

Los Alamos National Laboratory
&
Lawrence Livermore National Laboratory
Plutonium Sustainment Monthly Program Review

November 2011

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Executive Summary

In November of 2011 the Plutonium Sustainment program at LANL completed or addressed the following high-level activities:

- 1) Established and approved work packages associated with the scope at LANL.
- 2) Established the resource-loaded schedule associated with all work packages and distributed the budget to the corresponding functional groups. LANL is now under baseline change control as defined in the FY12 Project Execution Plan that was approved in October 2011.
- 3) Reviewed and provided input for the Plutonium Sustainment Manufacturing Study Charter.
- 4) Reviewed and provided input for the response to the Senate questions regarding how to maintain pit manufacturing capability in the absence of a pit manufacturing mission requirement. This will be incorporated in the FY13 SSMP.

There are currently no major issues associated with achieving MRT L2 Milestones 4195-4198 or the relevant PBIs associated with Plutonium Sustainment.

There are no budget issues associated with the CR or FY12 budget plans.

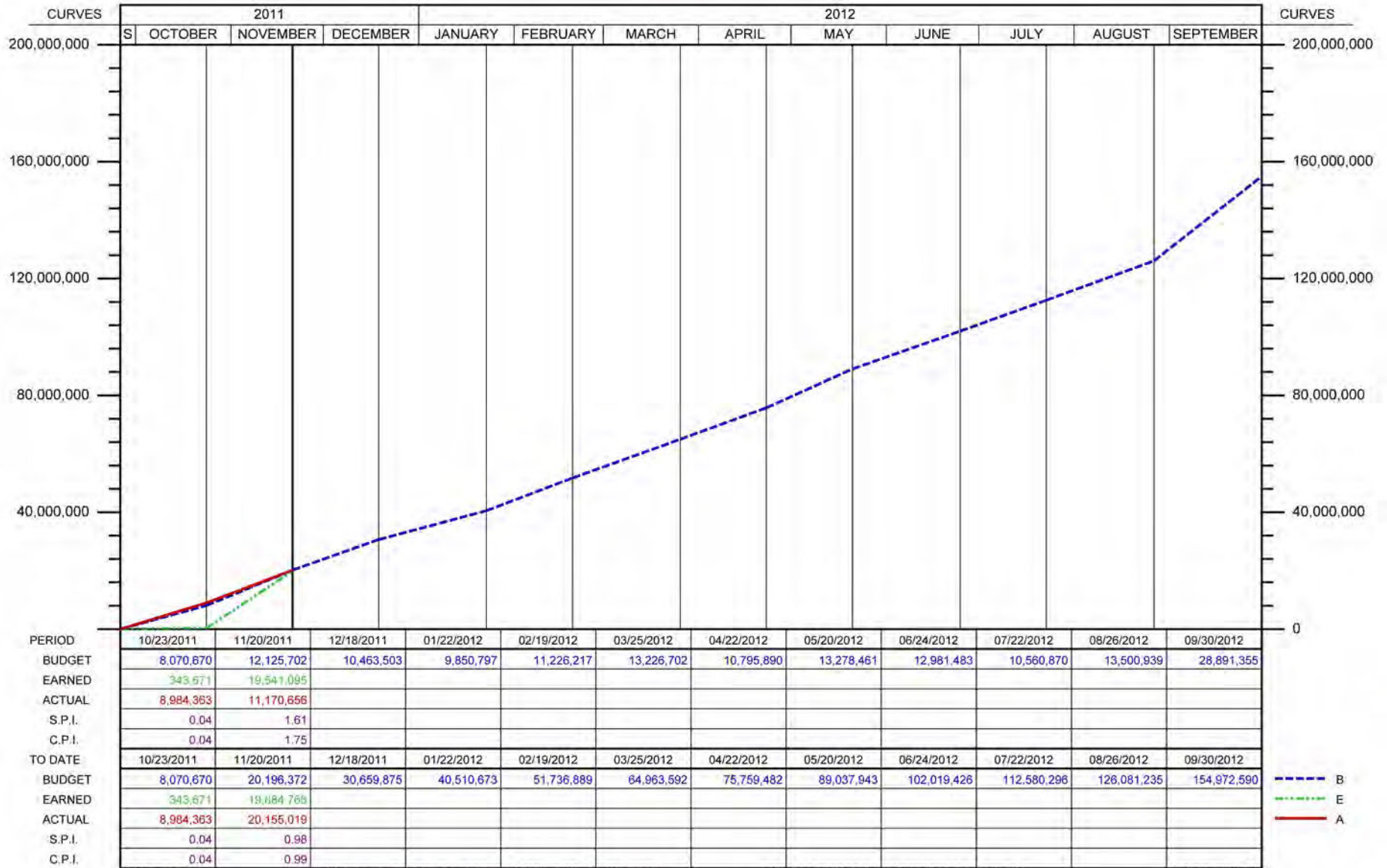
The earned value metrics overall for LANL are within acceptable thresholds, so no high-level recovery plan is required.

