

## LA-UR-14-20407

Approved for public release; distribution is unlimited.

Title: Fissile Material Disposition Program: Oxide Production program  
Quarterly Report - 1QFY14

Author(s): Kelley, Evelyn A.

Intended for: NNSA: NA-26 Deliverable  
Report

Issued: 2014-01-23



### 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.

# **Fissile Material Disposition Program**

**MOX Irradiation, Feedstock, and Transportation**

## **Oxide Production Program Quarterly Report – 1QFY14**

### **Oxide Production Integrated Program Team**

**Mark Dinehart, Program Director**

**Steven McKee, Technical Project Manager**

**Evelyn Kelley, Author**

**May Benavidez, David Hampton Project Controls**

| <u>Reviewed for Classification</u> |        |               |                  |
|------------------------------------|--------|---------------|------------------|
| Evelyn Kelley                      | 154156 | 1/10/14       | Unclassified     |
| (Reviewed By)                      | (Z#)   | (Review Date) | (Classification) |

## TABLE OF CONTENTS

|   |    |
|---|----|
| Table of Contents .....                                   | i  |
| Executive Summary .....                                   | ii |
| 1.0 Introduction .....                                    | 1  |
| 2.0 Staffing.....   | 1  |
| 3.0 Accomplishments.....                                  | 1  |
| 3.1 December 2013 .....                                   | 1  |
| 3.2 November 2013 .....                                   | 3  |
| 3.3 October 2013 .....                                    | 5  |
| 4.0 Milestones Status.....                                | 7  |
| 4.1 NNSA Directed FY14 Milestones.....                    | 7  |
| 4.2 Near Term Milestones .....                            | 7  |
| 5.0 Financial Overview .....                              | 8  |
| 5.1 Financial Summary .....                               | 8  |
| 5.2 Project Performance and Earned Value Management ..... | 8  |
| 5.3 Variance Analysis .....                               | 9  |
| 6.0 Trends and Change Control .....                       | 9  |
| 7.0 Status .....  | 10 |
| 8.0 Challenges.....                                       | 10 |

## TABLE OF TABLES

|   |   |
|---|---|
| Table 1: Planned Versus Actual Staffing Costs (in FTEs) ..... | 1 |
| Table 2: NNSA Directed Milestone Summary .....                | 7 |
| Table 3: Near Term Milestone Summary .....                    | 7 |
| Table 4: Variance Analysis .....                              | 9 |

## APPENDIX

Appendix A: Production Schedule  
 Appendix B: Certification & Ready-to-Ship Schedule  
 Appendix C: Cost Performance Report  
 Appendix D: Status Schedule  
 Appendix E: Spend Plan  
 Appendix F: Commitments  
 Appendix G: Trend Register  
 Appendix H: Milestone Report

## EXECUTIVE SUMMARY

### Fissile Material Disposition Program 1<sup>st</sup> Quarter 2014 (October – December)

A summary of the accomplishments, milestones, financial summary, project performance and issues facing the Oxide Production Program is presented in this Executive Summary.

#### Resumption Status

PF-4 remains on a Laboratory Director-mandated operational pause (ref. DIR-13-161; McMillan to LANL-All).

As of the end of December, for all programmatic operations within the facility, 124 procedures are out for review, 58 of those solely await the criticality safety review. A total of 75 procedures are complete, 26% of the total. There are approximately 300 Criticality Safety Limit Assessment (CSLA) documents in revision/review with 15 resumed to perform programmatic operations. A working resumption schedule is being developed and validated in the War Room. Documents required for resumption which make up the resumption book include the applicable operating procedure (verified by walk-down), the CSLA, the Criticality Safety Evaluation document and the resumption traveler.

The oxide production procedures remain in PS8 (the resumption category showing all other reviews have been completed, comments resolved, and documents have been updated), pending criticality review. Members of the team continue to build the necessary resumption books for the process in order to get the operations and the documentation before the director for approval.

#### Work Accomplishments

##### December 2013

Thermogravimetric analysis (TGA) for Blend Lot #s 53 & 54 was completed. All TGA is now current.

The final Oxide Production Program FY14 Program Management Plan was submitted to NA-00-LA for review and signature.

PNNL completed the initial review of the Lathe Criticality Safety Analysis (CSE) and transmitted the results of the review to LANL. The team also completed and transmitted an analysis of the amount of water that could be safely allowed in the DMO furnace for the DMO-3 glovebox. A document is in preparation and will be transmitted to LANL before the end of January. The recommended criticality limits and controls for the DMO-2 furnace were developed and documented and the initial review of the packaging/canning CSE will begin the week of January 20.

A second visit from B6 Sigma Inc. personnel was completed in December. The B6 Sigma representative updated the lathe controller drawing package based on LANL comments generated during the 90% review. The lathe controller drawing package was verified during the second visit and issued as 100% final. The B6 Sigma representative also met with the Indramat subcontractor representative onsite to initiate the work of establishing the communication between the Indramat drives, spindles and the controller.

An engineering contract was awarded to Merrick and Company to develop the Engineering Design File Report on the MD-2 Shipping/Receiving – Preliminary Design project. The project completed all preliminary documents, held a kick-off meeting and walk-down with staff from Merrick.

All documentation is complete to install the new can opener for the packaging line. The installation is scheduled to begin January 8, 2014. Preliminary engineering documents were completed and approved for the inner and outer can welders.

The 60% design review was completed for the ARIES Pit Cutter project.

Construction on the NDA Cage has been suspended due to material locked on the NDA table which cannot be moved without an approved IWD.

Requirements and engineering documents were completed for the muffle furnace hygrometer.

### **November 2013**

The LANL Program Director traveled to Washington DC to present the FY13 Oxide Production Program's Year-End Financial Summary to the NA-26 Program sponsor. Laboratory representatives across the country participated. Members of the LANL team and NA-00-LA attended via VTC.

Approximately 90% of the FY14 work packages have been finalized. Each work package includes scope, milestones, resources, schedule basis of estimate and assumptions.

Thermogravimetric analysis (TGA) for Blend Lot #s 51 & 52 was completed.

The subcontractor from B6 Sigma Inc. was on site for 2 weeks in November working on the upgrade to the robotic lathe controller. During those 2 weeks work included connecting and testing the wiring from the control panel to some of the smaller Servo motors.

The team from PNNL completed the initial deliverables for work in support of the review of Oxide Production Program Criticality Safety Evaluation Documents (CSED). The initial reviews of the DMO-2 and DMO-3 CSEDs have been completed and transmitted to LANL.

The Program received the final report from the J-E-T-S 10 day audit of the ARIES Oxide Production QA Program. Results show that of the 18 criteria associated with the basic requirements of NQA-1, the Program improved in eleven areas, remained the same in five and showed decline in two.

Work continues to progress on the design of the control system for the Muffle Furnace. MET-1 and NCO-4 are working to develop a single integrated ARIES procedure. AET-5 kicked off the conceptual design process for the fabrication of the insulation barrier.

Two packaging team members made another trip to AMET in Rexburg, ID to fulfill the requirements of the subcontract by doing the product inspection and subcontractor training prior to product delivery at LANL. The inner can welder is expected to arrive at LANL before the end of the calendar year. The outer can welder was delivered on November 18<sup>th</sup>.

NPI-8, the ADPSM Equipment Installation Group began the necessary documentation to move forward on the installation of the can opener. The design change form was completed as was the Integrated Work document (IWD). The construction kick-off meeting occurred on November 4<sup>th</sup>.

An IWD was drafted in preparation for the construction of the NDA cage. Operations and security requirements were identified. The cage design was completed by the LANL design engineering group and it was approved for construction. The team held the construction kick-off meeting.

The ARIES Pit Cutter team completed the Requirements & Criteria Document and the Technical Safety Requirements document to 95%, approvals are pending but expected before months end. The team also identified and secured a location for the glovebox to contain the cutter.

Work began to develop the nonconformance reporting (NCR) paperwork for Blend Lot 38M. The team got approximately half way through the necessary paperwork prior to issuing the NCR.

The MD-2 Shipping/Receiving - Preliminary Design Statement of Need was completed, submitted and approved by the Integrated Program Management (IPM), Program Management Working Board.

### **October 2013**

On October 25, 2013 the Oxide Production Program finalized the baseline schedule for FY14 work. Work packages are in the final stages of completion and include scope, milestones, resources, schedule basis of estimate and assumptions.

The FY14 Program Management Plan is currently out for review by the signatories. Comments and suggestions from reviewers have been incorporated.

On October 28, 2013 a contract was awarded to B6 Sigma Inc. to assist in the completion of the robotic lathe equipment upgrade.

DMO-2 & DMO-3 will be the starting point of an independent CSED review with support from PNNL personnel. A small team from PNNL was onsite to provide added criticality resource to the Program and work on criticality documentation necessary for the resumption package approvals prior to resuming operations in PF-4.

A TGA replacement chiller was introduced into a glovebox without incident. This accomplishment gets the Program closer to the TGA analysis and certification of Blend Lot #s 51-52. Blend Lot #s 51-52 are on track for preparing samples and shipping to SRS on January 30, 2014.

J-E-T-S completed a 10 day audit of the ARIES Oxide Production QA Program. The auditors noted that the QA program shows improvement in many areas since the last audit in 2011. Their final report is expected to be issued by the end of November.

The muffle furnace tantalum catch pan has been designed and the team is preparing to procure the tantalum. Work is progressing on the design of the control system. The existing operating procedure has been updated.

Members of the packaging team traveled to AMET in Rexburg, ID to fulfill the requirements of the subcontract by doing the product inspection and subcontractor training prior to product delivery at LANL. The Outer Can Welder is expected to arrive at LANL within the next week or two.

Cold testing was completed on the 8<sup>th</sup> of the month on the packaging line's new Can Opener. Preparations for installation are moving forward, the IWD is in process and the post modification test has been drafted.

Procurement has been started for constructing the NDA cage. All materials should be onsite by early December. Construction is scheduled to begin in January and wrap-up in March.

Design work is underway for the ARIES Pit Cutter (simple pit disassembly). The team is working on the requirements documentation and Technical Safety Requirements.

An Engineering Service Request was prepared and submitted for the MD-2 Shipping/Receiving - Preliminary Design. The team completed the Statement of Need and developed a risk ranking document.

