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(List all UCNI guidance used)



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Table of Contents

LANL Executive Summary	3
LANL Response to NNSA Comments	3
Table 1: FY16 Baseline Change Requests	3
Earned Value Metrics	4
1.0 LANL - Pit Development	5
1.1 Technical Progress.....	7
1.2 Equipment.....	8
1.3 Issues.....	8
1.4 Variance Analysis and Recovery Plan.....	8
1.5 Monthly BCR Explanation.....	8
1.6 Risk Table	9
1.7 Earned Value Metrics.....	10
2.0 LANL - Power Supply.....	12
2.1 Technical Progress.....	12
2.2 Equipment.....	12
2.3 Issues.....	12
2.4 Variance Analysis and Recovery Plan.....	12
2.5 Monthly BCR Explanation.....	12
2.6 Risk Table	13
2.7 Earned Value Metrics.....	14
3.0 Program and Manufacturing Support Services	15
3.1 Program Management	15
3.2 Support.....	15
3.3 Issues.....	15
3.4 Variance Analysis and Recovery Plan.....	15
3.5 Monthly BCR Explanation.....	15
3.6 Earned Value Metrics	16
4.0 Facilities and Readiness/Waste and Institutional Support	17
4.1 Technical Progress.....	17
4.2 Equipment.....	17
4.3 Issues.....	17
4.4 Variance Analysis and Recovery Plan.....	17
4.5 Monthly BCR Explanation.....	17
4.6 Earned Value Metrics	18

LANL Executive Summary

Pu239 operations have been undergoing readiness assessments in previous years. In FY16 pit manufacturing was resumed. All operations are available in FY 17 with the exception of two material supply process areas which are undergoing readiness assessments in FY17,

- Aqueous processing
- Electro Refining

These two operations will complete readiness during FY17 and will be available prior to or at the start of FY18.

In October of 2016 the Plutonium Sustainment program at LANL completed or addressed the following high-level activities:

1. Pit Fabrication:
 - a. PRT Kickoff meeting October 4-5, 2016
 - b. (b) (7)(F)
 - c. Kickoff of weld interrogation task team supporting PRT
 - d. Production Strategy for Aft Component drafted
 - e. HT2 Task team kicked off
 - f. Tenny's furnace modification plan developed
2. Sub crit Fabrication: Schedule developed for completion of the (b) (7)(F) in FY17.
3. Pit Equipment: CMM #2 Glovebox is progressing
4. Pit Equipment: Work authorization documentation completed for the (b) (7)(F) and glovebox.

With this report, NNSA Level 2 Milestones for FY17 have been established.

Equipment projects are being changed to conform to the Lifecycle Management guide that LANL follows. Because of that change financials for equipment projects are unavailable for October 2016. Full financials will be available starting with the November 2016 report.

Each of the four major LANL WBS elements is discussed in detail below.

LANL Response to NNSA Comments

None.