Each of the 5 major WBS elements is discussed in detail below with a section at the end that is provided by LLNL.

Earned Value Metrics

PERFORMANCE S-CURVE

Pu Sustainment



COST IN \$

LANL, operated by Los Alamos National Security, LLC

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1.0 LANL - Pit Development

1.1 Technical Progress

- Assembly of a Type 126 pit (b) (7)(F) was completed with NDE to be performed in December/January.
- The two major components for Transitional (b) (7)(F) were fabricated.
 - o Testing was completed for one of those components.

1.2 Equipment

(b) (7)(F)

- The fluid from the (b) (7)(F) was sampled and smears from inside the chamber were taken.
- Historical documentation was assembled.
- The contract for the manufacturer support was completed.
- The integrated work document (IWD) for the manufacturer to support work on the system was initiated.

(b) (7)(F)

- Procurement of subcomponents, such as the Safety Significant boots, was submitted.

Surface Preparation Cold Testing

- Procurement of the feed through panel was approved.
- The design of the pot chuck was completed and fabrication started.
- The engineering service request for installation was prepared and submitted for approval.

1.3 Issues

- Product acceptance support will be available on a limited basis, as efforts have been diverted to support urgent a detonator delivery. Therefore, Diamond stamping of (b) (7)(F) will occur in January (perhaps February).

1.4 Variance Analysis and Recovery Plan

- CPI for Pit Manufacturing is 0.78. There are two main contributors for this.
 - o Pyrochemistry – Metal Production was impacted by actions to resolve a facility-wide criticality safety issue. The electro-refining (ER) line was paused and resources were expended on corrective actions. Control of spend rate and resumption of metal production will resolve this portion of the CPI variance by the end of the second quarter.
 - o Maintenance – The Maintenance work package was moved from the Pit Development WBS element to the Program Management and Support WBS element. However the costs were initially collected in the Pit Development WBS element. The costs associated with maintenance will be transferred in the next few months to the proper WBS element.