# EXECUTIVE SUMMARY

DATA DATE: December 15, 2013

| LANL PROJECT TITLE: FY14 Oxide Production |                          | AUTHORIZATION NUMBER:  |        | PROJECT TYPE: Expense   |                          |                        |        |        |        |        |       |       |              |       |        |      |        |        |      |        |     |  |   |         |   |        |      |        |        |        |       |        |       |   |   |     |   |                        |       |                               |        |                       |     |   |   |   |       |    |                   |   |       |   |   |   |   |       |    |   |  |  |     |       |     |     |               |        |       |        |        |               |   |   |   |   |  |        |       |        |        |
|---|--------------------------|--|--------|---|--------------------------|------------------------|--------|--------|--------|--------|-------|-------|--------------|-------|--------|------|--------|--------|------|--------|-----|--|---|---------|---|--------|------|--------|--------|--------|-------|--------|-------|---|---|-----|---|------------------------|-------|-------------------------------|--------|-----------------------|-----|---|---|---|-------|----|-------------------|---|-------|---|---|---|---|-------|----|---|--|--|-----|-------|-----|-----|---------------|--------|-------|--------|--------|---------------|---|---|---|---|--|--------|-------|--------|--------|
| AUTH. LANL PROJECT ID:                    |                          | DOE DIRECTIVE NUMBER:  |        | PROJECT STAGE: FY Execution   |                          |                        |        |        |        |        |       |       |              |       |        |      |        |        |      |        |     |  |   |         |   |        |      |        |        |        |       |        |       |   |   |     |   |                        |       |                               |        |                       |     |   |   |   |       |    |                   |   |       |   |   |   |   |       |    |   |  |  |     |       |     |     |               |        |       |        |        |               |   |   |   |   |  |        |       |        |        |
| PROJECT DESCRIPTION                       |                          | Los Alamos National Laboratory has the mission to produce 150 kg of Pu as Certified Oxide for use by MOX services as part of the 2MT campaign. This is currently achieved using direct metal oxide (DMO) furnaces. For FY14 additional production goals include; completing the upgrade to the robotic lathe disassembly system, completing a design and cold test for a new simple pit disassembly unit to reduce dependency on the robotic lathe, resolving DMO-3 criticality issues and completing the installation of the packaging line inner can welder.   |        |   |                          |                        |        |        |        |        |       |       |              |       |        |      |        |        |      |        |     |  |   |         |   |        |      |        |        |        |       |        |       |   |   |     |   |                        |       |                               |        |                       |     |   |   |   |       |    |                   |   |       |   |   |   |   |       |    |   |  |  |     |       |     |     |               |        |       |        |        |               |   |   |   |   |  |        |       |        |        |
| PERFORMANCE                               |                          | <table><thead><tr><th></th><th>Current Period (\$1,000)</th><th>Cum. To Date (\$1,000)</th></tr></thead><tbody><tr><td>BCWS</td><td>3,451</td><td>9,091</td></tr><tr><td>BCWP</td><td>2,284</td><td>7,184</td></tr><tr><td>ACWP</td><td>2,661</td><td>6,544</td></tr><tr><td>S.V.</td><td>-1,168</td><td>-1,907</td></tr><tr><td>C.V.</td><td>-377</td><td>640</td></tr></tbody></table>   |        |   | Current Period (\$1,000) | Cum. To Date (\$1,000) | BCWS   | 3,451  | 9,091  | BCWP   | 2,284 | 7,184 | ACWP         | 2,661 | 6,544  | S.V. | -1,168 | -1,907 | C.V. | -377   | 640 | <table><thead><tr><th colspan="2">Indices</th></tr></thead><tbody><tr><td>S.P.I.</td><td>0.79</td></tr><tr><td>C.P.I.</td><td>1.10</td></tr><tr><td>S.V. %</td><td>-21.0</td></tr><tr><td>C.V. %</td><td>8.9</td></tr></tbody></table> |   | Indices |   | S.P.I. | 0.79 | C.P.I. | 1.10   | S.V. % | -21.0 | C.V. % | 8.9   | <table><thead><tr><th colspan="2">Key</th></tr></thead><tbody><tr><td>S.P.I., C.P.I. &gt;= 0.90</td><td>Green</td></tr><tr><td>0.80 &lt;= S.P.I., C.P.I. &lt; 0.90</td><td>Yellow</td></tr><tr><td>S.P.I., C.P.I. &lt; 0.80</td><td>Red</td></tr></tbody></table> |   | Key |   | S.P.I., C.P.I. >= 0.90 | Green | 0.80 <= S.P.I., C.P.I. < 0.90 | Yellow | S.P.I., C.P.I. < 0.80 | Red |   |   |   |       |    |                   |   |       |   |   |   |   |       |    |   |  |  |     |       |     |     |               |        |       |        |        |               |   |   |   |   |  |        |       |        |        |
|   | Current Period (\$1,000) | Cum. To Date (\$1,000)   |        |   |                          |                        |        |        |        |        |       |       |              |       |        |      |        |        |      |        |     |  |   |         |   |        |      |        |        |        |       |        |       |   |   |     |   |                        |       |                               |        |                       |     |   |   |   |       |    |                   |   |       |   |   |   |   |       |    |   |  |  |     |       |     |     |               |        |       |        |        |               |   |   |   |   |  |        |       |        |        |
| BCWS                                      | 3,451                    | 9,091  |        |   |                          |                        |        |        |        |        |       |       |              |       |        |      |        |        |      |        |     |  |   |         |   |        |      |        |        |        |       |        |       |   |   |     |   |                        |       |                               |        |                       |     |   |   |   |       |    |                   |   |       |   |   |   |   |       |    |   |  |  |     |       |     |     |               |        |       |        |        |               |   |   |   |   |  |        |       |        |        |
| BCWP                                      | 2,284                    | 7,184  |        |   |                          |                        |        |        |        |        |       |       |              |       |        |      |        |        |      |        |     |  |   |         |   |        |      |        |        |        |       |        |       |   |   |     |   |                        |       |                               |        |                       |     |   |   |   |       |    |                   |   |       |   |   |   |   |       |    |   |  |  |     |       |     |     |               |        |       |        |        |               |   |   |   |   |  |        |       |        |        |
| ACWP                                      | 2,661                    | 6,544  |        |   |                          |                        |        |        |        |        |       |       |              |       |        |      |        |        |      |        |     |  |   |         |   |        |      |        |        |        |       |        |       |   |   |     |   |                        |       |                               |        |                       |     |   |   |   |       |    |                   |   |       |   |   |   |   |       |    |   |  |  |     |       |     |     |               |        |       |        |        |               |   |   |   |   |  |        |       |        |        |
| S.V.                                      | -1,168                   | -1,907   |        |   |                          |                        |        |        |        |        |       |       |              |       |        |      |        |        |      |        |     |  |   |         |   |        |      |        |        |        |       |        |       |   |   |     |   |                        |       |                               |        |                       |     |   |   |   |       |    |                   |   |       |   |   |   |   |       |    |   |  |  |     |       |     |     |               |        |       |        |        |               |   |   |   |   |  |        |       |        |        |
| C.V.                                      | -377                     | 640  |        |   |                          |                        |        |        |        |        |       |       |              |       |        |      |        |        |      |        |     |  |   |         |   |        |      |        |        |        |       |        |       |   |   |     |   |                        |       |                               |        |                       |     |   |   |   |       |    |                   |   |       |   |   |   |   |       |    |   |  |  |     |       |     |     |               |        |       |        |        |               |   |   |   |   |  |        |       |        |        |
| Indices                                   |                          |  |        |   |                          |                        |        |        |        |        |       |       |              |       |        |      |        |        |      |        |     |  |   |         |   |        |      |        |        |        |       |        |       |   |   |     |   |                        |       |                               |        |                       |     |   |   |   |       |    |                   |   |       |   |   |   |   |       |    |   |  |  |     |       |     |     |               |        |       |        |        |               |   |   |   |   |  |        |       |        |        |
| S.P.I.                                    | 0.79                     |  |        |   |                          |                        |        |        |        |        |       |       |              |       |        |      |        |        |      |        |     |  |   |         |   |        |      |        |        |        |       |        |       |   |   |     |   |                        |       |                               |        |                       |     |   |   |   |       |    |                   |   |       |   |   |   |   |       |    |   |  |  |     |       |     |     |               |        |       |        |        |               |   |   |   |   |  |        |       |        |        |
| C.P.I.                                    | 1.10                     |  |        |   |                          |                        |        |        |        |        |       |       |              |       |        |      |        |        |      |        |     |  |   |         |   |        |      |        |        |        |       |        |       |   |   |     |   |                        |       |                               |        |                       |     |   |   |   |       |    |                   |   |       |   |   |   |   |       |    |   |  |  |     |       |     |     |               |        |       |        |        |               |   |   |   |   |  |        |       |        |        |
| S.V. %                                    | -21.0                    |  |        |   |                          |                        |        |        |        |        |       |       |              |       |        |      |        |        |      |        |     |  |   |         |   |        |      |        |        |        |       |        |       |   |   |     |   |                        |       |                               |        |                       |     |   |   |   |       |    |                   |   |       |   |   |   |   |       |    |   |  |  |     |       |     |     |               |        |       |        |        |               |   |   |   |   |  |        |       |        |        |
| C.V. %                                    | 8.9                      |  |        |   |                          |                        |        |        |        |        |       |       |              |       |        |      |        |        |      |        |     |  |   |         |   |        |      |        |        |        |       |        |       |   |   |     |   |                        |       |                               |        |                       |     |   |   |   |       |    |                   |   |       |   |   |   |   |       |    |   |  |  |     |       |     |     |               |        |       |        |        |               |   |   |   |   |  |        |       |        |        |
| Key                                       |                          |  |        |   |                          |                        |        |        |        |        |       |       |              |       |        |      |        |        |      |        |     |  |   |         |   |        |      |        |        |        |       |        |       |   |   |     |   |                        |       |                               |        |                       |     |   |   |   |       |    |                   |   |       |   |   |   |   |       |    |   |  |  |     |       |     |     |               |        |       |        |        |               |   |   |   |   |  |        |       |        |        |
| S.P.I., C.P.I. >= 0.90                    | Green                    |  |        |   |                          |                        |        |        |        |        |       |       |              |       |        |      |        |        |      |        |     |  |   |         |   |        |      |        |        |        |       |        |       |   |   |     |   |                        |       |                               |        |                       |     |   |   |   |       |    |                   |   |       |   |   |   |   |       |    |   |  |  |     |       |     |     |               |        |       |        |        |               |   |   |   |   |  |        |       |        |        |
| 0.80 <= S.P.I., C.P.I. < 0.90             | Yellow                   |  |        |   |                          |                        |        |        |        |        |       |       |              |       |        |      |        |        |      |        |     |  |   |         |   |        |      |        |        |        |       |        |       |   |   |     |   |                        |       |                               |        |                       |     |   |   |   |       |    |                   |   |       |   |   |   |   |       |    |   |  |  |     |       |     |     |               |        |       |        |        |               |   |   |   |   |  |        |       |        |        |
| S.P.I., C.P.I. < 0.80                     | Red                      |  |        |   |                          |                        |        |        |        |        |       |       |              |       |        |      |        |        |      |        |     |  |   |         |   |        |      |        |        |        |       |        |       |   |   |     |   |                        |       |                               |        |                       |     |   |   |   |       |    |                   |   |       |   |   |   |   |       |    |   |  |  |     |       |     |     |               |        |       |        |        |               |   |   |   |   |  |        |       |        |        |
| VARIANCE ANALYSIS                         |                          | <p>The program is behind schedule and underrun. The schedule is behind primarily due to delays in Resumption, Conveyor Control System Refurbishment and Lathe Controller Upgrade Installation activities.</p> <p>The underrun is primarily due to Spare Parts not being ordered as planned, Alternative Studies not being staffed as planned, and level-of-effort activities for the Lathe Controller Upgrade Installation not using planned resources due to a late start.</p>  |        |   |                          |                        |        |        |        |        |       |       |              |       |        |      |        |        |      |        |     |  |   |         |   |        |      |        |        |        |       |        |       |   |   |     |   |                        |       |                               |        |                       |     |   |   |   |       |    |                   |   |       |   |   |   |   |       |    |   |  |  |     |       |     |     |               |        |       |        |        |               |   |   |   |   |  |        |       |        |        |
| CORRECTIVE ACTION                         |                          | The schedule delays will not impact completion of the projects associated with the delayed activities. The underrun should be recovered when operations are resumed and the projects recover from their schedule delays.   |        |   |                          |                        |        |        |        |        |       |       |              |       |        |      |        |        |      |        |     |  |   |         |   |        |      |        |        |        |       |        |       |   |   |     |   |                        |       |                               |        |                       |     |   |   |   |       |    |                   |   |       |   |   |   |   |       |    |   |  |  |     |       |     |     |               |        |       |        |        |               |   |   |   |   |  |        |       |        |        |
| TPC FINANCIAL SUMMARY (\$1,000)           |                          | <table><thead><tr><th></th><th>Prior FY</th><th>FY '14</th><th>FY '15</th><th>FY '16</th><th>FY '17</th><th>Future</th><th>Total</th><th>%</th></tr></thead><tbody><tr><td>Funding (BA)</td><td>0</td><td>50,349</td><td>0</td><td>0</td><td>0</td><td>0</td><td>50,349</td><td>100</td></tr><tr><td>BCWS</td><td>0</td><td>43,498</td><td>0</td><td>0</td><td>0</td><td>0</td><td>43,498</td><td>21</td></tr><tr><td>BCWP</td><td>0</td><td>7,184</td><td>0</td><td>0</td><td>0</td><td>0</td><td>7,184</td><td>17</td></tr><tr><td>ACWP</td><td>0</td><td>6,544</td><td>0</td><td>0</td><td>0</td><td>0</td><td>6,544</td><td>15</td></tr><tr><td>Total Obligations</td><td>0</td><td>7,380</td><td>0</td><td>0</td><td>0</td><td>0</td><td>7,380</td><td>17</td></tr></tbody></table> |        |   | Prior FY                 | FY '14                 | FY '15 | FY '16 | FY '17 | Future | Total | %     | Funding (BA) | 0     | 50,349 | 0    | 0      | 0      | 0    | 50,349 | 100 | BCWS   | 0 | 43,498  | 0 | 0      | 0    | 0      | 43,498 | 21     | BCWP  | 0      | 7,184 | 0   | 0 | 0   | 0 | 7,184                  | 17    | ACWP                          | 0      | 6,544                 | 0   | 0 | 0 | 0 | 6,544 | 15 | Total Obligations | 0 | 7,380 | 0 | 0 | 0 | 0 | 7,380 | 17 | <table><thead><tr><th></th><th>BAC</th><th>CNTGY</th><th>TPC</th><th>EAC</th></tr></thead><tbody><tr><td>OPC (Expense)</td><td>43,498</td><td>6,850</td><td>50,349</td><td>43,498</td></tr><tr><td>TEC (Capital)</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td></td><td>43,498</td><td>6,850</td><td>50,349</td><td>43,498</td></tr></tbody></table> |  |  | BAC | CNTGY | TPC | EAC | OPC (Expense) | 43,498 | 6,850 | 50,349 | 43,498 | TEC (Capital) | 0 | 0 | 0 | 0 |  | 43,498 | 6,850 | 50,349 | 43,498 |
|   | Prior FY                 | FY '14   | FY '15 | FY '16  | FY '17                   | Future                 | Total  | %      |        |        |       |       |              |       |        |      |        |        |      |        |     |  |   |         |   |        |      |        |        |        |       |        |       |   |   |     |   |                        |       |                               |        |                       |     |   |   |   |       |    |                   |   |       |   |   |   |   |       |    |   |  |  |     |       |     |     |               |        |       |        |        |               |   |   |   |   |  |        |       |        |        |
| Funding (BA)                              | 0                        | 50,349   | 0      | 0   | 0                        | 0                      | 50,349 | 100    |        |        |       |       |              |       |        |      |        |        |      |        |     |  |   |         |   |        |      |        |        |        |       |        |       |   |   |     |   |                        |       |                               |        |                       |     |   |   |   |       |    |                   |   |       |   |   |   |   |       |    |   |  |  |     |       |     |     |               |        |       |        |        |               |   |   |   |   |  |        |       |        |        |
| BCWS                                      | 0                        | 43,498   | 0      | 0   | 0                        | 0                      | 43,498 | 21     |        |        |       |       |              |       |        |      |        |        |      |        |     |  |   |         |   |        |      |        |        |        |       |        |       |   |   |     |   |                        |       |                               |        |                       |     |   |   |   |       |    |                   |   |       |   |   |   |   |       |    |   |  |  |     |       |     |     |               |        |       |        |        |               |   |   |   |   |  |        |       |        |        |
| BCWP                                      | 0                        | 7,184  | 0      | 0   | 0                        | 0                      | 7,184  | 17     |        |        |       |       |              |       |        |      |        |        |      |        |     |  |   |         |   |        |      |        |        |        |       |        |       |   |   |     |   |                        |       |                               |        |                       |     |   |   |   |       |    |                   |   |       |   |   |   |   |       |    |   |  |  |     |       |     |     |               |        |       |        |        |               |   |   |   |   |  |        |       |        |        |
| ACWP                                      | 0                        | 6,544  | 0      | 0   | 0                        | 0                      | 6,544  | 15     |        |        |       |       |              |       |        |      |        |        |      |        |     |  |   |         |   |        |      |        |        |        |       |        |       |   |   |     |   |                        |       |                               |        |                       |     |   |   |   |       |    |                   |   |       |   |   |   |   |       |    |   |  |  |     |       |     |     |               |        |       |        |        |               |   |   |   |   |  |        |       |        |        |
| Total Obligations                         | 0                        | 7,380  | 0      | 0   | 0                        | 0                      | 7,380  | 17     |        |        |       |       |              |       |        |      |        |        |      |        |     |  |   |         |   |        |      |        |        |        |       |        |       |   |   |     |   |                        |       |                               |        |                       |     |   |   |   |       |    |                   |   |       |   |   |   |   |       |    |   |  |  |     |       |     |     |               |        |       |        |        |               |   |   |   |   |  |        |       |        |        |
|   | BAC                      | CNTGY  | TPC    | EAC   |                          |                        |        |        |        |        |       |       |              |       |        |      |        |        |      |        |     |  |   |         |   |        |      |        |        |        |       |        |       |   |   |     |   |                        |       |                               |        |                       |     |   |   |   |       |    |                   |   |       |   |   |   |   |       |    |   |  |  |     |       |     |     |               |        |       |        |        |               |   |   |   |   |  |        |       |        |        |
| OPC (Expense)                             | 43,498                   | 6,850  | 50,349 | 43,498  |                          |                        |        |        |        |        |       |       |              |       |        |      |        |        |      |        |     |  |   |         |   |        |      |        |        |        |       |        |       |   |   |     |   |                        |       |                               |        |                       |     |   |   |   |       |    |                   |   |       |   |   |   |   |       |    |   |  |  |     |       |     |     |               |        |       |        |        |               |   |   |   |   |  |        |       |        |        |
| TEC (Capital)                             | 0                        | 0  | 0      | 0   |                          |                        |        |        |        |        |       |       |              |       |        |      |        |        |      |        |     |  |   |         |   |        |      |        |        |        |       |        |       |   |   |     |   |                        |       |                               |        |                       |     |   |   |   |       |    |                   |   |       |   |   |   |   |       |    |   |  |  |     |       |     |     |               |        |       |        |        |               |   |   |   |   |  |        |       |        |        |
|   | 43,498                   | 6,850  | 50,349 | 43,498  |                          |                        |        |        |        |        |       |       |              |       |        |      |        |        |      |        |     |  |   |         |   |        |      |        |        |        |       |        |       |   |   |     |   |                        |       |                               |        |                       |     |   |   |   |       |    |                   |   |       |   |   |   |   |       |    |   |  |  |     |       |     |     |               |        |       |        |        |               |   |   |   |   |  |        |       |        |        |
| LANL KEY PERSONNEL                        |                          | Program Director: Mark Dinehart<br>Project Controls: David Hampton, May Benavidez<br>Technical Project Manager: Steve McKee<br>Program Management: Evelyn Kelley   |        | DOE KEY PERSONNEL<br>Federal Program Manager, Office Of Fissile Materials Disposition (NA-26): Margaret Schwenker<br>Los Alamos Field Office, Assistant Manager for National Security Missions, George Rael<br>Los Alamos Field Office, Mission Execution Manager NA-20 and NE-75 Programs, Arthur Trujillo |                          |                        |        |        |        |        |       |       |              |       |        |      |        |        |      |        |     |  |   |         |   |        |      |        |        |        |       |        |       |   |   |     |   |                        |       |                               |        |                       |     |   |   |   |       |    |                   |   |       |   |   |   |   |       |    |   |  |  |     |       |     |     |               |        |       |        |        |               |   |   |   |   |  |        |       |        |        |
| ACCOMPLISHMENTS FOR PERIOD                |                          | -TGA for Blend Lot #s 53 & 54 was completed. All TGA is now current.<br>-The PNNL team has made excellent progress on CSE analysis.<br>-The FY14 PMP was submitted to NA-00-LA for review and signature.<br>-B6 Sigma and Indramat came onsite to continue work on the lathe.<br>-A contract was awarded to Merrick for work on the MD-2 Design.<br>-All documentation was completed to install the can opener.<br>-The 60% design was completed for the ARIES Pit Cutter project.<br>-Muffle furnace hygrometer requirements were completed.  |        | ACTIVE CONCERNS<br>-The uncertainty of a production restart date adds risk to the oxide certification milestone.<br>-The lack of LANL/TA-55 criticality resources continues to slow the process for approving resumption books.   |                          |                        |        |        |        |        |       |       |              |       |        |      |        |        |      |        |     |  |   |         |   |        |      |        |        |        |       |        |       |   |   |     |   |                        |       |                               |        |                       |     |   |   |   |       |    |                   |   |       |   |   |   |   |       |    |   |  |  |     |       |     |     |               |        |       |        |        |               |   |   |   |   |  |        |       |        |        |
| DOE PROJECT AUTHORIZATION LOG             |                          | Authorization<br>Initial Auth  |        | Date<br>Capital<br>Expense<br>Work Scope<br>Initial Auth  |                          |                        |        |        |        |        |       |       |              |       |        |      |        |        |      |        |     |  |   |         |   |        |      |        |        |        |       |        |       |   |   |     |   |                        |       |                               |        |                       |     |   |   |   |       |    |                   |   |       |   |   |   |   |       |    |   |  |  |     |       |     |     |               |        |       |        |        |               |   |   |   |   |  |        |       |        |        |

