

LA-UR-13-27769

Approved for public release; distribution is unlimited.

Title: B61 System FY 2013 September Report

Author(s): Lynch, Lori J.
Buntain, Patti S.

Intended for: For programmatic distribution.

Issued: 2013-10-07



Disclaimer:

Los Alamos National Laboratory, an affirmative action/equal opportunity employer, is operated by the Los Alamos National Security, LLC for the National Nuclear Security Administration of the U.S. Department of Energy under contract DE-AC52-06NA25396. By approving this article, the publisher recognizes that the U.S. Government retains nonexclusive, royalty-free license to publish or reproduce the published form of this contribution, or to allow others to do so, for U.S. Government purposes. Los Alamos National Laboratory requests that the publisher identify this article as work performed under the auspices of the U.S. Department of Energy. Los Alamos National Laboratory strongly supports academic freedom and a researcher's right to publish; as an institution, however, the Laboratory does not endorse the viewpoint of a publication or guarantee its technical correctness.

B61 System FY 2013 September Report

October 6, 2013

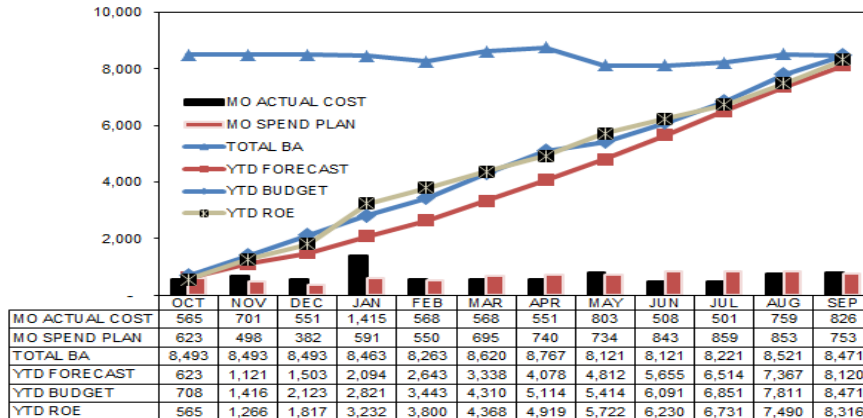
Lori Lynch
Patti Buntain
B61 Systems Engineering
LANL
PO Box 1663, MS A115
(505) 665-6816
llynch@lanl.gov

This document deemed to be UNCLASSIFIED by

Art Nobile
W-1, R&D Engineer

LANL Program Status – September 2013

LANL B61 System September FY13



* Cumulative totals will be sent as an attached file to this report.

B Schedule (Deliverables)

B All FY 2013 L2 milestones have been completed.

G Proposed FY 2014 L2 milestones delivered NNSA (Monica Birdsell) for review; FY 2014 milestones to match funding profile.

Completed	
Scope/cost/schedule satisfactory	
Minor problem with scope/cost/schedule	
Significant problem with scope/cost/schedule	

B Technical Performance (Status against Milestones)

B IHE Material Characterization/Modeling Activities: Material model selection and development of parameters for the engineering baseline are in progress. All IHE samples have been fabricated and delivered. Small-scale bucket tests and deflagration-to-detonation transition tests have been completed. Permeability tests are near completion and will be completed by end of Q1 FY 2014. Funding shortfalls have paused all hot-fragment-impact and ratchet growth work. Requirements will be refined as the baseline model matures.

B61-7 Rebuild: All four replacement units now reside at Pantex. Note that as a result of the anomalous unit incident, there is a possibility of LANL sending another CSA for reacceptance.

JTA Modernization: DJTA1 test was completed at TRR. DJTA2 has been completed and shipped to SNL (test scheduled for October).

Surveillance: JTA 492 August test was successful; the unit was radiographed by LANL. 492 D&I has been pushed out to FY 2014.

G Issues /Concerns (Yellow or Red Milestones or other concerns not related to milestone)

G LANL is waiting on hardware from SNL; SNL states that there is no plan to conduct a hydro test in FY 2013 or FY 2014.

G Six scheduled onionskin tests at Pantex have been carried over into FY 2014.

R As a result of funding shortfalls, none of the four CSA D&Is planned at Y-12 will occur this fiscal year. As a result, LANL is lacking surveillance data for Alt 357 CSAs.

Y LANL carrying over ~\$813K.