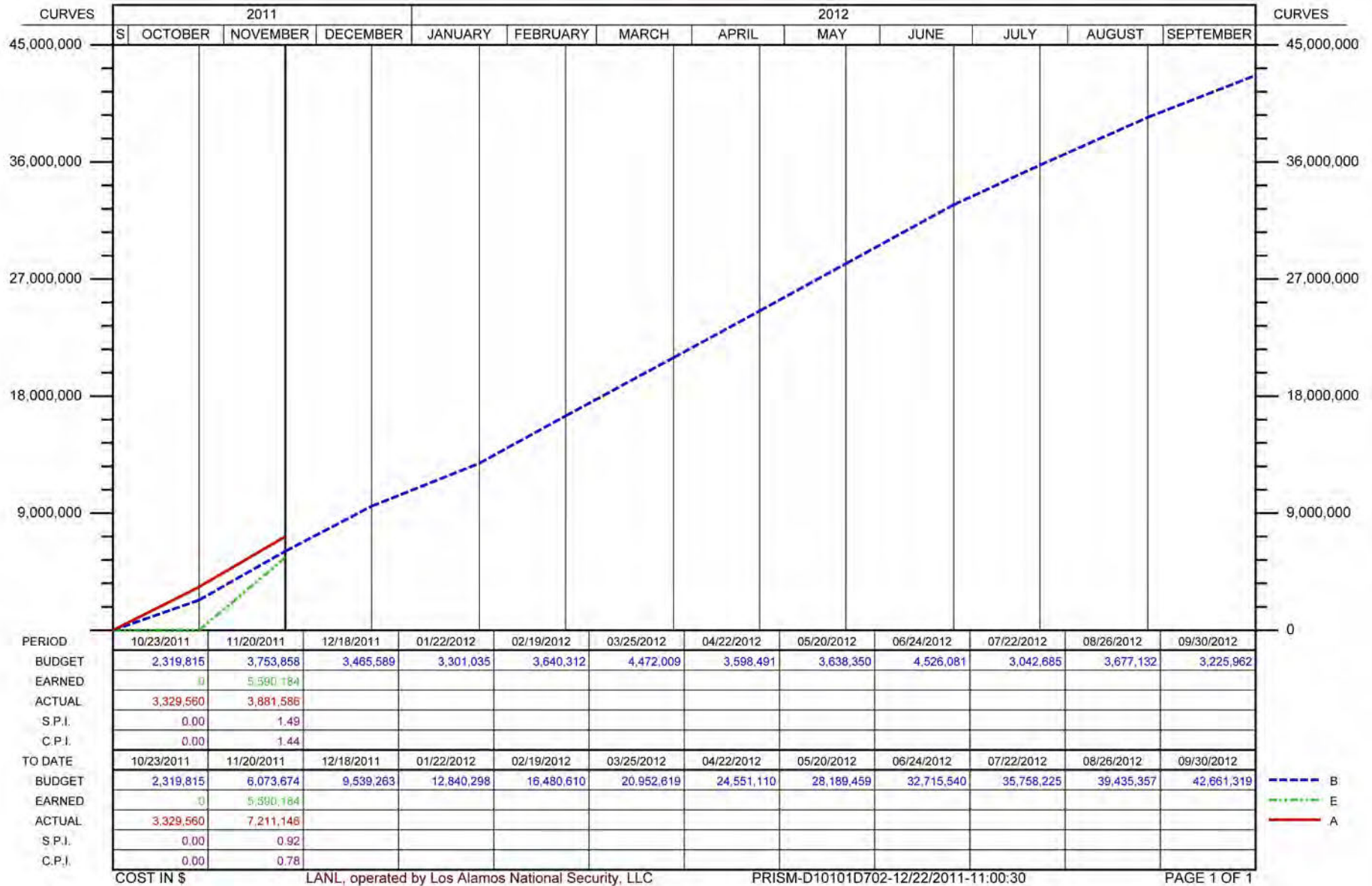
1.5 BCRs

- None

1.6 Earned Value Metrics

PERFORMANCE S-CURVE

Pit Development



2.0 LANL – Experimental Component

2.1 Technical Progress

- Second set of (b) (7)(F) was cast and the characterization is 90% complete.
- Started design of heat treat fixtures to recover the first set of (b) (7)(F), which had densities that are out of specification.

2.2 Equipment

- Started unclassified testing of new control system and on-machine gauging of the cold (b) (7)(F).