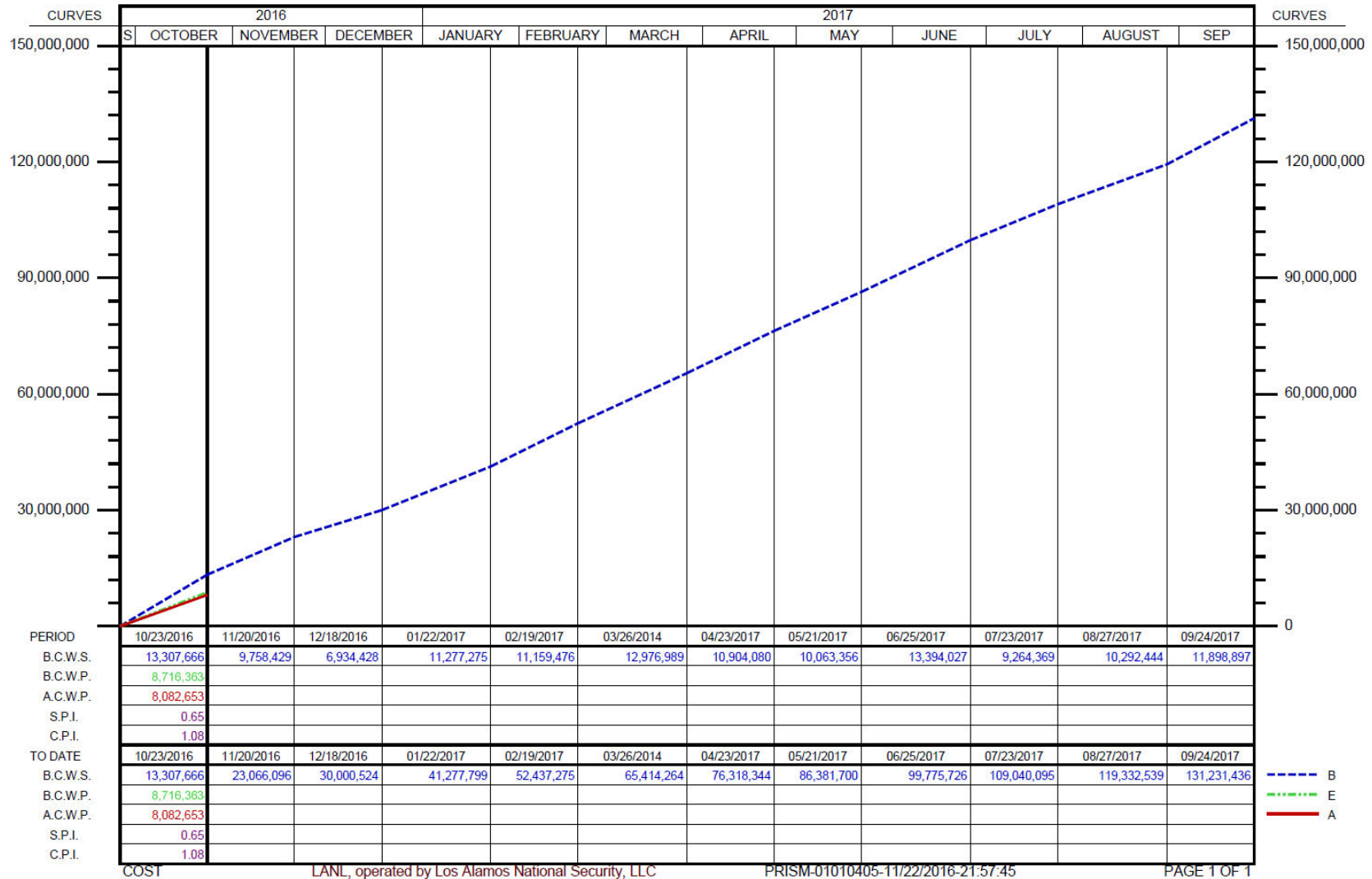
Table 1: FY17 Baseline Change Requests

WBS	BCR #	BCR Description	Date Assigned	Date Approved	Impact	Cost Impact	Change Level

Earned Value Metrics

PERFORMANCE S-CURVE

Pu Sustainment excluding Equipment



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PAGE 1 OF 1

1.0 LANL - Pit Development

MRT XXXX	GREEN	Complete Equipment Upgrade and Replacement Activities		
Continue equipment upgrade and replacement activities including the following:				
1. Complete installation of (b) (7)(F) at TA-55 PF-4.				
2. Complete Foundry GB #1 upgrades.				
3. Start CMM #1 glovebox installation.				
4. Start CMM #2 glovebox installation.				
5. Complete (b) (3) and start (b) (7)(F) and glovebox installation.				
L3 Milestone	Baseline Date	Status/Comments	Completion Date	RGYB
(b) (7)(F)	7/31/2017			GREEN
(b) (7)(F) at TA-55 PF-4				
Complete Foundry GB#1 upgrades	9/22/2017			GREEN
Start CMM #1 glovebox installation	8/21/2017			GREEN
Start CMM #2 glovebox installation	8/28/2017			GREEN
Complete (b) (3) and start (b) (7)(F) and glovebox installation	6/03/2017			GREEN

MRT XXXX		GREEN	Complete 2 MC4597-00 Development Units		
(b) (7)(F)					
L3 Milestone	Baseline Date	Status/Comments		Completion Date	RGYB
(b) (7)(F)					

MRT XXXX	GREEN	Manufacture Subcritical Experiement		
(b) (7)(F)				
L3 Milestone	Baseline Date	Status/Comments	Completion Date	RGYB
(b) (7)(F)				

MRT XXXX		GREEN	Complete MC4597-01 Subdevelopment Activities		
(b) (7)(F). Subdevelopment activities are operations with Pu that will progress the technical or manufacturing readiness levels.					
L3 Milestone	Baseline Date	Status/Comments	Completion Date	RGYB	
(b) (7)(F)	11/30/2016			GREEN	
Obtain MC4597-01 Tube components from NSC	11/30/2016			GREEN	
Complete Development of Drill/Press tooling/fixtures	12/15/2016			GREEN	
Begin Drill/Press of tube components in Pu coupons	1/5/2017			GREEN	
(b) (7)(F)	12/6/2016			GREEN	
(b) (7)(F)	12/15/2016			GREEN	
Begin Autoclave Coupon Development	1/5/2017			GREEN	

MRT XXXX		GREEN	MC4597-01 PRT Support		
Provide needed documentation, planning, and analysis to support the product realization effort for the MC4597 Pit Fabrication.					
L3 Milestone	Baseline Date	Status/Comments	Completion Date	RGYB	
(b) (7)(F) Production Strategy	1/31/2017			GREEN	
(b) (7)(F) Development Plan	1/31/2017			GREEN	
Attend PRT meetings and complete all action items	9/30/2107			GREEN	