LANL Program Status – September 2013

B	L2 Milestone (Status)
B	<p>4565 – Complete B61 Development Studies/Capability Improvements IAW Directive Documents for FY13</p> <p>All Development Studies/Capability documents are led by SNL. DJTA activities have been completed.</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Complete JTA Modernization (JTAM) project deliverables per JTAM Project Plan and High-Level Schedule: DJTA-1 hardware shipments have been completed (January). DJTA-1 test completed at TRR (July). DJTA-2 has been completed and shipped to SNL (May); test scheduled for October FY 2014.
B	<p>4566 – Complete B61 Weapon Maintenance Activities for Annual Assessment IAW Directive Documents</p> <p>All maintenance activities are have been completed.</p> <ul style="list-style-type: none"> <input type="checkbox"/> *Deliver parts necessary to complete other critical components exchanges IAW LLC PCD requirements—LANL PA. <input checked="" type="checkbox"/> PCD was revised to account for the impact of the AU, including moving completion of remaining rebuild units to FY 2014. To meet rebuild quantity shortage, a NES study or possibly a NCE (Nuclear Change Evaluation) is planned for completion Q1 of FY 2014. <input checked="" type="checkbox"/> Support build. LANL fabrication activities are completed (rationale for Blue). LANL is waiting on SNL for new NG build; SNL is still testing. <input checked="" type="checkbox"/> Issue the Annual Assessment Report and the Director's Annual Assessment Letter: AAR and Director's Annual Assessment Letter are on track to be completed by end of Q4. POG review 5/17/2013 and SAGSAT briefing occurred 6/5/2013. Transmittal letter and Cover page have been completed. Same as Milestone 4701.
B	<p>4567– Complete B61 Weapon Surveillance Activities for IAW Directive Documents</p> <p>All weapon surveillance activities have been completed.</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Provide test support for JTAs 914: Test completed February 2013—and 492—test completed August 2013. LANL support with radiography also completed. <input checked="" type="checkbox"/> Complete D&Is on JTA 914: JTA 914 D&I scheduled for September 2013; pending. LANL supports D&I activity and does not conduct it; thus, should not impact LANL's commitment for completion of this milestone (rationale for Blue). <input type="checkbox"/> *Complete all LANL component surveillance activities—LANL PA. <input type="checkbox"/> *Complete all SNL LCTP activities—Not a LANL activity; SNL only.

LANL Program Status – September 2013

B	L2 Milestone (Status) (cont.)
	<p>4569 – Provide NNSA Nuclear Bombs Division (or successor organization) with monthly program status reports for the B61 System.</p> <p>All reporting activities are on track.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Submit monthly report between the 5th and 10th working day of the following month. <input type="checkbox"/> Report shall include a financial summary at the TVE, all WIAL and SAL levels. <input type="checkbox"/> Report shall provide a status on recent achievements and upcoming milestones. <input type="checkbox"/> Report shall provide a site self assessment of the L2 milestones. <input type="checkbox"/> Report shall be sent directly to the Nuclear Bombs Federal Program Manager and the B61 Program Engineer.
B	<p>4703 – Identify and complete continuous activities necessary for supporting current/future assessments for the B61.</p> <p>All continuous activities are on track.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Provide nuclear explosive package (NEP) surveillance information for FY 2015 cycle work to SNL by October 31, 2012, for inclusion in Weapon Cycle Selection letter—Completed. Cycle 115 selections chosen and communicated to SNL via e-mail. Final notice of selection was delivered to SNL on November 15, 2012. <input type="checkbox"/> Issue Cycle Selection surveillance information (identifying requirements for all system- and component-level assessments) via BC document to PAs and NNSA by July 2013 for all cycles starting in FY 2014—BC1K0144 document has been released. <input type="checkbox"/> Continue development of Primary and Secondary baseline models—LANL Physics. Completed; briefing to LANL Director in July 2013. <input type="checkbox"/> IHE Summary Report is released; documented in PDMLink 0000317030 / LA-UR-13-27508. <input type="checkbox"/> Update relevant documents needed to ensure timely fielding of the Mod 3 and Mod 11 gas fills. (H1616 Authorization, Table of Life, Top-Level System Drawings)—Completed; shipment to military expected in calendar year 2014.

LANL Program Status – September 2013

Performance Objective: Nuclear Weapons Mission (PO-1)

Performance Objectives	PO-1	<u>Contributing Factors</u> (PO1) Accomplish work within the budget profile, scope, cost, schedule, and risk negotiated with program sponsors and partners. (PO1) Execute product development and deliveries in the life extension programs.
	PO-1	<u>Site Specific Outcomes</u> (PO1) N/A
		<u>Very Good/Outstanding Accomplishments</u> <ul style="list-style-type: none"> • Completed Conceptual Gate Review (September 19, 2012). • Center bomb case thermal conditioned experiments in the firing vessel complete at DARHT (October 2012). <ul style="list-style-type: none"> – Supports all B61 gas cavity hydros fired at STS temperature extremes. • Six PBX 9502 scaled bucket tests that mimic a WR configuration were fired to support abnormal thermal environment modeling (October 2012). • Completed B61-4 gas cavity hydro fire (ambient). • Completed Subsystems and Component Conceptual Design Gate (January 2013). • Time = 0 pit material cast at TA-55. • Supporting Anomalous Unit Project Team at Pantex. • Successfully completed B61-4 gas cavity hydro test at DARHT (thermal conditioned/hot) (July 2013).