2.3 Issues

- None

2.4 Variance Analysis and Recovery Plan

- None

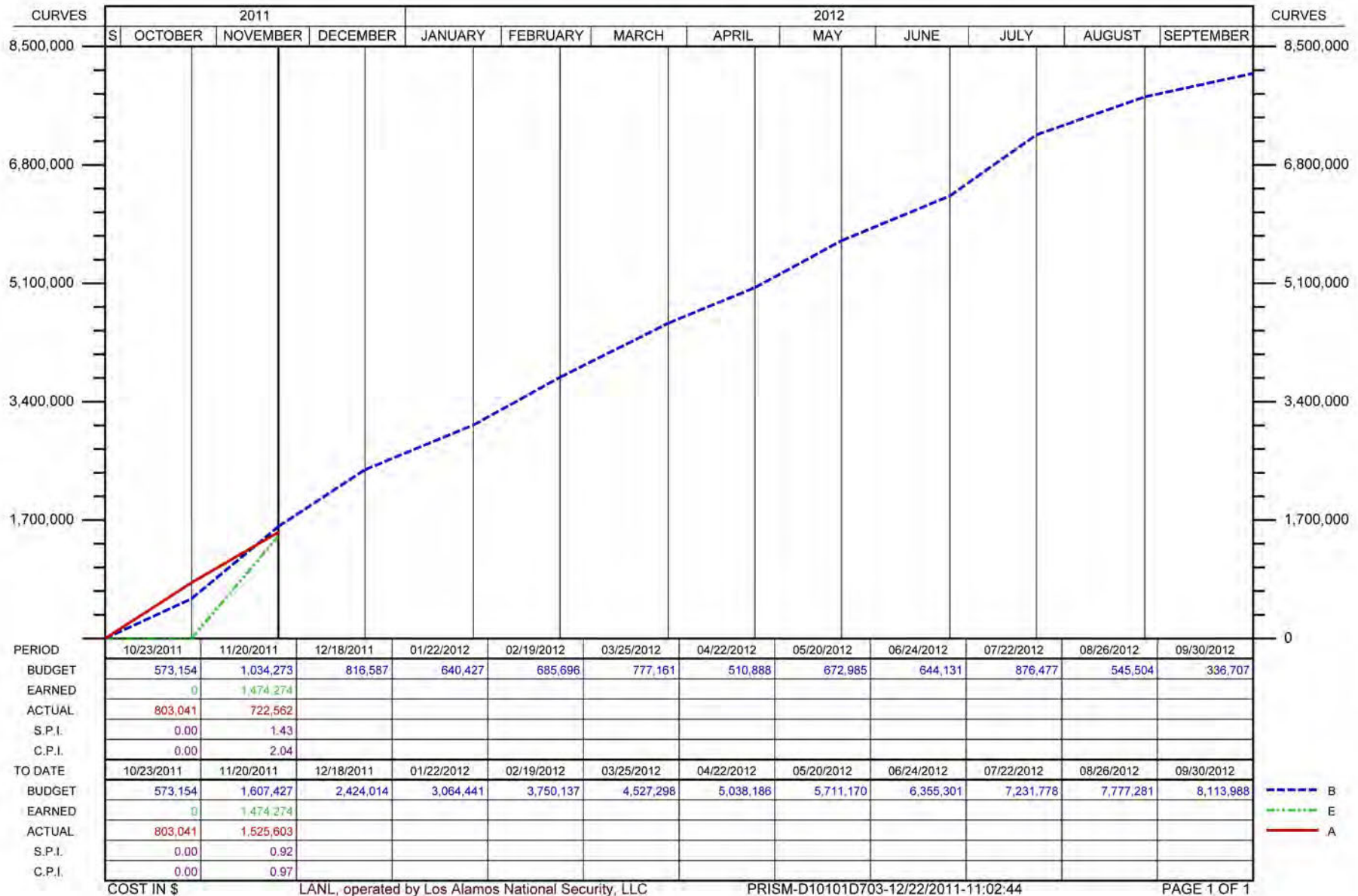
2.5 BCRs

- None

2.6 Earned Value Metrics

PERFORMANCE S-CURVE

Experimental Component Manufacturing



3.0 LANL - Power Supply

3.1 Technical Progress

- Harvesting

(b) (7)(F)

- (b) (7)(F)

3.2 Equipment

- Power Supply Assembly Area (PSAA)
 - Approval granted for construction
- (b) (7)(F)
 - 60% design and constructability review completed
- Analytical Chemistry Gloveboxes (Pu Assay and Radiochemistry)
 - Review final design for start of construction

3.3 Issues

- Delays continue on start-up authorization of the new (b) (7)(F) to debase the expired components. This is mitigated by the use of a more manual tool in an open front hood.