1.1 Fabrication Technical Progress

- Pit Fabrication
 - PRT Kickoff meeting October 4-5, 2016. The PRT representatives were named. The structure was identified and roles and responsibilities established.
 - Machining of Pu coupons for coupon subdevelopment started. (b) (7)(F) . Coupons will be machined to support subdevelopment activities.
 - Kickoff of weld interrogation task team supporting PRT. (b) (7)(F) ing (b) (7)(F) .
 - Production Strategy for Aft Component drafted.
 - HT2 Task team kicked off.
 - Tenny's furnace modification plan developed. The Tenny's furnace needed some modifications to the cooling loop to support use in the Aft Component development.
- Subcritical Experiment Fabrication
 - The baseline plan is to begin machining of (b) (7)(F) experiment parts in February of 2017.

1.2 Equipment

The plan to meet the grading criterion L2 milestone includes the following by September 30, 2016:

1. Complete installation of (b) (7)(F) (all specified inspection and post modification reports generated, reviewed and approved)
 - a. Start installation of (b) (7)(F) (utility skid relocation into PF-4 basement)
 - b. (b) (7)(F) complete
2. Foundry Upgrades GB#1
 - a. Construction complete (all specified inspection and post modification reports generated, reviewed and approved)
 - b. Design and work authorizing documents have been developed, reviewed and released for construction
 - c. Start GB #1 construction activities
3. CMM #1 Installation
 - a. Infinity (CMM #1) relocated into and in PF-4
 - b. Start trunk-line GB installation
 - c. Start CMM #1 glovebox installation
4. CMM #2 Installation
 - a. Start CMM #2 glovebox installation
 - b. Installation/construction work authorization document released for construction
 - c. CMM #2 installation design complete
5. CNC Lathe #1 Installation
 - a. Start (b) (7)(F) installation
 - b. (b) (3) complete

Baseline plans are established for each project. The projects have been modified to follow a Lifecycle Management Guide that LANL is supporting. Plans have begun to be executed.