# EXECUTIVE SUMMARY

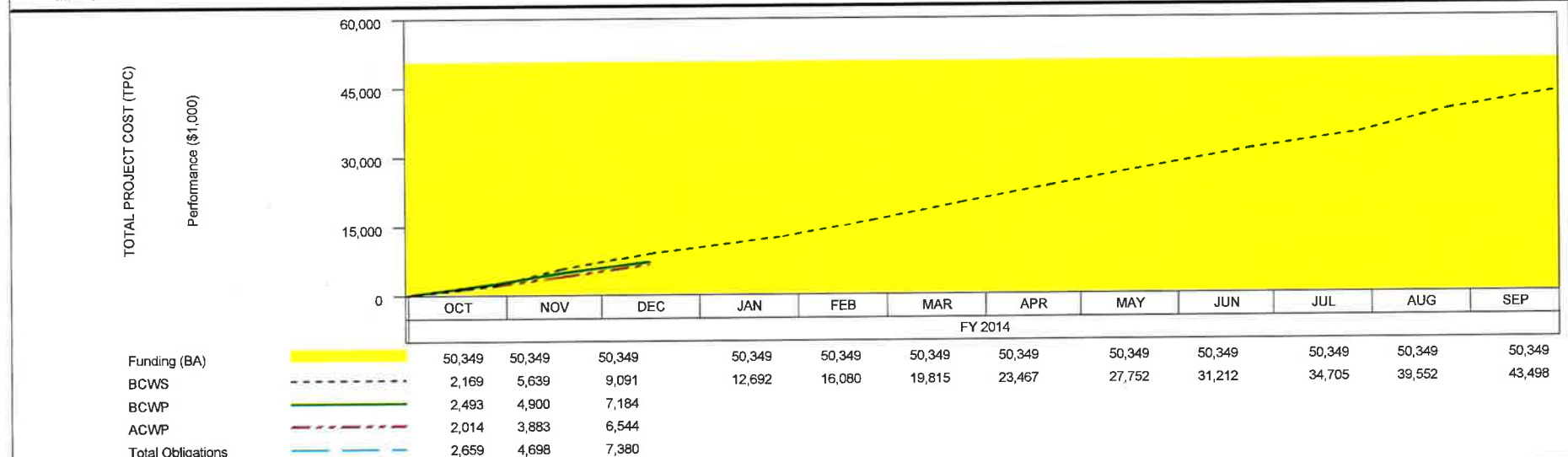
DATA DATE: December 15, 2013

|   |  |
|---|--|
| LANL PROJECT TITLE: FY14 Oxide Production<br>AUTH. LANL PROJECT ID: | CONTINGENCY<br>Contingency - \$6,850,441 |
|---|--|

| Milestone  | Baseline Sched. | Act./Fcst. Sched.    | Var. (Weeks) |
|--|-----------------|----------------------|--------------|
| Resolve Criticality Safety Concerns with DMO-3 Oxide Conversion Unit |                 | March 28, 2014 F     |              |
| Complete Design of Simple Pit Disassembly Equipment                  |                 | August 15, 2014 F    |              |
| Complete the Installation of the Packaging Line Inner Can Welder     |                 | August 29, 2014 F    |              |
| Complete 3 Ready-to-Ship Submittals                                  |                 | September 15, 2014 F |              |
| 150 kg Certified Oxide Accepted by MOX Services                      |                 | September 26, 2014 F |              |

|                     |   |
|---------------------|---|
| BAR LOG<br>(LAST 5) | BCP LOG<br>(LAST 5)   |
|                     | BCR PSM-14-004 Can Opener \$52.8K<br>BCR PSM-14-007 Storage Glovebox Agreement (\$206.2K) |

|   |
|---|
| POTENTIAL<br>FUTURE<br>COST, SCHED.,<br>& TECHNICAL<br>IMPACTS/CONCERNS |
|---|



|   |                        |  |                |
|---|------------------------|--|----------------|
| <br>Technical Project Manager: Steven D. McKee | 8 January 2014<br>DATE | <br>Program Director: Mark Dinehart | 1/8/14<br>DATE |
|---|------------------------|--|----------------|



## 1.0 Introduction

Los Alamos National Laboratory (LANL), under LANS, LLC, has the mission to produce plutonium oxide certified for use in Mixed-Oxide (MOX) fuels production and is currently using the Advanced Recovery and Integrated Extraction System (ARIES) for operations. This material is obtained from stockpile-return units identified by NA-26 for disposition in accordance with the Plutonium Management and Disposition Agreement.

This quarterly report provides a status on the key activities associated with the Program for the first quarter of FY14. Status is provided on staffing, accomplishments, milestones, financials, trends, activity status and overall concerns and challenges. This report covers the time period from October 2013 through December 2013.

## 2.0 Staffing

| FY14    | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Planned | 53  | 68  | 74  | 75  | 76  | 76  | 78  | 79  | 75  | 74  | 72  | 64  |
| Actual  | 52  | 62  | 62  |     |     |     |     |     |     |     |     |     |
|         |     |     |     |     |     |     |     |     |     |     |     |     |

**Table 1: Planned Versus Actual Staffing Costs (in FTEs)**

Staffing through December is lower than planned. Some staff that were planned to charge resumption activities have been charging other programs. Some engineering and equipment installation efforts did not start per the baseline schedule, therefore, staffing is lower than planned.

## 3.0 Accomplishments

### 3.1 December 2013

Thermogravimetric analysis (TGA) for Blend Lot #s 53 & 54 was completed. All TGA is now current.

PNNL completed the initial review of the robotic lathe Criticality Safety Analysis (CSE) and transmitted the results of the review to LANL. A video conference was held with LANL to discuss the robotic lathe CSE review and confirm the path forward for development of the criticality safety information. This document is in preparation and will be transmitted to LANL before the end of January. PNNL completed and transmitted an analysis of the amount of water that could be safely allowed in the DMO furnace for the DMO-3 glovebox. This analysis took into account the geometry of the DMO furnace. The maximum allowable water volume was calculated to be 16 liters which resulted in a reactivity coefficient, or  $k_{\text{eff}}$ , equal to 0.93 with 3%  $^{240}\text{Pu}$  content. This conflicts with the volume capacity of the installed cooling system (30 liters) for this glovebox. The recommended criticality limits and controls for the DMO-2 furnace were developed and documented. The document containing the information required to produce a DOE-STD 3007-2007 compliant CSE was transmitted to LANL. The corresponding document for DMO-3 is currently in preparation and will be transmitted before the end of January. Initial review of the packaging/canning CSE will begin the week of January 20.

The final Oxide Production Program FY14 Program Management Plan was submitted to NA-00-LA for review and signature. It will be transmitted to NA-26 in early January for final signature.

A second visit from B6 Sigma Inc. personnel was completed in December. The B6 Sigma representative updated the lathe controller drawing package based on LANL comments generated during the 90% review. The lathe controller drawing package was verified during the second visit and issued as 100% final. The B6 Sigma representative also met with the Indramat subcontractor representative onsite to initiate the work of establishing the communication between the Indramat drives, spindles and the controller. Another visit from both B6 Sigma and Indramat in late January will finalize this communication. The Design Change Form (DCF) was also initiated by LANL engineering with a kickoff meeting and walk down of the controller and the installation location by engineering, process engineers and construction.



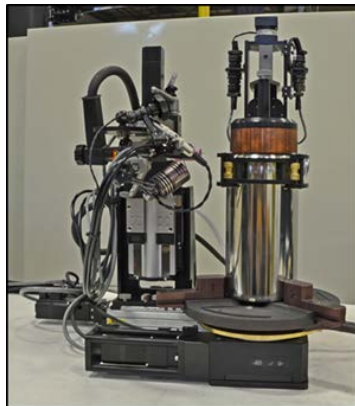
**Work on the New Lathe Control System**



**Lathe Control System Cabinet**

A contract was awarded to Merrick and Company to develop the Engineering Design File Report on the MD-2 Shipping/Receiving – Preliminary Design project. The report is scheduled to be complete in early March. The project completed all preliminary documents, held a kick-off meeting and walk-down with staff from Merrick.

All documentation is complete to install the new can opener for the packaging line. The installation is scheduled to begin January 8, 2014. Preliminary engineering documents were completed and approved for the inner and outer can welders. These projects are on track to complete per the FY14 schedule.



**Inner Can Welder**



**Outer Can Welder**

The 60% design review was completed for the ARIES Pit Cutter project. Comments are due in January and will be incorporated as appropriate. This project is on schedule.

Construction on the NDA Cage has been suspended. Material is locked on the NDA table and it cannot be moved without an approved IWD. The project team has been told that construction cannot proceed with the material on the table and an estimated date for an approved IWD has not been set. Most items have been procured and are awaiting delivery, therefore construction could resume once an IWD is approved.

Requirements and engineering documents were completed for the muffle furnace hygrometer.

### **3.2 November 2013**

The LANL Program Director traveled to Washington DC to present the FY13 Oxide Production Program's Year-End Financial Summary to the NA-26 Program sponsor. Laboratory representatives across the country participated. Members of the LANL team and NA-00-LA attended via VTC. Topics covered included FY13 assumptions, AOP milestones and performance measures, FY13 accomplishments, FY13 staffing levels, a financial summary, EVMS data, uncosted commitment summary, FY14 assumptions and spend plan and other outstanding financial issues.

Approximately 90% of the FY14 work packages have been finalized. Each work package includes scope, milestones, resources, schedule basis of estimate and assumptions. The remainder is expected to be finalized within the next 2-3 weeks.

Thermogravimetric analysis (TGA) for Blend Lot #s 51 & 52 was completed. The first samples, Blend Lot 51-TGA1 and Blend Lot 51-TGA2, were run November 19<sup>th</sup> & 20<sup>th</sup>. To ensure accurate and consistent evaluation of the moisture content in these samples, which have sat around for several months in sealed steel capsules, the team ran both TGA samples. Preliminary results looked good and consistent with previous tests; moisture was well below 0.01% by weight. On November 21<sup>st</sup> the team proceeded with the analyses of both cuts from Blend Lot 52. Blend Lot #s 51-52 remain on track for preparing samples and shipping to SRS by January 30, 2014.

The subcontractor from B6 Sigma Inc. was on site for 2 weeks in November working on the upgrade to the robotic lathe controller. During those 2 weeks work included connecting and testing the wiring from the control panel to some of the smaller Servo motors. Seven of the eight motors tested successfully, the team will continue to get the eighth motor operational before December. The team also finalized the drawing package and the B6 Sigma subcontractor took the mark-ups and will return in December with the final package. Further wiring work is expected to be completed in December when the B6 Sigma Inc. and Indramat subcontractors come on site to complete the wiring and testing of the Spindle motors. Indramat is the manufacturer of the drives that run the Spindle motors.

The team from PNNL completed the initial deliverables for work in support of the review of Oxide Production Program Criticality Safety Evaluation Documents (CSED). The initial reviews of the DMO-2 and DMO-3 CSEDs have been completed and transmitted to LANL. A video conference was held with LANL staff to discuss the DMO-2 and DMO-3 reviews. This conference confirmed that the reviews presented an accurate understanding of the system configuration and limits and the recommended path for completion. The initial review of the lathe CSED has been completed and was transmitted to LANL the week of November 25. Completion of the final evaluation report for DMO-2 and DMO-3 is underway with the review draft expected to be transmitted to LANL on or before December 20.

The Program received the final report from the J-E-T-S 10 day audit of the ARIES Oxide Production QA Program. Results show that of the 18 criteria associated with the basic requirements of NQA-1, the Program improved in eleven areas, remained the same in five and showed decline in two. The declining two included, organization (structure and QA independence), and procurement (supplier qualifications and Management Level designations). The program is working on a corrective action plan in response to the report.

Work continues to progress on the design of the control system for the Muffle Furnace. MET-1 and NCO-4 are working to develop a single integrated ARIES procedure. AET-5 kicked off the conceptual design process for the fabrication of the insulation barrier. Pricing continues on the cost of tantalum to fabricate the catch pan. The controller design will enter the 60% design review phase in the December timeframe.

Two packaging team members made another trip to AMET in Rexburg, ID to fulfill the requirements of the subcontract by doing the product inspection and subcontractor training prior to product delivery at LANL. The inner can welder is expected to arrive at LANL before the end of the calendar year. The outer can welder was delivered on November 18<sup>th</sup>. The outer can 3013 can that was welded with the new system during the October visit to Idaho was destructively inspected in November, radiography had passing results, metallography results are pending.

NPI-8, the ADPSM Equipment Installation Group began the necessary documentation to move forward on the installation of the can opener. The design change form was completed as was the Integrated Work document (IWD). The construction kick-off meeting occurred on November 4<sup>th</sup>. Per the project schedule the can opener installation will be complete on December 16<sup>th</sup> 2013, the inner can welder installation will be complete by March 27<sup>th</sup> and the outer can welder installation will be complete by August 22<sup>nd</sup>.

An IWD was drafted in preparation for the construction of the NDA cage. Operations and security requirements were identified. The cage design was completed by the LANL design engineering group and it was approved for construction. The team held the construction kick-off meeting. Material currently locked in the well of the NDA table will have to be moved prior to construction efforts and the NDA team is working on an IWD to get this done. The cage will provide a physical barrier that would ensure security protection when in place but could be moved out of the way to allow access to all sides of the Oxide Production Program's NDA table and instrumentation.

The ARIES Pit Cutter team completed the Requirements & Criteria Document and the Technical Safety Requirements document to 95%, approvals are pending but expected before months end. The team also identified and secured a location for the glovebox to contain the cutter. This additional disassembly tool will reduce the time needed on the robotic lathe and provide alternative solutions for this process step in the production line.

Work began to develop the nonconformance reporting (NCR) paperwork for Blend Lot 38M. The team got approximately half way through the necessary paperwork prior to issuing the NCR. Blend Lot 38M is on track for certification in early March.

The MD-2 Shipping/Receiving - Preliminary Design Statement of Need was completed, submitted and approved by the Integrated Program Management (IPM), Program Management Working Board. The team has also completed approximately 90% of the Technical Specification and Requirements Document and has begun work on the Requirements Criteria Document and estimate. A design contract was awarded to Merrick & Company for the Title I study/design to be completed in mid-March.

### **3.3 October 2013**

On October 25, 2013 the Oxide Production Program finalized the baseline schedule for FY14 work. Work packages are in the final stages of completion and include scope, milestones, resources, schedule basis of estimate and assumptions. The team is fine tuning each work package to ensure accuracy and consistency with the baseline. In FY14 there are 30 work packages that fall into the categories of operations (12), engineering (5), program management (7), or projects (6).

The FY14 Program Management Plan is currently out for review by the signatories. Comments and suggestions from reviewers have been incorporated. The Program expects to have a signed copy before the end of November.

On October 28, 2013 a contract was awarded to B6 Sigma Inc. to assist in the completion of the robotic lathe equipment upgrade. Personnel from B6 Sigma Inc., the designer of the controller, will be coming onsite over the next few months to provide component and integrated system software testing for the PC-based control system. The subcontractor will consult on field installation activities and perform final testing once installation is complete. The subcontractor is required to provide monthly progress reports, a control system bill of materials in accordance with the approved software project plan (PA-SwPP-01002), a software requirements document, schematics/panel layout drawings, a software design document, a software test plan and final as-built drawings for the panel layout and electrical schematics.

DMO-2 & DMO-3 will be the starting point of an independent CSED review with support from PNNL personnel. A small team from PNNL was onsite to provide added criticality resource to the Program and work on criticality documentation necessary for the resumption package approvals prior to resuming operations in PF-4. LANL was able to utilize the PNNL resources through an approved Statement of Work between the two organizations.

A TGA replacement chiller was introduced into a glovebox without incident. This accomplishment gets the Program closer to the TGA analysis and certification of Blend Lot #s 51-52. Blend Lot #s 51-52 are on track for preparing samples and shipping to SRS on January 30, 2014.

J-E-T-S completed a 10 day audit of the ARIES Oxide Production QA Program. The auditors noted that the QA program shows improvement in many areas since the last audit in 2011. There were some shortfalls found as well largely to do with the lack of management assessments. The Program is developing a comprehensive assessment schedule for FY14. Their final report is expected to be issued by the end of November.

The muffle furnace tantalum catch pan has been designed and the team is preparing to procure the tantalum. Work is progressing on the design of the control system. The existing operating procedure has been updated. Upcoming effort will go towards developing a requirements and engineering documents for the insulation barrier and hygrometer.

Members of the packaging team traveled to AMET in Rexburg, ID to fulfill the requirements of the subcontract by doing the product inspection and subcontractor training prior to product delivery at LANL. The Outer Can Welder is expected to arrive at LANL within the next week or two. During the visit they were able to do a test weld on a 3013 outer container using the new welder. Also while in Idaho it was learned that the new Inner Can Welder is nearing final assembly.

Cold testing was completed on the 8<sup>th</sup> of the month on the packaging line's new Can Opener. The new opener will reduce or eliminate the shards that were produced in the previous COGEMA can opener. The new equipment is "off the shelf." Preparations for installation are moving forward, the IWD is in process and the post modification test has been drafted.

Procurement has been started for constructing the NDA cage. All materials should be onsite by early December. Construction is scheduled to begin in January and wrap-up in March. The cage will provide a physical barrier that would ensure security protection when in place but could be moved out of the way to allow access to all sides of the Oxide Production Program's NDA table and instrumentation.

Design work is underway for the ARIES Pit Cutter (simple pit disassembly). The team is working on the requirements documentation and Technical Safety Requirements. This additional disassembly tool will reduce the time needed on the robotic lathe and provide alternative solutions for this process step in the production line.

An Engineering Service Request was prepared and submitted for the MD-2 Shipping/Receiving - Preliminary Design. The team completed the Statement of Need and developed a risk ranking document. The goal for FY14 is to prepare engineering conceptual designs and Title II designs, to a 100% completion level, for the reconfiguration of the shipping and receiving area to accommodate the MD-2 shipping container, the installation design for a new materials storage cage, and the design for installation of a cover for the PF-4 external dock and loading area. Design work will be done through contract with an external design agency in accordance with the Laboratory's Conduct of Engineering procedures.