3.4 Variance Analysis and Recovery Plan

- None

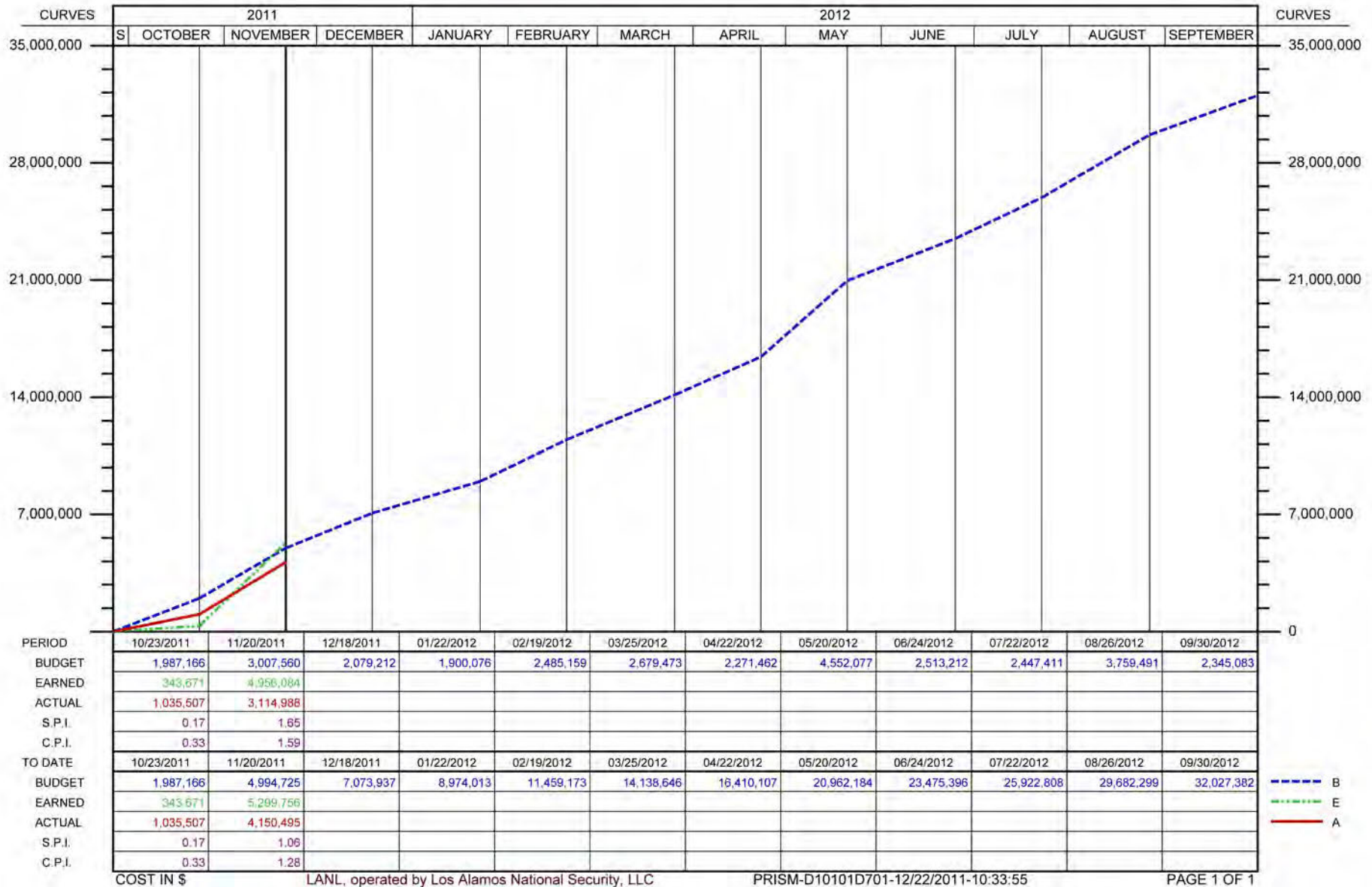
3.5 BCRs

- None

3.6 Earned Value Metrics

PERFORMANCE S-CURVE

Reconstitution of Power Supply Manufacturing



4.0 Program Management and Support

4.1 Technical Progress

- Plutonium Sustainment and Manufacturing Study initiated.
- Input submitted to NNSA 123.1 for the FY13 SSMP to provide answers to the Senate's questions.