1.3 Issues

- None

1.4 Variance Analysis and Recovery Plan

- None

1.5 Monthly BCR Explanation

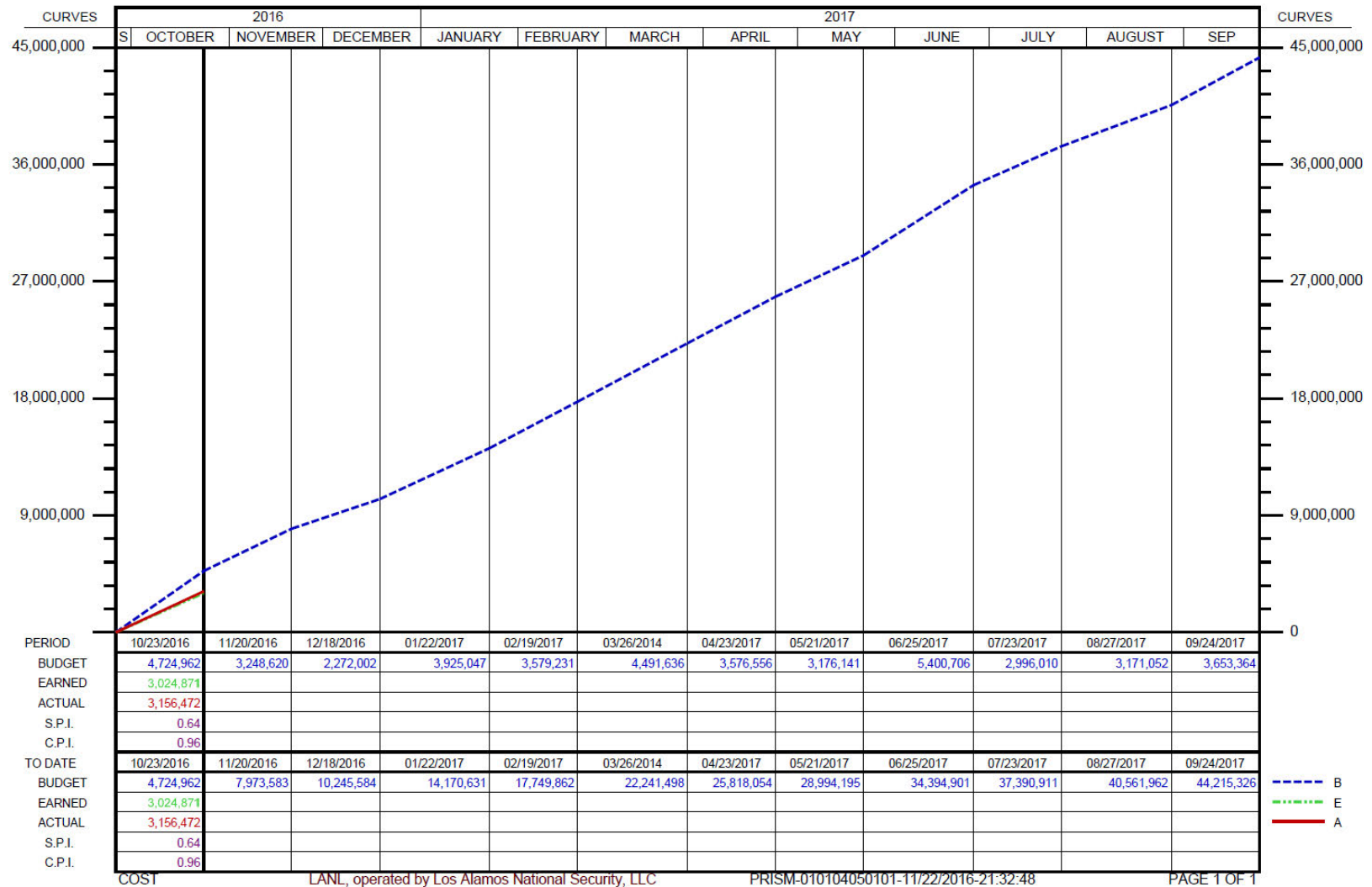
1.6 Risk Table

Work	Description	Handling Strategy	Status
	(b) (7)(F)	A material supply team meets regularly to both identify available material and strategies for making material available.	(b) (7)(F)
	(b) (5)		
Installation of equipment in PF-4	Readiness activities could take conflict with D&D and installation of equipment in PF-4. Since readiness, in general, is a higher priority than equipment installation, equipment schedule delays could occur.	Prioritize installation work to emphasize areas of limited conflict (ie. PF-4 basement, SM-39, areas not subject to readiness, etc.).	(b) (7)(F) and CMM was slowed in FY15.
(b) (7)(F)			

1.7 Earned Value Metrics

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Pit Fabrication and Process Development



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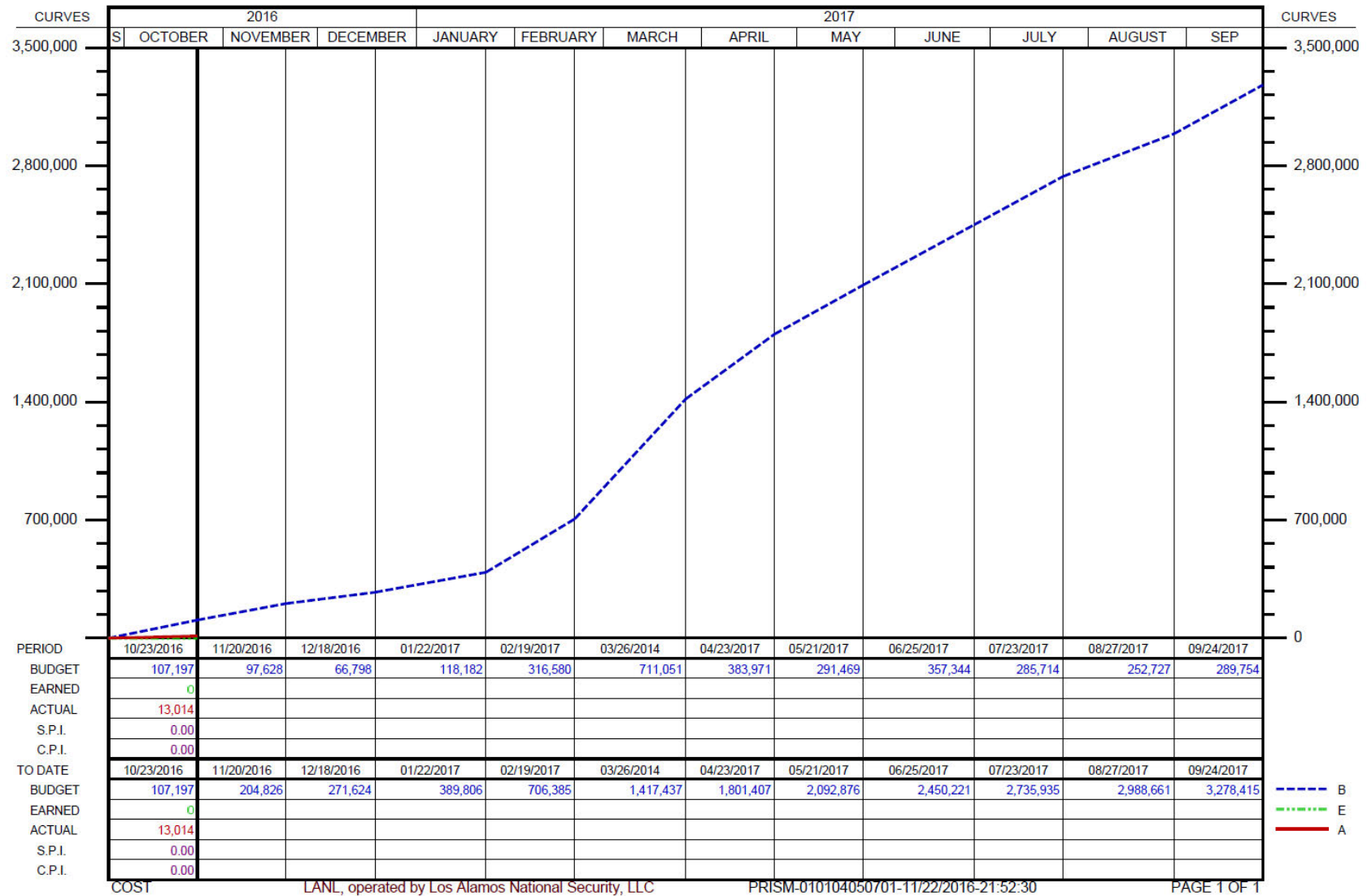
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PAGE 1 OF 1