## 4.0 Milestones Status

### 4.1 NNSA Directed FY14 Milestones

The Oxide Production Program FY14 NNSA Milestones are described in the table below and includes status and notations as applicable.

| Status | Due      | Description  | Notes   |
|--------|----------|--|---|
|        | 03/30/14 | Resolve criticality safety concerns with the DMO-3 oxide conversion unit | Working   |
|        | 09/01/14 | Complete the installation of the packaging line inner can welder         | On Schedule   |
|        | 08/15/14 | Complete design of Simple Pit Disassembly Equipment (ARIES Pit Cutter)   | On Schedule   |
|        | 09/30/14 | 150 Kg certified oxide accepted by MOX Services                          | PF-4 may not resume operations in early January as planned in the FY14 baseline schedule; milestone is at risk. |
|        | 09/15/14 | Complete 3 Ready-to-Ship submittals                                      | On Schedule   |

Table 2: NNSA Directed Milestone Summary

satisfactory
  caution
  alert
  complete

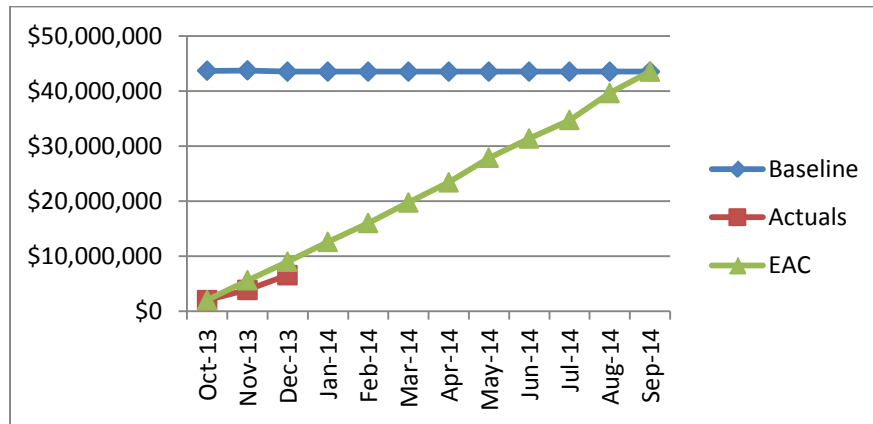
### 4.2 Near Term Milestones

| Milestone  | Target Date | Forecast or Actual Date |
|--|-------------|-------------------------|
| B6 Sigma Contract Approval                             | 03-Jan-2013 | 28-Oct-2013 A           |
| Certification of Blend Lot 38-M                        | 06-Mar-2014 | 06-Mar-2014 F           |
| <sup>nd</sup> 2 Milling & Blending Shielding Installed | 08-Oct-2013 | 26-Nov-2013 A           |
| Prepare Samples and Ship to SRS (Blend Lot #s 51-52)   | 03-Jun-2013 | 30-Jan-2014 F           |
| NDA Cage Installation Complete                         | 17-Mar-2014 | 17-Mar-2014 F           |
| MD-2 Shipping/Receiving - Preliminary Design Complete  | 19-Mar-2014 | 19-Mar-2014 F           |
| Prepare Samples and Ship to SRS (Blend Lot #s 53-54)   | 22-Jul-2013 | 30-Jan-2014 F           |
| Receive Outer Can Welder                               | 01-Aug-2013 | 18-Nov-2013 A           |

Table 3: Near Term Milestone Summary

## 5.0 Financial Overview

### 5.1 Financial Summary



| Baseline     | December Spend Status | EAC          |
|--------------|-----------------------|--------------|
| \$43,704,307 | \$6,543,624           | \$43,498,145 |

The Oxide Production Program is currently projecting an estimate at completion of \$43.5M.

### 5.2 Project Performance and Earned Value Management

The Oxide Production program cumulative cost variance is \$640K resulting in a CPI of 1.10 with the total spent at \$6,544K. The estimate at completion is \$43.5M. The cumulative schedule variance is - \$1,906,995K resulting in an SPI of 0.79. \$7,184K of work was accomplished against \$9,090K planned.

The Oxide Production program is behind schedule and underrun per the baseline plan.

The schedule is behind primarily due to delays in Resumption, Conveyor Control System Refurbishment and Lathe Controller Upgrade Installation activities.

The cost underrun is primarily due to the Spare Parts work package parts not being ordered as scheduled, the Alternative Studies work package not yet fully staffed as planned, and level-of-effort activities for the Lathe Controller Upgrade Installation not using planned resources due to a delay in the B6 Sigma contract award.

The schedule delays will not impact completion of the projects associated with the delayed activities. It is expected that the underrun will recover when operations are resumed and the projects recover from their schedule delays.



### 5.3 Variance Analysis

Functional area cumulative YTD variance is analyzed in the table below:

| Function           | Schedule Variance     | Cost Variance       | Analysis   |
|--------------------|-----------------------|---------------------|--|
| Operations         | (\$1,164)<br>0.70 SPI | (\$114)<br>0.96 CPI | Operational work packages are behind schedule and overrun. The schedule is behind primarily due to delays in PF-4 resumption. These delays could impact the Operations effort if they continue. The overrun is primarily due to lack of progress on Resumption compared the resources assigned to it.  |
| Engineering        | (\$433)<br>0.67 SPI   | \$307<br>1.53 CPI   | Engineering is behind schedule and underrun. The schedule is behind primarily due to delays in the Conveyor Control System Refurbishment activities. These delays are not expected to impact completion of this effort. Spare Parts is showing an underrun due to difficulty in forecasting when the purchases will be executed during the fiscal year. It is forecasted and is taking earned value as level-of-effort. This variance will be eliminated when the purchases are executed. Analytical Chemistry is under-running due to the PF-4 operational pause. |
| Program Management | (\$26)<br>.99 SPI     | \$79<br>1.03 CPI    | Program Management is slightly behind schedule and underrun. The schedule is behind due to delays in the Quarterly Risk Update and to less resources being used for Alternative Studies than planned.  |
| Projects           | (\$284)<br>.78 SPI    | \$368<br>1.58 CPI   | The Lathe Controller Upgrade Installation project is behind schedule and underrun. The schedule is behind due to delays in awarding the Develop Controller Drawing Package Subcontract. These delays are not expected to impact completion of this effort. The underrun is due to not using the planned level-of-effort resources, which is due to the delays in awarding the Develop Controller Drawing Package Subcontract.  |

**Table 4: Variance Analysis**

### 6.0 Trends and Change Control

The current Trend Register, Appendix G, is attached to this report.

The following trends were resolved under variance management and baseline change requests:

- Can opener, inner and outer can welders
- Storage glovebox agreement
- PF-4 resumption – criticality safety support

The following trends are pending resolution as of December 2013:

- Harry Majors – packaging support

- Removal of NPI-1 staff (NPI-1 no longer exists as a result of a reorganization within NPI-DO) from the Material Shipping and Receiving work package
- Increase packaging work package allocation and budget to cover identified personnel to 100% for insuring core capability maintenance
- Procure, install and document DMO-2 limited volume circulating chilled water system
- Reduced forecast of waste shipments due to PF-4 pause
- Removal of NPI-7 work scope from the Analytical Chemistry work package
- Delay of the NDA cage installation due to resumption priorities
- FY14 procurement of inner & outer can welders and leak detector
- Module specific engineering support for packaging
- Removal of the acceptance testing scope of work from the Can Opener, Inner & Outer Can Welder work package to the Packaging work package
- Detail plan the TA-55 Building 314 warehouse upgrades
- NA-00-LA review of the blend lot books

## **7.0 Status**

The FY14 PMP is awaiting transmission from NA-00-LA to NA-26 for the final Federal Program Manager's signature. This is expected in early January.

The criticality team from PNNL will begin the initial review of the packaging/canning CSE the week of January 20. The CSE documentation for the robotic lathe will be transmitted to LANL before the end of January.

B6 Sigma and Indramat subcontractors for the lathe controller will be onsite in late January to finalize the communication between the spindle drives and the controller.

The NDA cage construction project has been halted pending a criticality review of the in process IWD to move the material off the NDA table.

## **8.0 Challenges**

The most significant challenge facing the Program, as we wrap up the first quarter of 2014, results from the June 27<sup>th</sup> Director's pause on all programmatic operations. The uncertainty of a production restart date adds risk to the oxide certification milestone.

A lack of sufficient criticality resources to review the operational and maintenance procedures and criticality documentation in a timely fashion continues to be a major challenge. Even with the added resources of the PNNL team helping to evaluate the Program documents it remains unclear how these efforts will integrate into the final criticality evaluation/review process required by LANL.

The FY14 construction projects continue moving forward with the exception of building the NDA cage. Due to material locked down on the NDA table construction has been halted pending approval of an IWD to move the material. A timeline for the IWD approval has not been determined.

## **Appendices**

Appendix A: Production Schedule

Appendix B: Certification & Ready-to-Ship Schedule

Appendix C: Cost Performance Report

Appendix D: Status Schedule

Appendix E: Spend Plan

Appendix F: Commitments

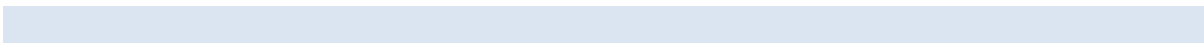
Appendix G: Trend Register

Appendix H: Milestone Report



## **APPENDIX A:**

### **Production Schedule**



## Attachment A: FY14 Oxide Production Schedule

### Oxide Production for Blend Lots 51-64

| Oxide Production      |         | Oct* | Nov | Dec  | Jan | Feb  | Mar  | Apr  | May  | Jun  | Jul  | Aug  | Sep  | Year to Date | Q1   | Q2   | Q3   | Q4    | Total for Year | Status |
|-----------------------|---------|------|-----|------|-----|------|------|------|------|------|------|------|------|--------------|------|------|------|-------|----------------|--------|
| Converted (kg Pu)     | Planned | 0    | 0   | 0    | 15  | 30   | 30   | 15   | 30   | 30   | 30   | 15   | 15   | 210          | 0    | 75   | 75   | 60    | 210            |        |
|                       | Actual  | 70.7 | 0   | 0    | 0   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 70.7         | 70.7 | 0    | 0    | 0     | 70.7           |        |
| Blended (kg Pu)       | Planned | 0    | 0   | 0    | 15  | 30   | 30   | 30   | 15   | 35   | 30   | 30   | 15   | 230          | 0    | 75   | 80   | 75    | 230            |        |
|                       | Actual  | 50.8 | 0   | 0    | 0   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 50.8         | 50.8 | 0    | 0    | 0     | 50.8           |        |
| Samples Shipped**     | Planned | 0    | 0   | 0    | 60  | 0    | 0    | 0    | 60   | 60   | 60   | 0    | 0    | 240          | 0    | 60   | 120  | 60    | 240            |        |
|                       | Actual  | 0    | 0   | 0    | 0   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0            | 0    | 0    | 0    | 0     | 0              |        |
| Packaged (kg Pu)      | Planned | 0    | 0   | 0    | 0   | 12.7 | 37.9 | 25.4 | 25.4 | 25.4 | 25.4 | 12.7 | 25.4 | 190.3        | 0    | 50.6 | 76.2 | 63.5  | 190.3          |        |
|                       | Actual  | 50.8 | 0   | 0    | 0   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 50.8         | 50.8 | 0    | 0    | 0     | 50.8           |        |
| Analyzed*** (kg Pu)   | Planned | 0    | 0   | 0    | 0   | 0    | 50.8 | 0    | 50.8 | 0    | 50.8 | 0    | 50.8 | 203.2        | 0    | 50.8 | 50.8 | 101.6 | 203.2          |        |
|                       | Actual  | 0    | 0   | 25.2 | 0   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 25.2         | 25.2 | 0    | 0    | 0     | 25.2           |        |
| Certified**** (kg Pu) | Planned | 0    | 0   | 0    | 0   | 25.2 | 0    | 25.2 | 0    | 0    | 50.8 | 0    | 50.8 | 152          | 0    | 25.2 | 25.2 | 101.6 | 152            |        |
|                       | Actual  | 0    | 0   | 0    | 0   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0            | 0    | 0    | 0    | 0     | 0              |        |

### FY14 Oxide Production Schedule

#### Notes:

- \* Includes FY13 material in the pipeline **AND** assume 1/8/14 start date
- \*\* FY14 has all samples shipped to SRNL
- \*\*\* FY14 has all AC performed by PNNL except 10% nitrogen sampling
- \*\*\*\* Letter of acceptance by MOX Services denotes certified

## **APPENDIX B:**




### **Certification & Ready-to-Ship Schedule**



## Appendix B – Certification and Ready-to-Ship Schedule

| BLEND LOT         | kg Pu (theoretical) | kg Pu (actual) | status    | AC Report Complete | CoA prepared | CoC prepared | QPA-PQ review and approval | MOX Services approval | LAFO review (if required) | metric designation                  |
|-------------------|---------------------|----------------|-----------|--------------------|--------------|--------------|----------------------------|-----------------------|---------------------------|-------------------------------------|
| 38-M              | 12.7                |                |           |                    | 2/17/2014    | 2/17/2014    | 3/3/2014                   | 3/17/2014             | n/a                       | muffle furnace FY2014 certification |
| XX-M              | 12.7                |                |           | 7/4/2014           | 8/1/2014     | 8/1/2014     | 8/15/2014                  | 8/29/2014             | n/a                       | muffle furnace FY2014 certification |
| (XX+1)-M          | 12.7                |                |           | 7/15/2014          | 9/23/2014    | 9/23/2014    | FY2015                     | FY2015                | n/a                       | FY2014 muffle furnace schedule      |
| (XX+2)-M          | 12.7                |                |           | FY2015             | FY2015       | FY2015       | FY2015                     | FY2015                | n/a                       | FY2014 muffle furnace schedule      |
| (XX+3)-M          | 12.7                |                |           | FY2015             | FY2015       | FY2015       | FY2015                     | FY2015                | n/a                       | FY2014 muffle furnace schedule      |
| 40                | 12.7                |                |           | 7/1/2014           | 7/20/2014    | 7/20/2014    | 8/1/2014                   | 8/15/2014             | n/a                       | CGD for PNNL                        |
| 2 <sup>a</sup>    | 12.7                |                |           | 7/1/2014           | 7/20/2014    | 7/20/2014    | 8/1/2014                   | 8/15/2014             | n/a                       | CGD for PNNL                        |
| 1 <sup>a</sup>    |                     |                | certified |                    | 12/1/2013    | 12/1/2013    | 12/15/2013                 | 1/8/2014              | n/a                       | 1st Ready-to-Ship                   |
| 3                 |                     |                | certified |                    |              |              |                            |                       | n/a                       | 1st Ready-to-Ship                   |
| 4 <sup>a</sup>    |                     |                | certified |                    | 12/1/2013    | 12/1/2013    | 12/15/2013                 | 1/8/2014              | n/a                       | 1st Ready-to-Ship                   |
| 17                |                     |                | certified |                    |              |              |                            |                       | n/a                       | 1st Ready-to-Ship                   |
| 30                |                     |                | certified |                    |              |              |                            |                       | n/a                       | 1st Ready-to-Ship                   |
| 31                |                     |                | certified |                    |              |              |                            |                       | n/a                       | 1st Ready-to-Ship                   |
| 39 <sup>b</sup>   |                     |                | certified |                    |              |              |                            |                       | n/a                       | 2nd Ready-to-Ship                   |
| 41 <sup>b</sup>   |                     |                | certified |                    |              |              |                            |                       | n/a                       | 2nd Ready-to-Ship                   |
| 42 <sup>b</sup>   |                     |                | certified |                    |              |              |                            |                       | n/a                       | 2nd Ready-to-Ship                   |
| 43 <sup>b</sup>   |                     |                | certified |                    |              |              |                            |                       | n/a                       | 2nd Ready-to-Ship                   |
| 44 <sup>b</sup>   |                     |                | certified |                    |              |              |                            |                       | n/a                       | 2nd Ready-to-Ship                   |
| 45 <sup>b</sup>   |                     |                | certified |                    |              |              |                            |                       | n/a                       | 2nd Ready-to-Ship                   |
| 46 <sup>b</sup>   |                     |                | certified |                    |              |              |                            |                       | n/a                       | 3rd Ready-to-Ship                   |
| 47 <sup>b</sup>   |                     |                | certified |                    |              |              |                            |                       | n/a                       | 3rd Ready-to-Ship                   |
| 48 <sup>b</sup>   |                     |                | certified |                    |              |              |                            |                       | n/a                       | 3rd Ready-to-Ship                   |
| 49 <sup>b</sup>   |                     |                | certified |                    |              |              |                            |                       | n/a                       | 3rd Ready-to-Ship                   |
| 50 <sup>b</sup>   |                     |                | certified |                    |              |              |                            |                       | n/a                       | 3rd Ready-to-Ship                   |
| 51 <sup>b,c</sup> | 12.7                |                |           |                    | 1/22/2014    | 1/22/2014    | 2/6/2014                   | 2/13/2014             | n/a                       | FY2014 Blend LOT PRODUCTION         |
| 52 <sup>b,c</sup> | 12.7                |                |           |                    | 1/22/2014    | 1/22/2014    | 2/6/2014                   | 2/13/2014             | n/a                       | FY2014 Blend LOT PRODUCTION         |
| 53                | 12.7                |                |           | 3/17/2014          | 3/31/2014    | 3/31/2014    | 4/7/2014                   | 4/14/2014             | n/a                       | FY2014 Blend LOT PRODUCTION         |
| 54                | 12.7                |                | 50 kg     | 3/17/2014          | 3/31/2014    | 3/31/2014    | 4/7/2014                   | 4/14/2014             | n/a                       | FY2014 Blend LOT PRODUCTION         |
| 55                | 12.7                |                |           | 5/15/2014          | 6/2/2014     | 6/2/2014     | 6/18/2014                  | 7/2/2014              | n/a                       | FY2014 Blend LOT PRODUCTION         |
| 56                | 12.7                |                |           | 5/15/2014          | 6/2/2014     | 6/2/2014     | 6/19/2014                  | 7/3/2014              | n/a                       | FY2014 Blend LOT PRODUCTION         |
| 57                | 12.7                |                |           | 5/15/2014          | 6/2/2014     | 6/2/2014     | 6/19/2014                  | 7/3/2014              | n/a                       | FY2014 Blend LOT PRODUCTION         |
| 58                | 12.7                |                | 100 kg    | 7/30/2014          | 8/13/2014    | 8/13/2014    | 8/29/2014                  | 9/15/2014             | n/a                       | FY2014 Blend LOT PRODUCTION         |
| 59                | 12.7                |                |           | 7/30/2014          | 8/13/2014    | 8/13/2014    | 8/29/2014                  | 9/15/2014             | n/a                       | FY2014 Blend LOT PRODUCTION         |
| 60                | 12.7                |                |           | 7/30/2014          | 8/13/2014    | 8/13/2014    | 8/29/2014                  | 9/15/2014             | n/a                       | FY2014 Blend LOT PRODUCTION         |
| 61                | 12.7                |                |           | 7/30/2014          | 8/13/2014    | 8/13/2014    | 8/29/2014                  | 9/15/2014             | n/a                       | FY2014 Blend LOT PRODUCTION         |
| 62                | 12.7                |                | 150 kg    | 7/30/2014          | 8/13/2014    | 8/13/2014    | 8/29/2014                  | 9/15/2014             | n/a                       | FY2014 Blend LOT PRODUCTION         |
| 63                | 12.7                |                |           | 8/12/2014          | 8/26/2014    | 8/26/2014    | 9/12/2014                  | 9/25/2014             | n/a                       | FY2014 waterfall chart              |
| 64                | 12.7                |                |           | 8/12/2014          | 8/26/2014    | 8/26/2014    | 9/12/2014                  | 9/25/2014             | n/a                       | FY2014 waterfall chart              |
| 65                | 12.7                |                |           | 9/2/2014           | 9/17/2014    | 9/17/2014    | FY2015                     | FY2015                | n/a                       | FY2014 waterfall chart              |
| 66                | 12.7                |                | 200 kg    | FY2015             | FY2015       | FY2015       | FY2015                     | FY2015                | n/a                       | FY2014 waterfall chart              |
| Total             | 152.4               | 0              |           |                    |              |              |                            |                       |                           |                                     |