4.2 Equipment

- None

4.3 Issues

- None

4.4 Variance Analysis and Recovery Plan

- None

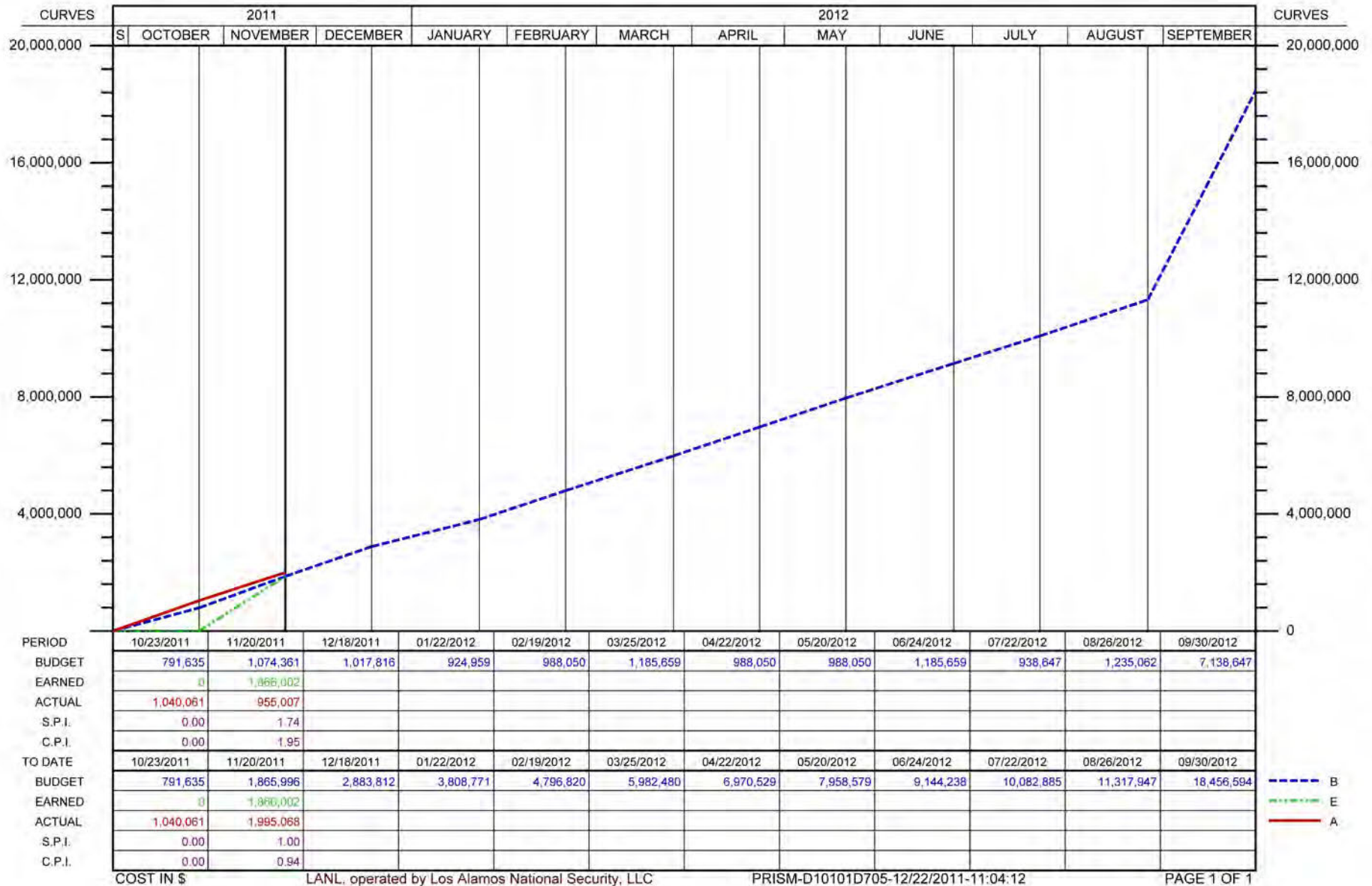
4.5 BCRs

- None

4.6 Earned Value Metrics

PERFORMANCE S-CURVE

Program Office



5.0 Facilities, Waste and Institutional Support

5.1 Technical Progress

- In the future the percentage of facility availability will be tracked here.