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PERFORMANCE S-CURVE

Plutonium Experimental Device Fab.



2.0 LANL - Power Supply

MRT XXXX		GREEN	Complete FY 2017 Power Supply Manufacturing Activities		
Complete activities to progress power supply manufacturing toward FPU.					
L3 Milestone	Baseline Date	Status/Comments	Completion Date	RGYB	
Complete oxide production through QER	September 15, 2017			GREEN	
Complete heat source assembly through QER	September 15, 2017			GREEN	
Assemble and test Tiger Team units in support of component development	September 15, 2017			GREEN	

2.1 Technical Progress

- PAQ has assumed full ownership of the PVS (Product Verification and Submittal) function. The Quality Assurance Inspection Procedures (QAIPs) are being developed and training and qualification of Verification Inspection and Acceptance Stamping personnel from QPA is ongoing.
- Electrical testers from Kansas City were received. KC-NSC personnel will travel to LANL aid in installation and test the units for operational stability following shipping.
- Preparations have been made to accommodate the Tiger Team module design. Up to 58 assemblies are expected during the October-November 2016 timeframe. Fixturing to accommodate the design change has been manufactured, and test requirements for each unit determined.
- (b) (7)(F) storage chambers have been obtained to store the baked-out components inside the atmosphere boxes. Testing has started to see if the chambers disrupt normal ACB operation in any way. The chambers are expected to enable longer storage of pre-baked parts, helping ease throughput bottlenecks.

2.2 Equipment

- The 2nd Xexon Backfill Station, needed to complete Line B's equipment readiness, has been installed in ACB-B3. Testing has commenced to ensure it performs as it did at the vendor site and no damage has occurred.