### Notes:

- All dates denote when the action or activity is completed per the baseline; schedule durations include review, corrections, confirmations and signatures.
  -  Activity Complete  Activity < 10 days behind  Activity > 10 days behind
  - "Certified" denotes that MOX Services has already accepted the product and cannot count in FY14 annual production target.
  - "# kg" denotes Blend Lot is part of the FY14 production quota (Joule Metric)
- \*\*\*\*\*
- Material already certified by MOX Services but books need to be revised, reviewed by QPA-PQ and then reviewed by MOX Services for approval.
  - Denotes LANL is waiting for weld report before material can be moved into the Ready-to-Ship.
  - AC reports & TGA for Blend Lot #s 51 & 52 obtained in FY13, in process for CoA/CoC.

\*\*\*\*\*

n/a = The Field Office will no longer review books, except as part of any quality assessment, audit, or spot check.

## **APPENDIX C:**

### **Cost Performance Report**





# APPENDIX C - Cost Performance Report

| COST PERFORMANCE REPORT - FORMAT 2 |   |                          |   |                  |             |                          |                          |   |                   |              |                   |              | PAGE 1 OF 2       |                   |                  |    |
|------------------------------------|---|--------------------------|---|------------------|-------------|--------------------------|--------------------------|---|-------------------|--------------|-------------------|--------------|-------------------|-------------------|------------------|----|
| DATA FROM 09/30/2013 TO 09/30/2050 |   |                          |   |                  |             |                          |                          |   |                   |              |                   |              | COST IN \$ x1,000 |                   |                  |    |
| IWBS LVL 7 AND DESCRIPTION (1)     | CURRENT PERIOD (12/15/2013)               |                          |   |                  |             | CUMULATIVE TO DATE       |                          |   |                   |              |                   |              | AT COMPLETION     |                   |                  |    |
|                                    | BUDGETED COST                             |                          | ACTUAL<br>COST WORK<br>PERFORMED<br>(4) | VARIANCE         |             | BUDGETED COST            |                          | ACTUAL<br>COST WORK<br>PERFORMED<br>(9) | VARIANCE          |              | INDEX             |              | BUDGETED<br>(14)  | ESTIMATED<br>(15) | VARIANCE<br>(16) |    |
|                                    | WORK<br>SCHEDULED<br>(2)                  | WORK<br>PERFORMED<br>(3) |   | SCHEDULED<br>(5) | COST<br>(6) | WORK<br>SCHEDULED<br>(7) | WORK<br>PERFORMED<br>(8) |   | SCHEDULED<br>(10) | COST<br>(11) | SCHEDULED<br>(12) | COST<br>(13) |                   |                   |                  |    |
| IWBS LVL 6: Operations             |   |                          |   |                  |             |                          |                          |   |                   |              |                   |              |                   |                   |                  |    |
| D10201D4030101                     | Pit Disassembly                           | 6                        | 6                                       | 91               | 0           | -84                      | 18                       | 18                                      | 295               | 0            | -277              | 1.00         | 0.06              | 975               | 975              | 0  |
| D10201D4030102                     | Material Shipping and Receiving           | 135                      | 105                                     | 72               | -29         | 33                       | 441                      | 349                                     | 100               | -91          | 249               | 0.79         | 3.49              | 1,421             | 1,421            | 0  |
| D10201D4030103                     | Pu Conversion                             | 182                      | 190                                     | 209              | 8           | -18                      | 450                      | 293                                     | 529               | -156         | -235              | 0.65         | 0.56              | 4,288             | 4,288            | 0  |
| D10201D4030104                     | Packaging                                 | 23                       | 23                                      | 364              | 0           | -341                     | 62                       | 63                                      | 714               | 0            | -651              | 1.01         | 0.09              | 1,422             | 1,422            | 0  |
| D10201D4030105                     | Nondestructive Assay                      | 4                        | 4                                       | 12               | 0           | -8                       | 11                       | 11                                      | 48                | 0            | -37               | 1.00         | 0.24              | 301               | 301              | -0 |
| D10201D4030106                     | Operations Management                     | 25                       | 25                                      | 39               | 0           | -13                      | 71                       | 71                                      | 105               | 0            | -34               | 1.00         | 0.68              | 824               | 824              | 0  |
| D10201D4030107                     | Pu Characterization                       | 6                        | 6                                       | 211              | 0           | -205                     | 18                       | 18                                      | 402               | 0            | -383              | 1.00         | 0.05              | 1,152             | 1,152            | 0  |
| D10201D4030108                     | Preventive Equipment Maintenance          | 43                       | 43                                      | 59               | -0          | -15                      | 115                      | 115                                     | 136               | -0           | -20               | 1.00         | 0.85              | 560               | 560              | 0  |
| D10201D4030109                     | Production Planning and Control           | 159                      | 161                                     | 84               | 1           | 76                       | 430                      | 432                                     | 259               | 1            | 172               | 1.00         | 1.67              | 2,082             | 2,082            | 0  |
| D10201D4030111                     | 2nd Mill and Blend Shielding Installation | 0                        | 20                                      | 0                | 20          | 19                       | 37                       | 33                                      | 68                | -4           | -35               | 0.88         | 0.48              | 37                | 37               | 0  |
| D10201D4030112                     | PF-4 Resumption                           | 951                      | 0                                       | 96               | -951        | -96                      | 2,200                    | 1,287                                   | 147               | -913         | 1,139             | 0.58         | 8.72              | 3,167             | 3,167            | 0  |
| IWBS LVL 6: Operations             |   | 1,538                    | 588                                     | 1,241            | -949        | -652                     | 3,858                    | 2,694                                   | 2,808             | -1,164       | -114              | 0.70         | 0.96              | 16,234            | 16,234           | 0  |
| IWBS LVL 6: Engineering            |   |                          |   |                  |             |                          |                          |   |                   |              |                   |              |                   |                   |                  |    |
| D10201D4030201                     | Process Equipment Engineering Support     | 194                      | 90                                      | 66               | -103        | 24                       | 562                      | 309                                     | 266               | -253         | 42                | 0.55         | 1.16              | 1,613             | 1,613            | 0  |
| D10201D4030202                     | Analytical Chemistry                      | 92                       | 92                                      | 50               | 0           | 42                       | 258                      | 258                                     | 135               | -0           | 122               | 1.00         | 1.90              | 1,816             | 1,816            | 0  |
| D10201D4030203                     | Process Qualification                     | 11                       | 11                                      | 42               | 0           | -31                      | 32                       | 32                                      | 68                | 0            | -36               | 1.00         | 0.47              | 157               | 157              | 0  |
| D10201D4030204                     | Warehousing/Procurement/Storage           | 31                       | 31                                      | 24               | 0           | 7                        | 88                       | 88                                      | 76                | 0            | 11                | 1.00         | 1.15              | 427               | 427              | 0  |
| D10201D4030205                     | Spare Parts                               | 179                      | 0                                       | 31               | -179        | -31                      | 377                      | 198                                     | 31                | -179         | 166               | 0.52         | 6.30              | 2,293             | 2,293            | 0  |
| IWBS LVL 6: Engineering            |   | 510                      | 227                                     | 216              | -283        | 11                       | 1,319                    | 886                                     | 579               | -432         | 307               | 0.67         | 1.53              | 6,308             | 6,308            | 0  |
| IWBS LVL 6: Program Management     |   |                          |   |                  |             |                          |                          |   |                   |              |                   |              |                   |                   |                  |    |
| D10201D4030301                     | Program Management                        | 242                      | 212                                     | 113              | -30         | 99                       | 673                      | 643                                     | 563               | -30          | 79                | 0.95         | 1.14              | 2,944             | 2,944            | 0  |
| D10201D4030302                     | TA-55 Infrastructure                      | 414                      | 414                                     | 403              | 0           | 10                       | 1,150                    | 1,150                                   | 1,160             | -0           | -10               | 1.00         | 0.99              | 5,566             | 5,566            | 0  |
| D10201D4030303                     | TA-54 Waste Management                    | 0                        | 0                                       | 0                | 0           | 0                        | 0                        | 0                                       | 0                 | 0            | 0                 | 0.00         | 0.00              | 450               | 450              | 0  |
| D10201D4030304                     | Quality Assurance Support                 | 165                      | 169                                     | 249              | 4           | -79                      | 386                      | 390                                     | 505               | 4            | -114              | 1.01         | 0.77              | 3,037             | 3,037            | 0  |
| D10201D4030305                     | Independent Product Certification         | 36                       | 36                                      | 20               | 0           | 15                       | 36                       | 36                                      | 30                | 0            | 5                 | 1.00         | 1.19              | 506               | 506              | 0  |
| D10201D4030306                     | Records Management/Document               | 44                       | 44                                      | 43               | 0           | 1                        | 124                      | 124                                     | 139               | 0            | -15               | 1.00         | 0.89              | 600               | 600              | -0 |
| D10201D4030307                     | Alternative Studies                       | 92                       | 92                                      | 115              | 0           | -22                      | 258                      | 257                                     | 124               | -0           | 133               | 1.00         | 2.07              | 1,248             | 1,248            | -0 |
| IWBS LVL 6: Program Management     |   | 995                      | 969                                     | 945              | -25         | 24                       | 2,628                    | 2,602                                   | 2,523             | -26          | 79                | 0.99         | 1.03              | 14,355            | 14,355           | 0  |

# APPENDIX C - Cost Performance

| COST PERFORMANCE REPORT - FORMAT 2 |  |                          |   |                  |             |                          |                          |   |                   |              |                   |                   | PAGE 2 OF 2      |                   |                  |    |
|------------------------------------|--|--------------------------|---|------------------|-------------|--------------------------|--------------------------|---|-------------------|--------------|-------------------|-------------------|------------------|-------------------|------------------|----|
| DATA FROM 09/30/2013 TO 09/30/2050 |  |                          |   |                  |             | FY14 Oxide Production    |                          |   |                   |              |                   | COST IN \$ x1,000 |                  |                   |                  |    |
| IWBS LVL 7 AND DESCRIPTION (1)     | CURRENT PERIOD (12/15/2013)            |                          |   |                  |             | CUMULATIVE TO DATE       |                          |   |                   |              |                   |                   |                  | AT COMPLETION     |                  |    |
|                                    | BUDGETED COST                          |                          | ACTUAL<br>COST WORK<br>PERFORMED<br>(4) | VARIANCE         |             | BUDGETED COST            |                          | ACTUAL<br>COST WORK<br>PERFORMED<br>(9) | VARIANCE          |              | INDEX             |                   | BUDGETED<br>(14) | ESTIMATED<br>(15) | VARIANCE<br>(16) |    |
|                                    | WORK<br>SCHEDULED<br>(2)               | WORK<br>PERFORMED<br>(3) |   | SCHEDULED<br>(5) | COST<br>(6) | WORK<br>SCHEDULED<br>(7) | WORK<br>PERFORMED<br>(8) |   | SCHEDULED<br>(10) | COST<br>(11) | SCHEDULED<br>(12) | COST<br>(13)      |                  |                   |                  |    |
| IWBS LVL 6: Projects               |  |                          |   |                  |             |                          |                          |   |                   |              |                   |                   |                  |                   |                  |    |
| D10201D4030401                     | Lathe Controller Upgrade Installation  | 103                      | 105                                     | 53               | 2           | 51                       | 556                      | 329                                     | 108               | -227         | 221               | 0.59              | 3.05             | 1,425             | 1,425            | -0 |
| D10201D4030402                     | ARIES Pit Cutter                       | 104                      | 147                                     | 100              | 43          | 46                       | 291                      | 299                                     | 239               | 8            | 60                | 1.03              | 1.25             | 1,838             | 1,838            | 0  |
| D10201D4030403                     | NDA Cage Installation                  | 31                       | 0                                       | 66               | -31         | -66                      | 100                      | 68                                      | 209               | -31          | -140              | 0.69              | 0.33             | 740               | 740              | 0  |
| D10201D4030404                     | MD-2 Container Preliminary Design      | 52                       | 94                                      | 29               | 41          | 64                       | 135                      | 124                                     | 45                | -10          | 78                | 0.92              | 2.72             | 1,000             | 1,000            | 0  |
| D10201D4030405                     | TA55-314 Upgrades                      | 24                       | 0                                       | 1                | -24         | -1                       | 24                       | 0                                       | 1                 | -24          | -1                | 0.00              | 0.00             | 500               | 500              | 0  |
| D10201D4030406                     | Can Opener, Inner Welder, Outer Welder | 90                       | 150                                     | 6                | 60          | 144                      | 175                      | 177                                     | 27                | 1            | 149               | 1.01              | 6.47             | 1,094             | 1,094            | 0  |
| IWBS LVL 6: Projects               |  | 406                      | 497                                     | 257              | 91          | 240                      | 1,284                    | 1,000                                   | 632               | -283         | 368               | 0.78              | 1.58             | 6,599             | 6,599            | 0  |
| REPORT TOTALS                      |  | 3,451                    | 2,283                                   | 2,660            | -1,167      | -377                     | 9,090                    | 7,183                                   | 6,543             | -1,906       | 640               | 0.79              | 1.10             | 43,498            | 43,498           | -0 |