5.2 Equipment

- None

5.3 Issues

- None

5.4 Variance Analysis and Recovery Plan

- None

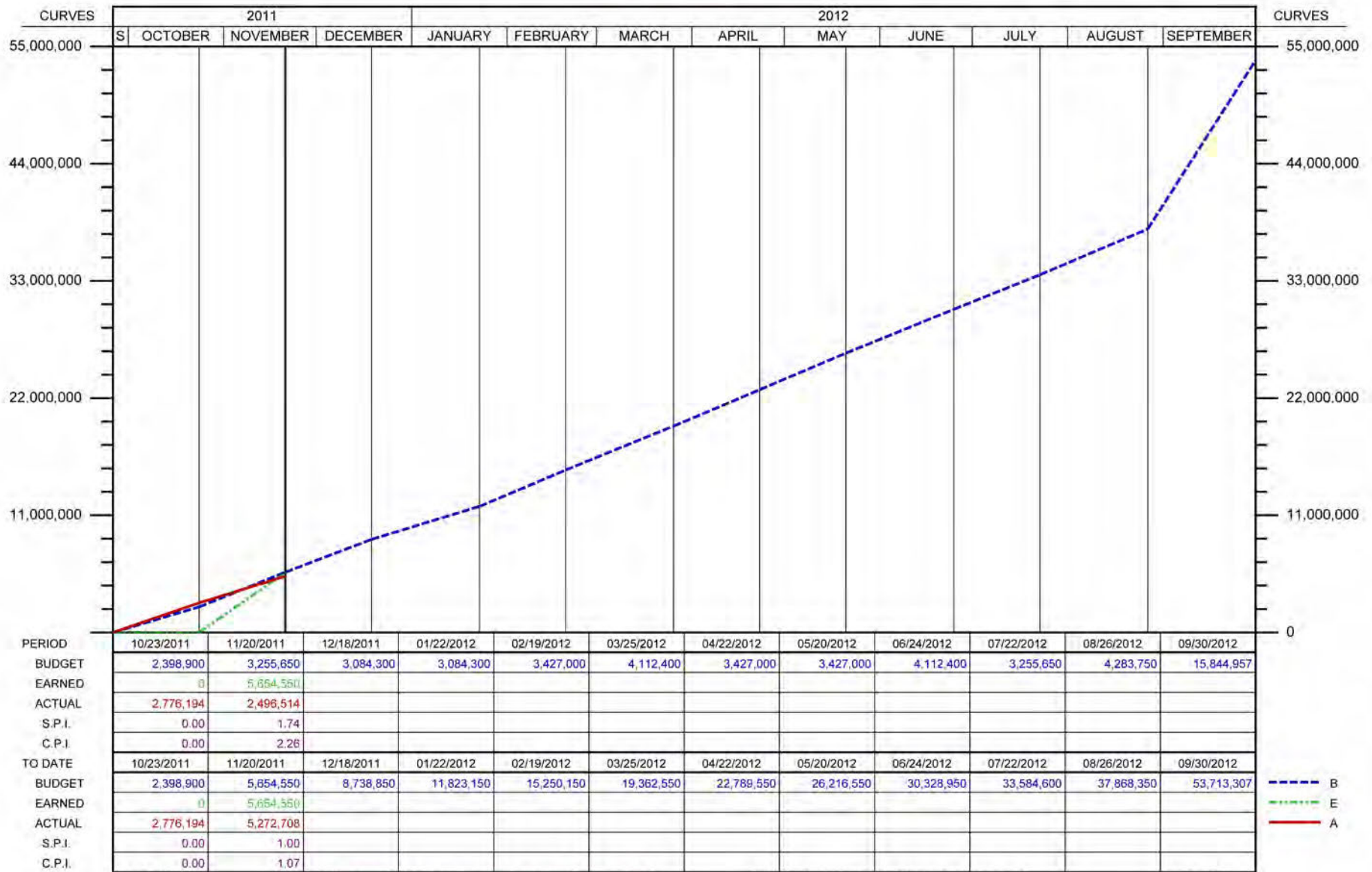
5.5 BCRs

- None

5.6 Earned Value Metrics

PERFORMANCE S-CURVE

Facility Infrastructure



COST IN \$

LANL, operated by Los Alamos National Security, LLC

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6.0 LLNL

6.1 Technical Progress

- (b) (7)(F)
-
-
- (b) (7)(F)
- LLNL is drafting an inspection procedure and working on a software revision to (b) (7)(F) .
- Ordered non nuclear shells for manufacturing.
- A meeting was held at LLNL and tentative plans were developed for transition builds.

6.2 Equipment

- Began testing the Build up and Break down Glovebox lifts.

6.3 Issues

- (b) (3)
- (b) (7)(F)
- IPT will be meeting in December to work out further details on transition builds and to start talking about specific processes and associated qualification activities.

6.4 Variance Analysis and Recovery Plan

- None

6.5 BCRs

- None