2.3 Issues

- None

2.4 Variance Analysis and Recovery Plan

- None

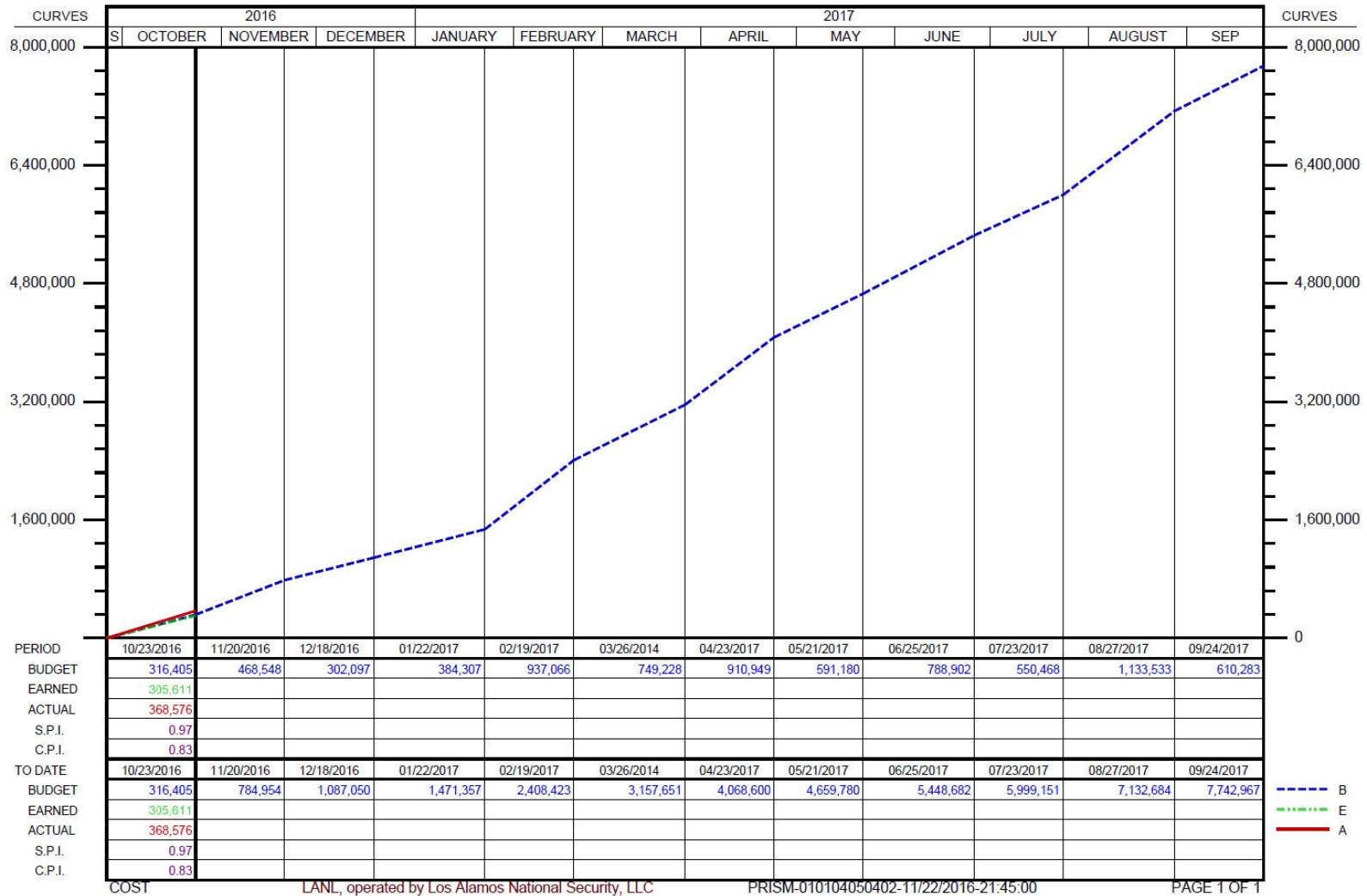
2.5 Monthly BCR Explanation

2.6 Risk Table

Work	Description	Handling Strategy	Status
Workforce development and recruiting	Dedicated staffing and depth of trained operators are both at risk to support the Development, PPI, and Qual series for Power Supply manufacturing development. The plan to start hiring in FY13 for dedicated staffing did not occur. Staffing is shared with other programs and may not always be available as scheduled. Note that the increase in staff also was planned to maintain lower dose rates in the staff as part of LANL ALARA goals.	1. Aggressive hiring is planned for FY16 to ramp up the staffing. 2. Communicate and integrate frequently with Power Supply surveillance, NE-75, and other programs to make the best use of available staff. 3. Request that LANL and LAFO management allow for increase in dose to staff assigned to this work. 4. Delay non-critical path activities until they become critical path for FPU.	Working closely with other Programs to maintain adequate personnel coverage for all, and optimize use of resources. Workforce attrition has occurred at a pace greater than or equal to the new hiring. Hiring is a high priority.
Design Maturation beyond PRT Schedule	Delays in the delivery of the various required design phases (AERs, BDR, etc.) will lead to a delay in LANL's delivery of the FPU.	1. Communicate and integrate frequently with the PRT on LANL design needs. 2. Provide monthly input into the PRT's Integrated Schedule to formally manage any delays.	The PRT is working to resolve schedule issues that could delay FPU. As of this monthly report, FPU is not in danger of being missed.

2.7 Earned Value Metrics

PERFORMANCE S-CURVE Power Supply Manufacturing Capability



3.0 Program and Manufacturing Support Services

MRT XXXX	GREEN	Complete and submit a monthly report to NA-196 detailing the programmatic status of the Plutonium Sustainment Program by Site		
Provide program status on technical details, cost and schedule, funding, milestones and risk to NNSA on a monthly basis				
1. All participants must submit a site specific monthly status report to NA-196 no later than the 24th day of each month. 2. The monthly report should be a word document in report type format using the FY14 reporting template and include submission of excel spreadsheet supporting financial data. 3. Minimum topics include (extracted from FY14 format): a. Executive Summary, Milestone Status (Level 2 and Level 3), Technical Progress, EVMS charts (where available), Issues, Variance Analysis and Recovery Plan and Risk Table. b. The financial portion includes: Cost and schedule, funding (FY17 budget authority and FY 16 carryover), time phased spend plan by month, and actual to date expenditures.				
Activity	Baseline Date	Status/Comments	Completion Date	RGYB
October Report	November 24, 2016			GREEN
November Report	December 24, 2016			GREEN
December Report	January 24, 2017			GREEN
January Report	February 24, 2017			GREEN
February Report	March 24, 2017			GREEN
March Report	April 24, 2017			GREEN
April Report	May 24, 2017			GREEN
May Report	June 24, 2017			GREEN
June Report	July 24, 2017			GREEN
July Report	August 24, 2017			GREEN
August Report	September 24, 2017			GREEN

3.1 Program Management

- (b) (7)(F)
- Developing integrated resource loaded schedule to support subcritical experiments through FY21.
- Integrated support for the Manufacturing Modernization Project (MMP) under Pu Sustainment in FY17.