## **APPENDIX D: Status Schedule**



| FY14 Oxide Production   |  |          |                    |           |            |            |            |                        | 07-Jan-14 15:10  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|---|--|----------|--------------------|-----------|------------|------------|------------|------------------------|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Activity ID   | Activity Name  | Original | Remaining Duration | BL1 Start | Start      | BL1 Finish | Finish     | Performance % Complete | 2014   |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|   |  |          |                    |           |            |            |            |                        | Sep  | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct |  |  |
| Total   |  | 261.0d   | 220.0d             | 30-Sep-13 | 30-Sep-13  | 09-Oct-14  | 23-Oct-14  | 16.52%                 |  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| D1.02.01.D4.03_OP_S Oxide Production Program                        |  | 260.0d   | 210.0d             | 01-Oct-13 | 01-Oct-13  | 26-Sep-14  | 23-Oct-14  | 16.76%                 |  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide34000  | Resolve Criticality Safety Concerns with DMO-3 Oxide Conversion Unit | 0.0d     | 0.0d               |           |            | 28-Mar-14  | 28-Mar-14* | 0%                     | ◆ Resolve Criticality Safety Concerns with DMO-3 Oxide Conversion Unit |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide34080  | Establish Production-Scale Muffle Furnace Oxide Capacity             | 0.0d     | 0.0d               |           |            | 15-Aug-14  | 15-Aug-14* | 0%                     | ◆ Establish Production-Scale Muffle Furnace Oxide Capacity             |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide34010  | Complete Design of Simple Pit Disassembly Equipment                  | 0.0d     | 0.0d               |           |            | 15-Aug-14  | 15-Aug-14* | 0%                     | ◆ Complete Design of Simple Pit Disassembly Equipment                  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide34030  | Complete the Installation of the Packaging Line Inner Can Weld       | 0.0d     | 0.0d               |           |            | 29-Aug-14  | 29-Aug-14* | 0%                     | ◆ Complete the Installation of the Packaging Line Inner Can Weld       |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide34040  | Complete 3 Ready-to-Ship Submittals                                  | 0.0d     | 0.0d               |           |            | 15-Sep-14  | 15-Sep-14* | 0%                     | ◆ Complete 3 Ready-to-Ship Submittals                                  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide34110  | 150 kg Certified Oxide Accepted by MOX Services                      | 0.0d     | 0.0d               |           |            | 26-Sep-14  | 26-Sep-14* | 0%                     | ◆ 150 kg Certified Oxide Accepted by MOX Services                      |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| D1.02.01.D4.03_OP_S.01 Operations                                   |  | 247.5d   | 210.0d             | 01-Oct-13 | 01-Oct-13  | 26-Sep-14  | 23-Oct-14  | 16.6%                  |  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| D1.02.01.D4.03_OP_S.01.01 Pit Disassembly                           |  | 242.0d   | 192.0d             | 01-Oct-13 | 01-Oct-13  | 26-Sep-14  | 26-Sep-14  | 1.9%                   |  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide18830  | M&S For Pit Disassembly Oxide Production FY13                        | 242.0d   | 192.0d             | 01-Oct-13 | 01-Oct-13  | 26-Sep-14  | 26-Sep-14  | 20.66%                 |  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide28370  | Assist with Lathe Repair   | 82.5d    | 82.5d              | 02-Jan-14 | 02-Jan-14* | 30-Apr-14  | 30-Apr-14  | 0%                     | Assist with Lathe Repair   |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide12080  | Disassemble Pits (Blend Lot #57)                                     | 10.0d    | 10.0d              | 08-Jan-14 | 08-Jan-14  | 23-Jan-14  | 23-Jan-14  | 0%                     | Disassemble Pits (Blend Lot #57)                                       |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide9680   | Disassemble Pits (Blend Lot #58)                                     | 10.0d    | 10.0d              | 27-Jan-14 | 27-Jan-14  | 10-Feb-14  | 10-Feb-14  | 0%                     | Disassemble Pits (Blend Lot #58)                                       |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide13680  | Disassemble Pits (Blend Lot #59)                                     | 10.0d    | 10.0d              | 11-Feb-14 | 11-Feb-14  | 26-Feb-14  | 26-Feb-14  | 0%                     | Disassemble Pits (Blend Lot #59)                                       |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide13880  | Disassemble Pits (Blend Lot #60)                                     | 10.0d    | 10.0d              | 27-Feb-14 | 27-Feb-14  | 13-Mar-14  | 13-Mar-14  | 0%                     | Disassemble Pits (Blend Lot #60)                                       |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide16280  | Disassemble Pits (Blend Lot #61)                                     | 10.0d    | 10.0d              | 17-Mar-14 | 17-Mar-14  | 27-Mar-14  | 27-Mar-14  | 0%                     | Disassemble Pits (Blend Lot #61)                                       |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide17880  | Disassemble Pits (Blend Lot #62)                                     | 10.0d    | 10.0d              | 31-Mar-14 | 31-Mar-14  | 14-Apr-14  | 14-Apr-14  | 0%                     | Disassemble Pits (Blend Lot #62)                                       |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide16480  | Disassemble Pits (Blend Lot #63)                                     | 10.0d    | 10.0d              | 15-Apr-14 | 15-Apr-14  | 29-Apr-14  | 29-Apr-14  | 0%                     | Disassemble Pits (Blend Lot #63)                                       |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide16680  | Disassemble Pits (Blend Lot #64)                                     | 10.0d    | 10.0d              | 01-May-14 | 01-May-14  | 15-May-14  | 15-May-14  | 0%                     | Disassemble Pits (Blend Lot #64)                                       |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide18280  | Disassemble Pits (Blend Lot #65)                                     | 10.0d    | 10.0d              | 19-May-14 | 19-May-14  | 03-Jun-14  | 03-Jun-14  | 0%                     | Disassemble Pits (Blend Lot #65)                                       |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide15280  | Disassemble Pits (Blend Lot #66)                                     | 10.0d    | 10.0d              | 05-Jun-14 | 05-Jun-14  | 19-Jun-14  | 19-Jun-14  | 0%                     | Disassemble Pits (Blend Lot #66)                                       |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide16880  | Disassemble Pits (Blend Lot #67)                                     | 10.0d    | 10.0d              | 24-Jun-14 | 24-Jun-14  | 07-Jul-14  | 07-Jul-14  | 0%                     | Disassemble Pits (Blend Lot #67)                                       |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide17080  | Disassemble Pits (Blend Lot #68)                                     | 10.0d    | 10.0d              | 09-Jul-14 | 09-Jul-14  | 23-Jul-14  | 23-Jul-14  | 0%                     | Disassemble Pits (Blend Lot #68)                                       |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide2202   | Disassemble Pits (Blend Lot #69)                                     | 10.0d    | 10.0d              | 28-Jul-14 | 28-Jul-14  | 11-Aug-14  | 11-Aug-14  | 0%                     | Disassemble Pits (Blend Lot #69)                                       |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide2402   | Disassemble Pits (Blend Lot #70)                                     | 10.0d    | 10.0d              | 12-Aug-14 | 12-Aug-14  | 26-Aug-14  | 26-Aug-14  | 0%                     | Disassemble Pits (Blend Lot #70)                                       |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide1962   | Disassemble Pits (Blend Lot #71)                                     | 10.0d    | 10.0d              | 28-Aug-14 | 28-Aug-14  | 15-Sep-14  | 15-Sep-14  | 0%                     | Disassemble Pits (Blend Lot #71)                                       |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| D1.02.01.D4.03_OP_S.01.02 Material Shipping and Receiving           |  | 242.0d   | 210.0d             | 01-Oct-13 | 01-Oct-13  | 26-Sep-14  | 23-Oct-14  | 24.58%                 |  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide18855  | Perform baseline radiography (NDA) on Can Sets - FY13                | 242.0d   | 210.0d             | 01-Oct-13 | 01-Oct-13  | 26-Sep-14  | 23-Oct-14  | 13.22%                 |  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide18861  | Shipping & receiving support by NPI-1 - FY13                         | 242.0d   | 210.0d             | 01-Oct-13 | 01-Oct-13  | 26-Sep-14  | 23-Oct-14  | 13.22%                 |  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide18840  | Material Storage and Maintenance of Containers and other Storage     | 242.0d   | 210.0d             | 01-Oct-13 | 01-Oct-13  | 26-Sep-14  | 23-Oct-14  | 13.22%                 |  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide18870  | M&S For Material Shipping, Receiving & Handling FY13                 | 242.0d   | 210.0d             | 01-Oct-13 | 01-Oct-13  | 26-Sep-14  | 23-Oct-14  | 13.22%                 |  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| D1.02.01.D4.03_OP_S.01.02.1 Ready to Ship                           |  | 45.0d    | 0.0d               | 01-Oct-13 | 01-Oct-13  | 06-Dec-13  | 24-Jan-14  | 100%                   |  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide18918  | LASO Reviews Books and Loading of Shipping Containers (Lots #12-17)  | 39.0d    | 0.0d               | 01-Oct-13 | 01-Oct-13  | 26-Nov-13  | 24-Jan-14  | 100%                   |  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide18898  | LASO Reviews Books and Loading of Shipping Containers (Lots #31-40)  | 45.0d    | 0.0d               | 01-Oct-13 | 01-Oct-13  | 06-Dec-13  | 06-Dec-13  | 100%                   |  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| D1.02.01.D4.03_OP_S.01.02.23 Oxide Production - Non-SNM Disposition |  | 0.0d     | 0.0d               |           |            |            |            | 0%                     |  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| D1.02.01.D4.03_OP_S.01.03 Pu Conversion                             |  | 242.0d   | 192.0d             | 01-Oct-13 | 01-Oct-13  | 26-Sep-14  | 26-Sep-14  | 2.16%                  |  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide18880  | M&S For DMO Oxide Production FY13                                    | 242.0d   | 192.0d             | 01-Oct-13 | 01-Oct-13  | 26-Sep-14  | 26-Sep-14  | 20.66%                 |  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide11090  | Oxide / Calcine oxide (Blend Lot #56)                                | 12.0d    | 12.0d              | 08-Jan-14 | 08-Jan-14* | 27-Jan-14  | 27-Jan-14  | 0%                     |  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide12370  | Complete and Verify Blend Sheet (Blend Lot #55)                      | 2.0d     | 2.0d               | 08-Jan-14 | 08-Jan-14* | 09-Jan-14  | 09-Jan-14  | 0%                     |  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide12090  | Oxide / Calcine oxide (Blend Lot #57)                                | 8.0d     | 8.0d               | 27-Jan-14 | 27-Jan-14  | 05-Feb-14  | 05-Feb-14  | 0%                     |  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide10450  | Inventory Downtime (Blend Lot #56)                                   | 2.0d     | 2.0d               | 27-Jan-14 | 27-Jan-14  | 29-Jan-14  | 29-Jan-14  | 0%                     |  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide12380  | Complete and Verify Blend Sheet (Blend Lot #56)                      | 2.0d     | 2.0d               | 29-Jan-14 | 29-Jan-14  | 30-Jan-14  | 30-Jan-14  | 0%                     |  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide9690   | Oxide / Calcine oxide (Blend Lot #58)                                | 8.0d     | 8.0d               | 05-Feb-14 | 05-Feb-14  | 18-Feb-14  | 18-Feb-14  | 0%                     |  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide12100  | Inventory Downtime (Blend Lot #57)                                   | 2.0d     | 2.0d               | 06-Feb-14 | 06-Feb-14  | 10-Feb-14  | 10-Feb-14  | 0%                     |  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide12390  | Complete and Verify Blend Sheet (Blend Lot #57)                      | 2.0d     | 2.0d               | 10-Feb-14 | 10-Feb-14  | 12-Feb-14  | 12-Feb-14  | 0%                     |  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide9700   | Inventory Downtime (Blend Lot #58)                                   | 2.0d     | 2.0d               | 18-Feb-14 | 18-Feb-14  | 20-Feb-14  | 20-Feb-14  | 0%                     |  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide16240  | Complete and Verify Blend Sheet (Blend Lot #58)                      | 2.0d     | 2.0d               | 20-Feb-14 | 20-Feb-14  | 24-Feb-14  | 24-Feb-14  | 0%                     |  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide13690  | Oxide / Calcine oxide (Blend Lot #59)                                | 8.0d     | 8.0d               | 24-Feb-14 | 24-Feb-14  | 05-Mar-14  | 05-Mar-14  | 0%                     |  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide13700  | Inventory Downtime (Blend Lot #59)                                   | 2.0d     | 2.0d               | 05-Mar-14 | 05-Mar-14  | 06-Mar-14  | 06-Mar-14  | 0%                     |  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide12710  | Complete and Verify Blend Sheet (Blend Lot #59)                      | 2.0d     | 2.0d               | 10-Mar-14 | 10-Mar-14  | 11-Mar-14  | 11-Mar-14  | 0%                     |  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide13890  | Oxide / Calcine oxide (Blend Lot #60)                                | 8.0d     | 8.0d               | 10-Mar-14 | 10-Mar-14  | 20-Mar-14  | 20-Mar-14  | 0%                     |  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide13900  | Inventory Downtime (Blend Lot #60)                                   | 2.0d     | 2.0d               | 20-Mar-14 | 20-Mar-14  | 24-Mar-14  | 24-Mar-14  | 0%                     |  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide12720  | Complete and Verify Blend Sheet (Blend Lot #60)                      | 2.0d     | 2.0d               | 24-Mar-14 | 24-Mar-14  | 26-Mar-14  | 26-Mar-14  | 0%                     |  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide16290  | Oxide / Calcine oxide (Blend Lot #61)                                | 8.0d     | 8.0d               | 25-Mar-14 | 25-Mar-14  | 03-Apr-14  | 03-Apr-14  | 0%                     |  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide16300  | Inventory Downtime (Blend Lot #61)                                   | 2.0d     | 2.0d               | 07-Apr-14 | 07-Apr-14  | 08-Apr-14  | 08-Apr-14  | 0%                     |  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide12730  | Complete and Verify Blend Sheet (Blend Lot #61)                      | 2.0d     | 2.0d               | 08-Apr-14 | 08-Apr-14  | 10-Apr-14  | 10-Apr-14  | 0%                     |  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide17890  | Oxide / Calcine oxide (Blend Lot #62)                                | 8.0d     | 8.0d               | 09-Apr-14 | 09-Apr-14  | 21-Apr-14  | 21-Apr-14  | 0%                     |  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Oxide17900  | Inventory Downtime (Blend Lot #62)                                   | 2.0d     | 2.0d               | 21-Apr-14 | 21-Apr-14  | 23-Apr-14  | 23-Apr-14  | 0%                     |  |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |

Remaining Level of Effort

Actual Work

Critical Remaining Work

Actual Level of Effort

Remaining Work

◆

Milestone

S

Page 1 of 19

TASK filter: FY14 Only Oxide Production.

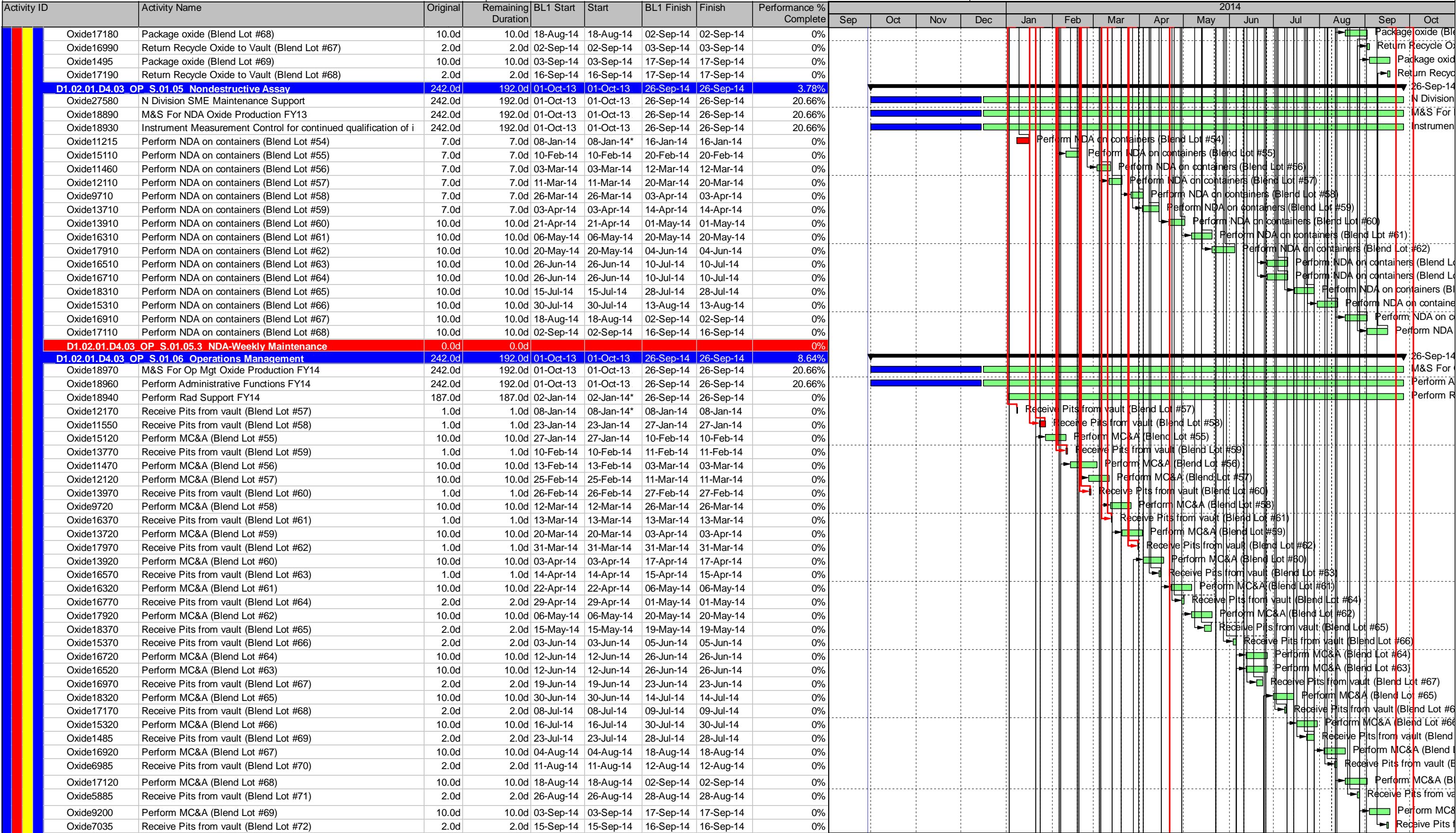
(c) Primavera Systems, Inc.

