S. ALREADY HAS TOO MANY PITS

The U.S. presently has about 25,000 plutonium pits. Nearly 10,000 are in existing nuclear warheads. Five thousand are in “strategic reserve” and more than 10,000 “surplus” pits are stored at the Pantex Plant near Amarillo, TX. The May 2002 Moscow Treaty requires Russia and the U.S. to reduce their nuclear arsenals to 2,200 or fewer deployed strategic warheads each by December 31, 2012, but fails to mandate irreversible dismantlement. Even under this treaty, the U.S. will likely retain some 25,000 pits.

The Pantex Plant is the site where nuclear weapons assembly and disassembly occurs. Pantex has been specifically authorized to “reuse” up to 350 existing pits per year, mooted any claimed need to produce pits in the planned nuclear stockpile. Pantex boasts that pit reuse is far less expensive and environmentally damaging than new pit production.

### INTERIM PIT PRODUCTION

Starting in 1998 the Department of Energy (DOE) attempted to establish “interim” pit production at the Los Alamos National Laboratory (LANL) in northern New Mexico. LANL produced the first new pits in 2007. The ten pits were certified for replacement of existing pits in the W88 warheads.

DOE’s original argument for reestablishing production was that it had no spare W88 pits for annual defect checks. But only one pit per type of nuclear weapon is “destructively analyzed” every year. Moreover, the number of W88 warheads could and should be reduced under the Moscow Treaty, thereby making spare pits available.

### EXPANDING PIT PRODUCTION

Since 2002, the National Nuclear Security Administration (NNSA), the semi-autonomous nuclear weapons agency within DOE, has pushed for a Modern Pit Facility capable of producing 450 or more pits per year. When Congress failed to fund it for two consecutive years,

### **Recommendations**

- Cut the FY 2009 \$242 million funding request for plutonium pit production.
- Postpone decisions on new production capabilities until the 2009 Nuclear Posture Review is completed.
- Delete funding for the Chemistry and Metallurgy Research Replacement (CMRR) Project Nuclear Facility at Los Alamos.
- Pass legislation to remove plutonium from Livermore Lab by 2014.

NNSA then proposed a "Consolidated Plutonium Center" to produce 125 pits per year. That also failed to gain Congressional support.

The current plan under "Complex Transformation" would increase production capacity at Los Alamos to up to 80 pits per year by designating LANL as the preferred permanent pit production site. The proposed Chemistry and Metallurgy Research Replacement (CMRR) project is central to these plans. NNSA has requested \$100.2 million for FY09. Estimates for the total construction costs of this proposed plutonium facility range up to more than \$2 billion. If built, the total cost for producing 50-80 pits a year will be more than a half-billion dollars per year. Without CMRR, LANL's maximum production capacity will remain limited to 20 pits per year, more than enough to meet current stockpile requirements.

### **PIT LIFETIMES**

In November 2006 independent scientists released their review of NNSA's ongoing plutonium aging studies. They concluded that pits last a century or more. In comparison, the oldest U.S. nuclear weapons in the planned future stockpile are 30 years old.

The real reason NNSA wants expanded pit production is for new nuclear weapons designs, such as the so-called Reliable Replacement Warheads (RRW). LANL planned to begin production of up to 50 RRW pits per year by 2012, but Congress rejected all FY08 funding for RRW. Therefore, even by NNSA's own terms, there is no demonstrated need for the up to 80 pits per year that the agency is pushing for.

### **THE TRUE COSTS OF PIT MANUFACTURING**

The FY 2009 NNSA budget request includes \$241.56 million for pit-making, capability and certification, 13% above FY 2008 congressional appropriations.

Last year Los Alamos finally produced ten pits six years after originally scheduled, as part of the "Pit Manufacturing and Certification Campaign." For FY 2009 NNSA terminated the program and transferred

\$145.3 million to a new subprogram under "Directed Stockpile Work" for pit manufacturing at Los Alamos, with \$585.3 million slated between 2010 and 2013.

NNSA also shifted \$53.6 million, a 37% increase from last year, for "Pit Manufacturing Capability" to Directed Stockpile Work, primarily performed at the Lawrence Livermore Lab. One stated purpose is to "develop the processes and equipment to manufacture the RRW pit." However, all large quantities of plutonium are scheduled to be removed from Livermore Lab by 2014 for security reasons, a contradiction which raises questions about the wisdom of this program.

NNSA shifted a total of \$42.7 million for "Pit Certification" to "Science Campaigns." That includes \$23.7 million for the new sub-campaigns of "Dynamic Plutonium Experiments" (\$69.3 million in the following four years) and \$10 million to augment "Advanced Certification," which is to address future RRW certification, and has a campaign total of \$117.3 million for FYs 2010 to 2013.

Pit production costs at Los Alamos will be \$2.5 billion from FY 2009 to 2013, including facility costs. During the same time, another quarter-billion is slated for Livermore's cost for new manufacturing capability research and development. None of this includes eventual decontamination and cleanup costs.

### **NEW PITS UNDERMINE NONPROLIFERATION**

The U.S. is setting a terrible global example even as it struggles to convince other countries to eliminate or forgo nuclear weapons. Expanded pit production, coupled with the RRW program, institutes a "nuclear weapons forever" policy that breaks promises the U.S. made as a party to the 1970 Nuclear Non-Proliferation Treaty. But Congress has already required a new Nuclear Posture Review by the incoming president and established a bi-partisan commission to recommend new U.S. nuclear weapons policies. Any decisions about plutonium pit production before those reviews are completed would be premature and should be withdrawn.