3.2 Support

- Developed travelers for Pu coupon work.

3.3 Issues

- None

3.4 Variance Analysis and Recovery Plan

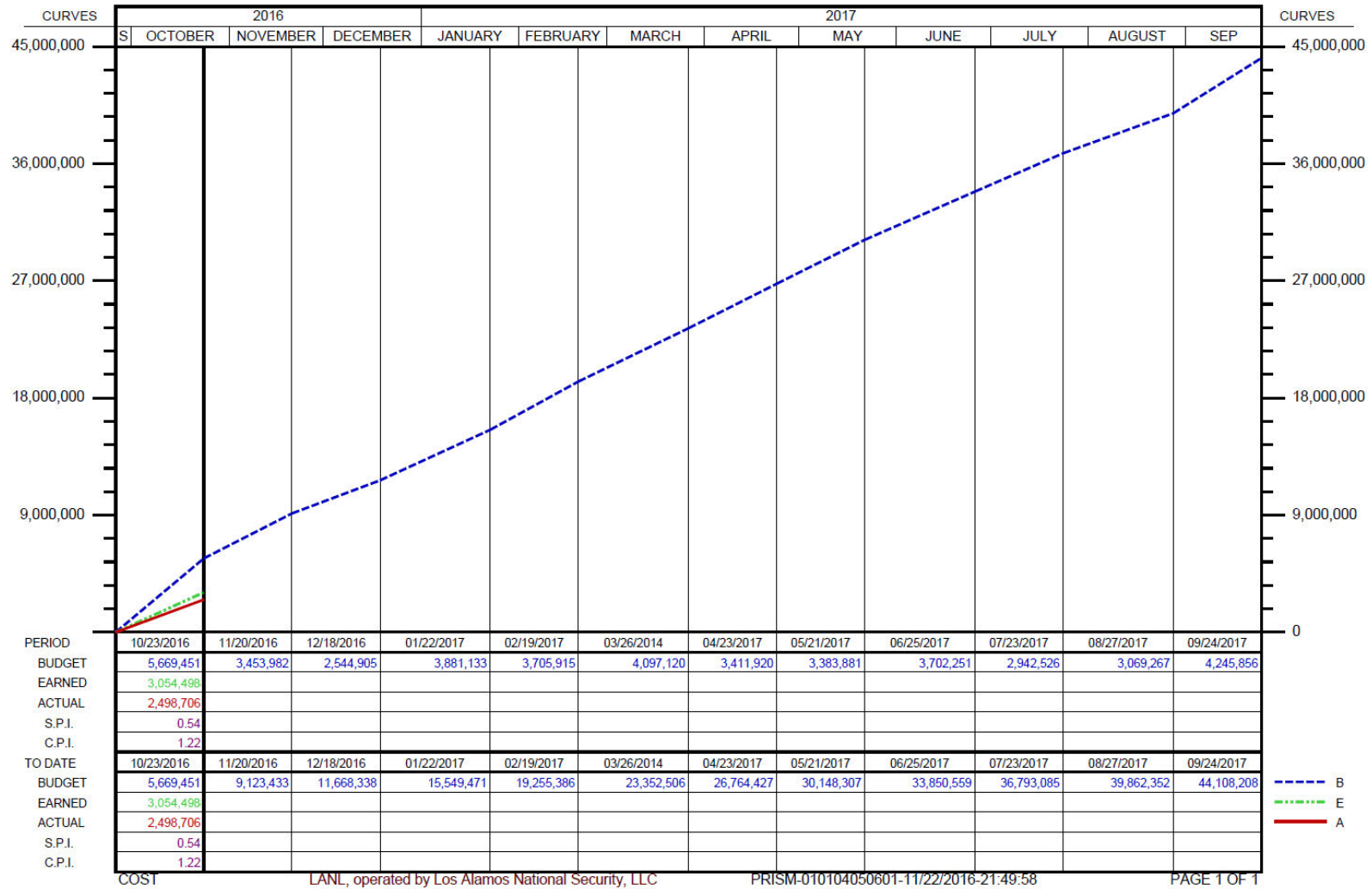
- None

3.5 Monthly BCR Explanation

- None

3.6 Earned Value Metrics

PERFORMANCE S-CURVE LANL Program and Production Mgmt (ADS)



4.0 Facilities and Readiness/Waste and Institutional Support

4.1 Technical Progress

- Preventive and corrective maintenance on track with no issues.