(c) Primavera Systems, Inc.



FY14 Oxide Production

07-Jan-14 15:10





Remaining Level of Effort Actual Work Critical Remaining Work S  
Actual Level of Effort Remaining Work Milestone

| FY14 Oxide Production |   |          |                    |           |            |            |           |                        |     | 2014 |     |     |     |     |     |     |     |     |     |     |     |     |
|-----------------------|---|----------|--------------------|-----------|------------|------------|-----------|------------------------|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Activity ID           | Activity Name   | Original | Remaining Duration | BL1 Start | Start      | BL1 Finish | Finish    | Performance % Complete | Sep | Oct  | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct |
|                       | D1.02.01.D4.03 OP S.01.06.07 9975 Containers                    | 0.0d     | 0.0d               |           |            |            |           | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | D1.02.01.D4.03 OP S.01.06.1 Milestones                          | 0.0d     | 0.0d               |           |            |            |           | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | D1.02.01.D4.03 OP S.01.07 Pu Characterization                   | 242.0d   | 192.0d             | 01-Oct-13 | 01-Oct-13  | 26-Sep-14  | 26-Sep-14 | 1.61%                  |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide19030 M&S For Pu Characterization FY13                     | 242.0d   | 192.0d             | 01-Oct-13 | 01-Oct-13  | 26-Sep-14  | 26-Sep-14 | 20.66%                 |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide15140 MC&A, Sieve and Mill Material (Blend Lot #55)        | 10.0d    | 10.0d              | 09-Jan-14 | 09-Jan-14  | 27-Jan-14  | 27-Jan-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide15150 Perform Oxide Characterization (Blend Lot #55)       | 10.0d    | 10.0d              | 09-Jan-14 | 09-Jan-14  | 27-Jan-14  | 27-Jan-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide15160 Perform Blend Batch and Sample (Blend Lot #55)       | 10.0d    | 10.0d              | 09-Jan-14 | 09-Jan-14  | 27-Jan-14  | 27-Jan-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide11185 MC&A, Sieve and Mill Material (Blend Lot #56)        | 10.0d    | 10.0d              | 30-Jan-14 | 30-Jan-14  | 13-Feb-14  | 13-Feb-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide11150 Perform Oxide Characterization (Blend Lot #56)       | 10.0d    | 10.0d              | 30-Jan-14 | 30-Jan-14  | 13-Feb-14  | 13-Feb-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide11160 Perform Blend Batch and Sample (Blend Lot #56)       | 10.0d    | 10.0d              | 30-Jan-14 | 30-Jan-14  | 13-Feb-14  | 13-Feb-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide12140 MC&A, Sieve and Mill Material (Blend Lot #57)        | 8.0d     | 8.0d               | 12-Feb-14 | 12-Feb-14  | 25-Feb-14  | 25-Feb-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide12150 Perform Oxide Characterization (Blend Lot #57)       | 8.0d     | 8.0d               | 12-Feb-14 | 12-Feb-14  | 25-Feb-14  | 25-Feb-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide12160 Perform Blend Batch and Sample (Blend Lot #57)       | 8.0d     | 8.0d               | 12-Feb-14 | 12-Feb-14  | 25-Feb-14  | 25-Feb-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide9740 MC&A, Sieve and Mill Material (Blend Lot #58)         | 8.0d     | 8.0d               | 24-Feb-14 | 24-Feb-14  | 06-Mar-14  | 06-Mar-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide10530 Perform Oxide Characterization (Blend Lot #58)       | 8.0d     | 8.0d               | 24-Feb-14 | 24-Feb-14  | 06-Mar-14  | 06-Mar-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide11540 Perform Blend Batch and Sample (Blend Lot #58)       | 12.0d    | 12.0d              | 24-Feb-14 | 24-Feb-14  | 12-Mar-14  | 12-Mar-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide13740 MC&A, Sieve and Mill Material (Blend Lot #59)        | 7.0d     | 7.0d               | 11-Mar-14 | 11-Mar-14  | 20-Mar-14  | 20-Mar-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide13750 Perform Oxide Characterization (Blend Lot #59)       | 7.0d     | 7.0d               | 11-Mar-14 | 11-Mar-14  | 20-Mar-14  | 20-Mar-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide13760 Perform Blend Batch and Sample (Blend Lot #59)       | 7.0d     | 7.0d               | 11-Mar-14 | 11-Mar-14  | 20-Mar-14  | 20-Mar-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide13940 MC&A, Sieve and Mill Material (Blend Lot #60)        | 7.0d     | 7.0d               | 26-Mar-14 | 26-Mar-14  | 03-Apr-14  | 03-Apr-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide13950 Perform Oxide Characterization (Blend Lot #60)       | 7.0d     | 7.0d               | 26-Mar-14 | 26-Mar-14  | 03-Apr-14  | 03-Apr-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide13960 Perform Blend Batch and Sample (Blend Lot #60)       | 7.0d     | 7.0d               | 26-Mar-14 | 26-Mar-14  | 03-Apr-14  | 03-Apr-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide16340 MC&A, Sieve and Mill Material (Blend Lot #61)        | 8.0d     | 8.0d               | 10-Apr-14 | 10-Apr-14  | 22-Apr-14  | 22-Apr-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide16350 Perform Oxide Characterization (Blend Lot #61)       | 8.0d     | 8.0d               | 10-Apr-14 | 10-Apr-14  | 22-Apr-14  | 22-Apr-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide16360 Perform Blend Batch and Sample (Blend Lot #61)       | 8.0d     | 8.0d               | 10-Apr-14 | 10-Apr-14  | 22-Apr-14  | 22-Apr-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide17940 MC&A, Sieve and Mill Material (Blend Lot #62)        | 8.0d     | 8.0d               | 28-Apr-14 | 28-Apr-14  | 07-May-14  | 07-May-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide17950 Perform Oxide Characterization (Blend Lot #62)       | 8.0d     | 8.0d               | 28-Apr-14 | 28-Apr-14  | 07-May-14  | 07-May-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide17960 Perform Blend Batch and Sample (Blend Lot #62)       | 7.0d     | 7.0d               | 28-Apr-14 | 28-Apr-14  | 06-May-14  | 06-May-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide16540 MC&A, Sieve and Mill Material (Blend Lot #63)        | 8.0d     | 8.0d               | 29-May-14 | 29-May-14  | 10-Jun-14  | 10-Jun-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide16550 Perform Oxide Characterization (Blend Lot #63)       | 10.0d    | 10.0d              | 29-May-14 | 29-May-14  | 12-Jun-14  | 12-Jun-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide16560 Perform Blend Batch and Sample (Blend Lot #63)       | 10.0d    | 10.0d              | 29-May-14 | 29-May-14  | 12-Jun-14  | 12-Jun-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide16740 MC&A, Sieve and Mill Material (Blend Lot #64)        | 8.0d     | 8.0d               | 29-May-14 | 29-May-14  | 10-Jun-14  | 10-Jun-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide16750 Perform Oxide Characterization (Blend Lot #64)       | 10.0d    | 10.0d              | 29-May-14 | 29-May-14  | 12-Jun-14  | 12-Jun-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide16760 Perform Blend Batch and Sample (Blend Lot #64)       | 10.0d    | 10.0d              | 29-May-14 | 29-May-14  | 12-Jun-14  | 12-Jun-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide18340 MC&A, Sieve and Mill Material (Blend Lot #65)        | 8.0d     | 8.0d               | 17-Jun-14 | 17-Jun-14  | 26-Jun-14  | 26-Jun-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide18350 Perform Oxide Characterization (Blend Lot #65)       | 10.0d    | 10.0d              | 17-Jun-14 | 17-Jun-14  | 30-Jun-14  | 30-Jun-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide18360 Perform Blend Batch and Sample (Blend Lot #65)       | 10.0d    | 10.0d              | 17-Jun-14 | 17-Jun-14  | 30-Jun-14  | 30-Jun-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide15340 MC&A, Sieve and Mill Material (Blend Lot #66)        | 8.0d     | 8.0d               | 02-Jul-14 | 02-Jul-14  | 14-Jul-14  | 14-Jul-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide15350 Perform Oxide Characterization (Blend Lot #66)       | 10.0d    | 10.0d              | 02-Jul-14 | 02-Jul-14  | 16-Jul-14  | 16-Jul-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide15360 Perform Blend Batch and Sample (Blend Lot #66)       | 10.0d    | 10.0d              | 02-Jul-14 | 02-Jul-14  | 16-Jul-14  | 16-Jul-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide16950 Perform Oxide Characterization (Blend Lot #67)       | 10.0d    | 10.0d              | 21-Jul-14 | 21-Jul-14  | 04-Aug-14  | 04-Aug-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide16960 Perform Blend Batch and Sample (Blend Lot #67)       | 10.0d    | 10.0d              | 21-Jul-14 | 21-Jul-14  | 04-Aug-14  | 04-Aug-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide16940 MC&A, Sieve and Mill Material (Blend Lot #67)        | 8.0d     | 8.0d               | 21-Jul-14 | 21-Jul-14  | 30-Jul-14  | 30-Jul-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide17140 MC&A, Sieve and Mill Material (Blend Lot #68)        | 8.0d     | 8.0d               | 30-Jul-14 | 30-Jul-14  | 11-Aug-14  | 11-Aug-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide17150 Perform Oxide Characterization (Blend Lot #68)       | 10.0d    | 10.0d              | 04-Aug-14 | 04-Aug-14  | 18-Aug-14  | 18-Aug-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide17160 Perform Blend Batch and Sample (Blend Lot #68)       | 10.0d    | 10.0d              | 04-Aug-14 | 04-Aug-14  | 18-Aug-14  | 18-Aug-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide1296 MC&A, Sieve and Mill Material (Blend Lot #69)         | 8.0d     | 8.0d               | 18-Aug-14 | 18-Aug-14  | 27-Aug-14  | 27-Aug-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide2212 Perform Oxide Characterization (Blend Lot #69)        | 10.0d    | 10.0d              | 19-Aug-14 | 19-Aug-14  | 03-Sep-14  | 03-Sep-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide9210 Perform Blend Batch and Sample (Blend Lot #69)        | 10.0d    | 10.0d              | 19-Aug-14 | 19-Aug-14  | 03-Sep-14  | 03-Sep-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide1396 MC&A, Sieve and Mill Material (Blend Lot #70)         | 8.0d     | 8.0d               | 03-Sep-14 | 03-Sep-14  | 16-Sep-14  | 16-Sep-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide2412 Perform Oxide Characterization (Blend Lot #70)        | 10.0d    | 10.0d              | 08-Sep-14 | 08-Sep-14  | 22-Sep-14  | 22-Sep-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide10010 Perform Blend Batch and Sample (Blend Lot #70)       | 10.0d    | 10.0d              | 08-Sep-14 | 08-Sep-14  | 22-Sep-14  | 22-Sep-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | D1.02.01.D4.03 OP S.01.07.1 Sample Analysis by SEM (MST-16)     | 165.0d   | 165.0d             | 03-Feb-14 | 03-Feb-14  | 25-Sep-14  | 25-Sep-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | Oxide17520 Perform Analysis on Three Samples with SEM           | 166.3d   | 166.3d             | 03-Feb-14 | 03-Feb-14* | 25-Sep-14  | 25-Sep-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | D1.02.01.D4.03 OP S.01.07.2 Replace Surface Area Analyzer       | 0.0d     | 0.0d               |           |            |            |           | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | D1.02.01.D4.03 OP S.01.07.3 D&D of Old Mill and Furnace         | 0.0d     | 0.0d               |           |            |            |           | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | D1.02.01.D4.03 OP S.01.07.4 Install Handheld XRF                | 0.0d     | 0.0d               |           |            |            |           | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |
|                       | D1.02.01.D4.03 OP S.01.07.5 Purchase New Particle Size Analyzer | 65.0d    | 65.0d              | 24-Mar-14 | 24-Mar-14  | 23-Jun     |           |                        |     |      |     |     |     |     |     |     |     |     |     |     |     |     |



