

UPF UPDATE

DECEMBER 2013

IS THE UPF DEAD?

The Uranium Processing Facility—the nuclear weapons manufacturing plant slated to be built at the Y12 Complex in Oak Ridge, TN—is running out of chances to remain a credible project. Yet even as Acting Administrator Bruce Held declares the National Nuclear Security Administration will stay the course on its massive bomb plant, NNSA and contractor officials are talking about other options for moving production operations out of the aging, Manhattan-era 9212 Complex.

The latest blow to the UPF came when the Department of Defense's Office of Cost Assessment and Program Evaluation (CAPE) announced the completion of an analysis of the UPF plan that pegged the cost of Phase I alone at \$19 billion and pushed the completion date out beyond 2025. NNSA's Held responded that he would continue to pursue the UPF project, observing that CAPE counts differently than NNSA.

But at a Defense Nuclear Facilities Safety Board hearing in Knoxville, TN, on December 10, officials spoke of moving the most critical operations to another location, likely Building 9215, a move that would essentially be an admission that the UPF can not expect to be funded at a level that would allow its construction anytime soon. The schedule for beginning construction of the UPF has continued to slip as well and is now projected for Spring 2016.

OPTIONS FOR NNSA

As Acting Administrator Held's comments indicate, NNSA is not giving up the fight for the UPF. It can be expected that NNSA will mount an aggressive campaign to bolster funding prospects in the Senate, where NNSA has been currying favor with powerful members of the Energy and Water Appropriations Subcommittee, including the ranking Republican member of the committee, Tennessee Senator Lamar Alexander.

One possible option is to double-down on the UPF, pushing for Congress to increase funding. All estimates of the cost of the facility note the extended construction schedule as a major factor in the cost escalation; front loading the funding and putting construction on a

faster schedule could shave billions from the total cost, the argument goes. Countering that is the track record of the NNSA and the warnings of the Department of Energy's guidance that attempts to crash projects, or fast-track them, lead to increased project risk and higher costs. In the case of the UPF, the current management team is responsible for the three year, multi-billion dollar space/fit fiasco, a problem identified in July 2012, but still not fully resolved. Project managers have also tried to scale back the project by eliminating major portions of the project related to machining and dismantlement. What was once a single construction project now has three "phases," with no set timetable or funding projections for the second and third phases.

A second option would be to downsize the production operations planned for the UPF. As currently envisioned, the UPF would have the capacity to produce 80 thermonuclear secondaries and cases every year during its life span. In the Environmental Impact Study prepared for the UPF, the NNSA acknowledged the capacity needed for meeting its

stockpile maintenance and life extension mission requirements was less than 10 warheads/year, meaning

the UPF is sized to have 700% excess production capacity every year of its operation. The reason for the discrepancy? The smaller UPF would maintain the current US stockpile; the supersized UPF would permit major modifications and new-design weapon production. The NNSA could reduce the size of the UPF by 35%, probably resolving the space/fit issue, with the stroke of a pen. Considering the difficulty NNSA currently faces getting funding for its plans to include major modifications in its Life Extension plans for the B61, and the virtual abandon-

ment of over-the-top schemes for an "interoperable" warhead, the idea of scaling the UPF to fit its curatorship mission begins to appear more reality-based than the Supersized UPF.

NNSA WILL MOUNT AN ALL-OUT EFFORT TO PULL THE UPF BACK FROM THE BRINK. WHETHER THESE EFFORTS ARE SUCCESSFUL OR NOT DEPENDS LARGELY ON FACTORS WE CAN CONTROL.

PROSPECTS

In the coming budget discussions, we should expect to hear extensive moaning about the deficiencies of the Building 9212 Complex that

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houses current production operations. When it's time to get money for the UPF, the 9212 Complex is on the verge of collapse; when it's time to talk about safety, the same 9212 Complex is holding up for the foreseeable future and would "never be operated unsafely," according to NNSA officials. Absent any independent substantiation of NNSA's claims about 9212, it is not unreasonable to imagine the malleable messaging is driven primarily by the need to keep the cash pipeline open.

With the UPF on the brink of the grave, we can also expect NNSA to send as many people as it can to pull it back—already Tennessee's Congressional delegation is stepping up to read from the script: how critical the mission is (it's not, really—the nuclear stockpile is safe, secure and certified reliable); how bad Building 9212 is even though it's-perfectly-safe-but-won't-be-at-some-date-in-the-future-for-reasons-we-can't-be-very-specific-about; how the project has the confidence of its champions.

Whether these efforts to save the UPF are successful or not depends largely on factors we can control. If reasonable people push hard, armed with the facts and the cost projections, we can argue the most responsible thing Congress can do is cut its losses now rather than pouring more money into a failed project. Recognizing that the UPF as currently envisioned is no longer a viable project puts "modernization" back on the table. The US has an opportunity to fashion a plan for 2025 that reflects the reality in 2013 and aligns with our current nuclear policy. One pernicious weakness of the current modernization plan is its grounding in a Cold War policy analysis. The plan to build massive new production facilities to produce a new generation of nuclear weapons was conceived thirty years ago; even as recently as 2006 NNSA argued it had to build an infrastructure to support a 6,000

warhead stockpile—this is the vision that requires the UPF.

WHAT TO DO

The UPF's weakest point at the moment is its pricetag, but this is not the only problem with the project. Management has proven itself incapable of some of the most fundamental tasks, including providing adequate staffing for the project. To date, no one has been held accountable for the 2012 design fiasco that will cost the project billions of dollars—not one Congressional hearing has been held, even after NNSA's in-house investigation documented management failures as the sole cause of the problem.

Technology development remains a challenge as well. The UPF plans to incorporate several new technologies and is being designed to accommodate them, but some of the technologies have not yet reached sufficient maturity to prove they will work. The Government Accountability Office has questioned whether multi-purpose gloveboxes (rather than dedicated gloveboxes) will prove feasible; they are currently included in the UPF design plans, but if technical hurdles can't be cleared and the design team has to go back to dedicated gloveboxes, the project will face another space/fit issue.

Safety is also still an open issue, despite the persistent efforts of the Defense Nuclear Facilities Safety Board. The current design of the UPF as an above-ground facility introduces significant *avoidable* safety and security risks—the DOE's Inspector General's Office and an independent DOE Task Force (Overskei) found in 2004 and 2005 that below-grade construction would provide maximum security *and be less costly* than above-ground construction.

Each of these factors, taken alone, warrants serious consideration sooner rather than later, by anyone who wants to see the UPF succeed. Taken together, they make a strong argument that even project boosters

THE UPF

- First proposed in 2005 as a replacement for aging production facilities, the Building 9212 complex, at Y12 in Oak Ridge, TN.
- Original plan included modernized dismantlement operations; that mission was deferred in October 2012 to assure room for full scale production.
- Remains the flagship of the next generation of nuclear weapons production facilities in the US.

LIFE EXTENSION PROGRAM

- Seeks to refurbish and replace aging parts of weapons in the US nuclear stockpile to extend their useful life for 60-80 years.
- Modifications significantly change the military capabilities of the warhead being "LEPped," effectively creating a new nuclear weapon.
- In 2013, the US is performing LEPs on the W-76 Trident warhead; plans for B61 LEPs are undergoing scrutiny; initial studies on W78/88 LEPs are also beginning.

should hit the pause button while they sort out the challenges before them.

The current management team is not going to do that—because they have a conflict of interest. Hitting the pause button also closes the tap on the funding pipeline. Such a daring move would, however, provide some reassurance that the management team understands something of the nature of its challenges, has respect for the funding limitations all federal programs face, and is committed to a successful project, not just an expensive process.