4.2 Equipment

- None

4.3 Issues

- Criticality Safety Evaluation Documents are driving the schedule. Aqueous operations and the new Electro-Refining line are required to produce additional metal to support pit fabrication needs in future fiscal years.

4.4 Variance Analysis and Recovery Plan

- None

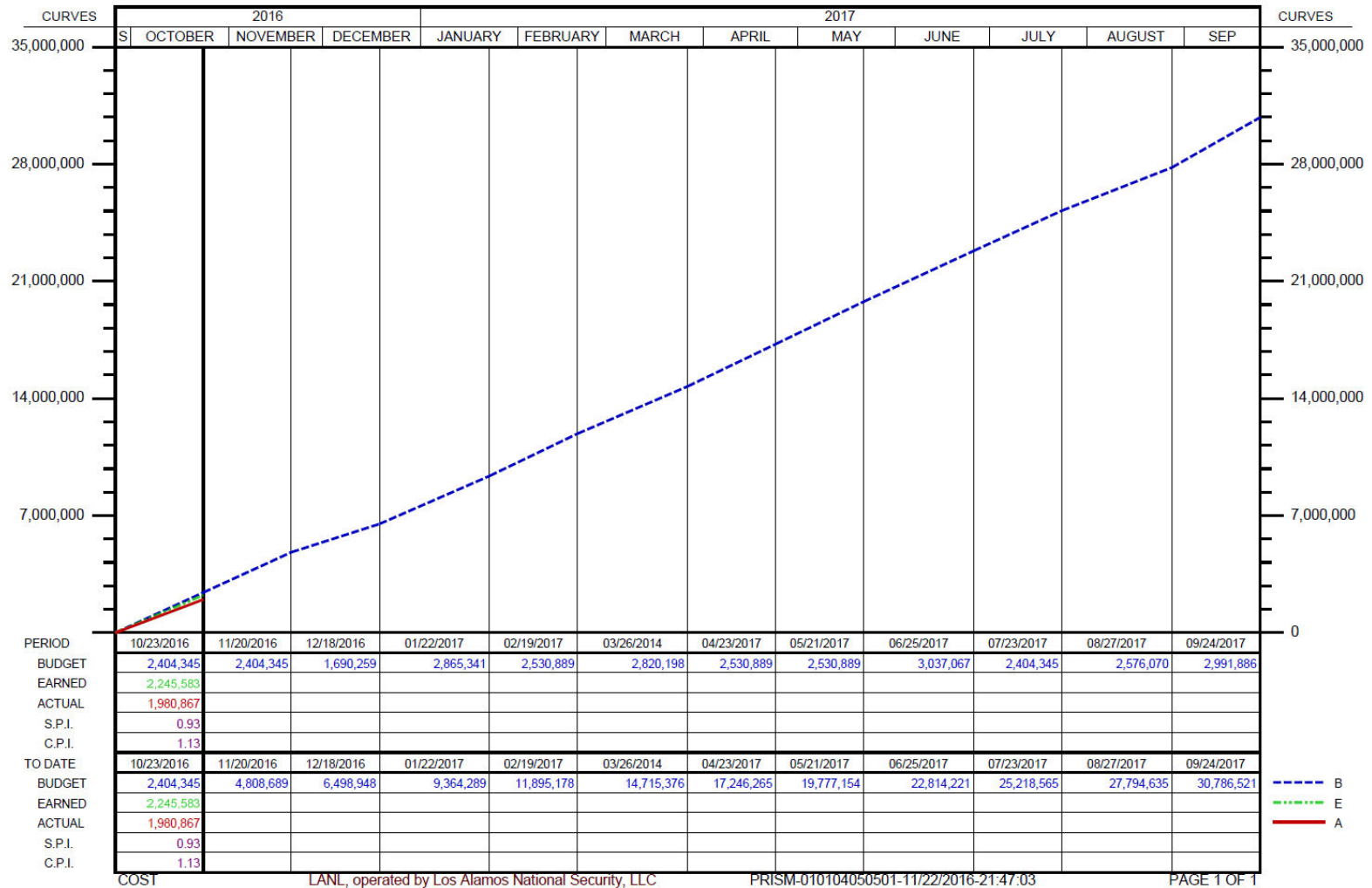
4.5 Monthly BCR Explanation

- None

4.6 Earned Value Metrics

PERFORMANCE S-CURVE

LANL RTBF Recovery (ADS)



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PERFORMANCE S-CURVE

LANL Waste Processing (ADS)