 Remaining Level of Effort   
  Actual Work   
  Critical Remaining Work   
  S

 Actual Level of Effort   
  Remaining Work   
 ♦    ♦ Milestone



| FY14 Oxide Production                                  |            |   |  |          |                    |           |            |            |           | 07-Jan-14 15:10        |   |     |     |     |     |     |     |     |     |     |     |     |     |     |
|--|------------|---|--|----------|--------------------|-----------|------------|------------|-----------|------------------------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Activity ID  |            | Activity Name   |  | Original | Remaining Duration | BL1 Start | Start      | BL1 Finish | Finish    | Performance % Complete | 2014  |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  |            |   |  |          |                    |           |            |            |           |                        | Sep   | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct |
|  | Oxide28700 | Review and Approve Procedure with MOX Services                |  | 19.0d    | 19.0d              | 04-Feb-14 | 09-Jan-14  | 04-Mar-14  | 06-Feb-14 | 0%                     | Review and Approve Procedure with MOX Services                    |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | Oxide28710 | Work with Criticality Safety on Level 1 for Equipment Changes |  | 66.0d    | 66.0d              | 04-Feb-14 | 09-Jan-14  | 08-May-14  | 16-Apr-14 | 0%                     | Work with Criticality Safety on Level 1 for Equipment Changes and |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | Oxide28720 | Edit, Review, Approve, and Authorize Procedure                |  | 20.8d    | 20.8d              | 08-May-14 | 16-Apr-14  | 09-Jun-14  | 14-May-14 | 0%                     | Edit, Review, Approve, and Authorize Procedure                    |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | Oxide28730 | Train Operations Personnel                                    |  | 5.0d     | 5.0d               | 10-Jun-14 | 14-May-14  | 16-Jun-14  | 21-May-14 | 0%                     | Train Operations Personnel  |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | Oxide28740 | Oxide Production Muffle Furnace Procedure Authorized for Ope  |  | 0.0d     | 0.0d               |           |            | 16-Jun-14  | 21-May-14 | 0%                     | Oxide Production Muffle Furnace Procedure Authorize               |     |     |     |     |     |     |     |     |     |     |     |     |     |
| D1.02.01.D4.03 OP S.01.10.04 Certification of Lot XX+1 |            |   |  | 69.8d    | 69.8d              | 27-May-14 | 27-May-14  | 03-Sep-14  | 03-Sep-14 | 0%                     | 03-Sep-14, D1.02  |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | Oxide33480 | Receive Pits from vault (Blend Lot XX+1)                      |  | 1.0d     | 1.0d               | 27-May-14 | 27-May-14* | 27-May-14  | 27-May-14 | 0%                     | Receive Pits from vault (Blend Lot XX+1):                         |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | Oxide33400 | Disassemble Pits  |  | 12.0d    | 12.0d              | 27-May-14 | 27-May-14  | 12-Jun-14  | 12-Jun-14 | 0%                     | Disassemble Pits  |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | Oxide33410 | Oxide / Calcine oxide   |  | 24.0d    | 24.0d              | 12-Jun-14 | 12-Jun-14  | 16-Jul-14  | 16-Jul-14 | 0%                     | Oxide / Calcine oxide   |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | Oxide33415 | Develop Travelers and Coordinate Work Sheets / Process Book   |  | 10.0d    | 10.0d              | 16-Jul-14 | 16-Jul-14  | 30-Jul-14  | 30-Jul-14 | 0%                     | Develop Travelers and Coordin                                     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | Oxide33550 | Inventory Downtime  |  | 2.0d     | 2.0d               | 16-Jul-14 | 16-Jul-14  | 21-Jul-14  | 21-Jul-14 | 0%                     | Inventory Downtime  |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | Oxide33430 | Complete and Verify Blend Sheet                               |  | 2.0d     | 2.0d               | 21-Jul-14 | 21-Jul-14  | 22-Jul-14  | 22-Jul-14 | 0%                     | Complete and Verify Blend Shee                                    |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | Oxide33490 | MC&A, Sieve and Mill Material                                 |  | 10.0d    | 10.0d              | 21-Jul-14 | 21-Jul-14  | 04-Aug-14  | 04-Aug-14 | 0%                     | MC&A, Sieve and Mill Mater  |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | Oxide33500 | Perform Oxide Characterization                                |  | 10.0d    | 10.0d              | 22-Jul-14 | 22-Jul-14  | 05-Aug-14  | 05-Aug-14 | 0%                     | Perform Oxide Characteriza  |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | Oxide33510 | Perform Blend Batch and Sample                                |  | 10.0d    | 10.0d              | 22-Jul-14 | 22-Jul-14  | 05-Aug-14  | 05-Aug-14 | 0%                     | Perform Blend Batch and S   |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | Oxide33560 | Build Blend Lot Books   |  | 30.0d    | 30.0d              | 22-Jul-14 | 22-Jul-14  | 03-Sep-14  | 03-Sep-14 | 0%                     | Build Blend Lot B   |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | Oxide33440 | Package oxide   |  | 10.0d    | 10.0d              | 05-Aug-14 | 05-Aug-14  | 19-Aug-14  | 19-Aug-14 | 0%                     | Package oxide   |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | OxideACT01 | Prepare and Ship AC Sample to SRS                             |  | 10.0d    | 10.0d              | 05-Aug-14 | 05-Aug-14  | 19-Aug-14  | 19-Aug-14 | 0%                     | Prepare and Ship AC S   |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | Oxide33470 | Perform MC&A  |  | 10.0d    | 10.0d              | 19-Aug-14 | 19-Aug-14  | 03-Sep-14  | 03-Sep-14 | 0%                     | Perform MC&A  |     |     |     |     |     |     |     |     |     |     |     |     |     |
| D1.02.01.D4.03 OP S.01.10.05 Certification of Lot XX+2 |            |   |  | 36.5d    | 36.5d              | 04-Aug-14 | 04-Aug-14  | 24-Sep-14  | 24-Sep-14 | 0%                     | 24-Sep-14,  |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | Oxide33640 | Receive Pits from vault (Blend Lot XX+2)                      |  | 1.0d     | 1.0d               | 04-Aug-14 | 04-Aug-14* | 04-Aug-14  | 04-Aug-14 | 0%                     | Receive Pits from vault (Bl                                       |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | Oxide33590 | Disassemble Pits  |  | 12.0d    | 12.0d              | 04-Aug-14 | 04-Aug-14  | 20-Aug-14  | 20-Aug-14 | 0%                     | Disassemble Pits  |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | Oxide33600 | Oxide / Calcine oxide   |  | 24.0d    | 24.0d              | 20-Aug-14 | 20-Aug-14  | 24-Sep-14  | 24-Sep-14 | 0%                     | Oxide / Ca  |     |     |     |     |     |     |     |     |     |     |     |     |     |
| D1.02.01.D4.03 OP S.01.10.06 Certification of Lot XX+3 |            |   |  | 0.0d     | 0.0d               |           |            |            |           |                        |   |     |     |     |     |     |     |     |     |     |     |     |     |     |

Remaining Level of Effort Actual Work Critical Remaining Work ▼ S Page 7 of 19 TASK filter: FY14 Only Oxide Production.  
Actual Level of Effort Remaining Work ◆ ◆ Milestone (c) Primavera Systems, Inc.





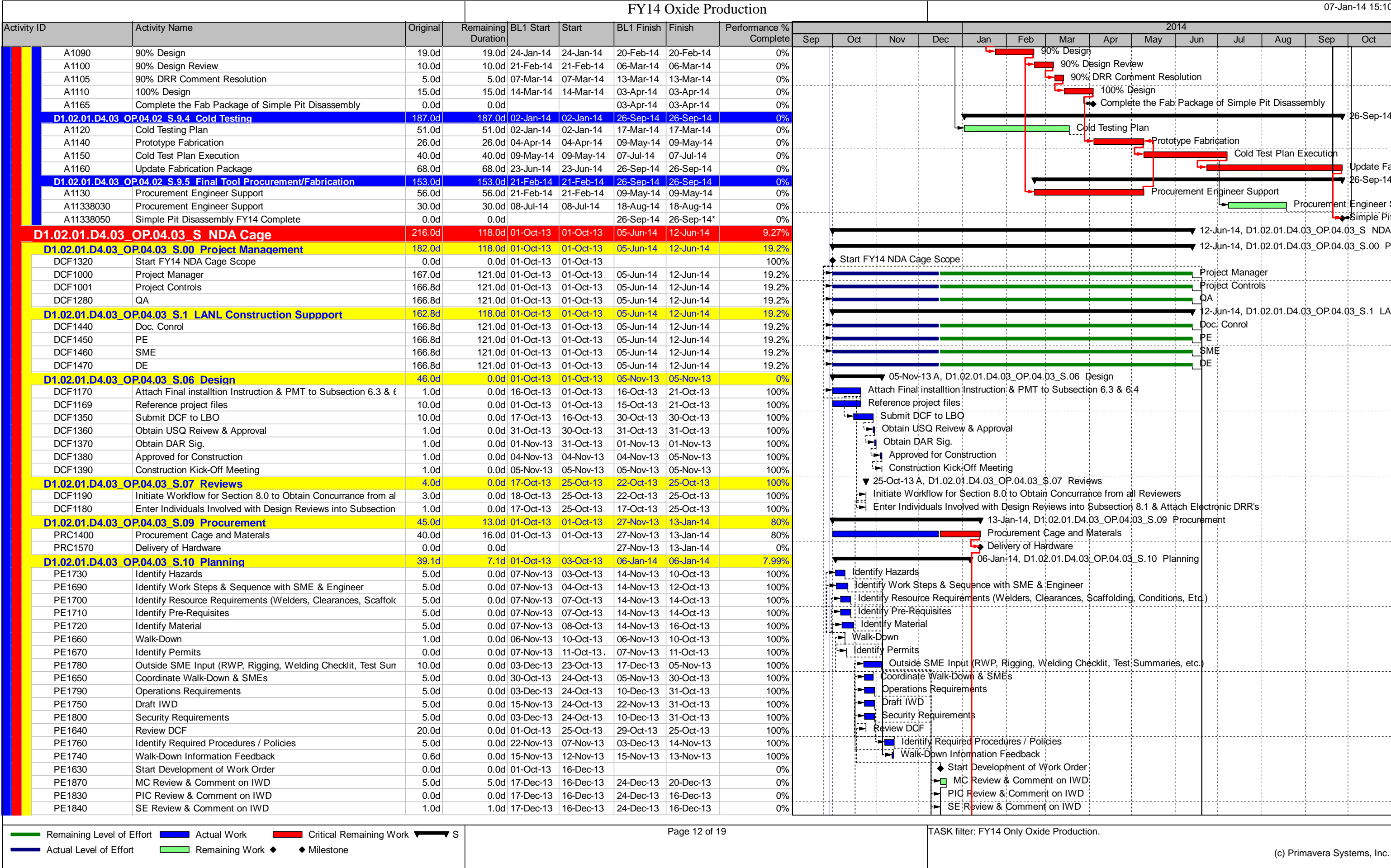
| Activity ID  | Activity Name | Original   | Remaining Duration | BL1 Start | Start     | BL1 Finish | Finish    | Performance % Complete | 2014   |     |     |     |     |     |     |     |     |     |     |     |     |     |
|--|---------------|--|--------------------|-----------|-----------|------------|-----------|------------------------|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|  |               |  |                    |           |           |            |           |                        | Sep    | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct |
|  | Oxide33070    | Production Certification Activity (Blend Lot #58)            | 12.0d              | 12.0d     | 02-Jun-14 | 02-Jun-14  | 18-Jun-14 | 18-Jun-14              | 0%     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | Oxide33040    | Production Certification Activity (Blend Lot #55)            | 12.0d              | 12.0d     | 03-Jun-14 | 03-Jun-14  | 18-Jun-14 | 18-Jun-14              | 0%     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | Oxide33050    | Production Certification Activity (Blend Lot #56)            | 13.0d              | 13.0d     | 03-Jun-14 | 03-Jun-14  | 19-Jun-14 | 19-Jun-14              | 0%     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | Oxide33060    | Production Certification Activity (Blend Lot #57)            | 12.0d              | 12.0d     | 03-Jun-14 | 03-Jun-14  | 18-Jun-14 | 18-Jun-14              | 0%     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | Oxide33090    | Production Certification Activity (Blend Lot #60)            | 12.0d              | 12.0d     | 13-Aug-14 | 13-Aug-14  | 29-Aug-14 | 29-Aug-14              | 0%     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | Oxide33100    | Production Certification Activity (Blend Lot #61)            | 12.0d              | 12.0d     | 13-Aug-14 | 13-Aug-14  | 29-Aug-14 | 29-Aug-14              | 0%     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | Oxide33110    | Production Certification Activity (Blend Lot #62)            | 12.0d              | 12.0d     | 13-Aug-14 | 13-Aug-14  | 29-Aug-14 | 29-Aug-14              | 0%     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | Oxide33080    | Production Certification Activity (Blend Lot #59)            | 12.0d              | 12.0d     | 13-Aug-14 | 13-Aug-14  | 29-Aug-14 | 29-Aug-14              | 0%     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | Oxide33250    | Perform 3rd Ready-to-Ship Documentation Review               | 15.0d              | 15.0d     | 18-Aug-14 | 18-Aug-14* | 08-Sep-14 | 08-Sep-14              | 0%     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | Oxide33120    | Production Certification Activity (Blend Lot #63)            | 12.0d              | 12.0d     | 26-Aug-14 | 26-Aug-14  | 12-Sep-14 | 12-Sep-14              | 0%     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | Oxide33140    | Production Certification Activity (Blend Lot #64)            | 12.0d              | 12.0d     | 27-Aug-14 | 27-Aug-14  | 12-Sep-14 | 12-Sep-14              | 0%     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| D1.02.01.D4.03 OP S.03.06 Records Management/Document Control/Training |               | 242.0d   | 192.0d             | 01-Oct-13 | 01-Oct-13 | 26-Sep-14  | 26-Sep-14 | 20.66%                 |        |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | Oxide32920    | Records Management and Document Control M&S                  | 242.0d             | 192.0d    | 01-Oct-13 | 01-Oct-13  | 26-Sep-14 | 26-Sep-14              | 20.66% |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | Oxide32970    | Records Managment  | 242.0d             | 192.0d    | 01-Oct-13 | 01-Oct-13  | 26-Sep-14 | 26-Sep-14              | 20.66% |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | Oxide32980    | Document Control   | 242.0d             | 192.0d    | 01-Oct-13 | 01-Oct-13  | 26-Sep-14 | 26-Sep-14              | 20.66% |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | Oxide32990    | Training Support   | 242.0d             | 192.0d    | 01-Oct-13 | 01-Oct-13  | 26-Sep-14 | 26-Sep-14              | 20.66% |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | Oxide32880    | Technical Editing  | 242.0d             | 192.0d    | 01-Oct-13 | 01-Oct-13  | 26-Sep-14 | 26-Sep-14              | 20.66% |     |     |     |     |     |     |     |     |     |     |     |     |     |
| D1.02.01.D4.03 OP S.03.07 Alternative Studies                          |               | 242.0d   | 192.0d             | 01-Oct-13 | 01-Oct-13 | 26-Sep-14  | 26-Sep-14 | 20.66%                 |        |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | Oxide33341    | Alternative Studies  | 242.0d             | 192.0d    | 01-Oct-13 | 01-Oct-13  | 26-Sep-14 | 26-Sep-14              | 20.66% |     |     |     |     |     |     |     |     |     |     |     |     |     |
| D1.02.01.D4.03 OP S.04 Projects  |               | 0.0d   | 0.0d               |           |           |            |           | 0%                     |        |     |     |     |     |     |     |     |     |     |     |     |     |     |
| D1.02.01.D4.03 OP.04.01 S Lathe Controller Upgrade Inst                |               | 252.0d   | 201.0d             | 30-Sep-13 | 30-Sep-13 | 09-Oct-14  | 09-Oct-14 | 23.14%                 |        |     |     |     |     |     |     |     |     |     |     |     |     |     |
| D1.02.01.D4.03 OP.04.01 S.19 Oxide Production - Lathe Controller U     |               | 252.0d   | 201.0d             | 30-Sep-13 | 30-Sep-13 | 09-Oct-14  | 09-Oct-14 | 23.14%                 |        |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | OPDIS1275     | Project Start  | 0.0d               | 0.0d      | 30-Sep-13 | 30-Sep-13  |           | 100%                   |        |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | PM1000        | Project Management   | 252.0d             | 201.0d    | 30-Sep-13 | 30-Sep-13  | 09-Oct-14 | 09-Oct-14              | 20.3%  |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | OPDIS1355     | Begin Process Development                                    | 0.0d               | 0.0d      | 30-Sep-13 | 28-Oct-13  |           | 100%                   |        |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | OPDIS1317     | Develop Controller Drawing Package (Sub-contract)            | 5.0d               | 0.0d      | 30-Sep-13 | 28-Oct-13  | 04-Oct-13 | 13-Nov-13              | 100%   |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | OPDIS1285     | Create New Contract for Indramat                             | 15.0d              | 0.0d      | 30-Sep-13 | 28-Oct-13  | 21-Oct-13 | 16-Dec-13              | 60%    |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | OPDIS1360     | AET-5 to Review System Program                               | 18.0d              | 0.0d      | 01-Oct-13 | 29-Oct-13  | 25-Oct-13 | 13-Dec-13              | 100%   |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | OPDIS1415     | Develop Cold Test Plan in DOP Format                         | 15.0d              | 15.0d     | 01-Oct-13 | 29-Oct-13  | 22-Oct-13 | 15-Jan-14              | 90%    |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | OPDIS1380     | Develop Draft Controller Troubleshooting Plan                | 35.0d              | 35.0d     | 22-Nov-13 | 30-Oct-13  | 24-Jan-14 | 13-Feb-14              | 40%    |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | OPDIS1375     | Develop Draft Controller Maintenance Guide                   | 35.0d              | 35.0d     | 22-Nov-13 | 31-Oct-13  | 24-Jan-14 | 13-Feb-14              | 40%    |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | OPDIS1315     | Begin Vendor Drawing Package                                 | 0.0d               | 0.0d      | 30-Sep-13 | 04-Nov-13  |           | 100%                   |        |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | OPDIS1320     | LANL Review Controller Drawing Package                       | 10.0d              | 0.0d      | 07-Oct-13 | 04-Nov-13  | 21-Oct-13 | 14-Nov-13              | 100%   |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | OPDIS1325     | Verify 100% Design   | 10.0d              | 0.0d      | 07-Oct-13 | 18-Nov-13  | 21-Oct-13 | 11-Dec-13              | 100%   |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | OPDIS1370     | AET-5 to Document System Operations                          | 18.0d              | 0.0d      | 28-Oct-13 | 25-Nov-13  | 21-Nov-13 | 13-Dec-13              | 100%   |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | OPDIS1535     | Start Engineering Design                                     | 0.0d               | 0.0d      | 06-Nov-13 | 09-Dec-13  |           | 100%                   |        |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | OPDIS1550     | Internal Review of Installation Instructions                 | 20.0d              | 20.0d     | 06-Nov-13 | 09-Dec-13  | 06-Dec-13 | 23-Jan-14              | 25%    |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | OPDIS1540     | LANL Constructability Review                                 | 10.0d              | 10.0d     | 07-Nov-13 | 09-Dec-13  | 21-Nov-13 | 08-Jan-14              | 25%    |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | OPDIS1560     | Internal Review of Post-Modification / Post-Maintenance      | 20.0d              | 20.0d     | 06-Nov-13 | 09-Dec-13  | 06-Dec-13 | 23-Jan-14              | 25%    |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | OPDIS1570     | Internal Review of Mechanical Drawings                       | 20.0d              | 20.0d     | 06-Nov-13 | 09-Dec-13  | 06-Dec-13 | 23-Jan-14              | 25%    |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | OPDIS2790     | Internal Review of Electrical Drawings                       | 20.0d              | 20.0d     | 06-Nov-13 | 09-Dec-13  | 06-Dec-13 | 23-Jan-14              | 25%    |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | OPDIS1590     | Internal Review of Specifications                            | 20.0d              | 20.0d     | 06-Nov-13 | 09-Dec-13  | 06-Dec-13 | 23-Jan-14              | 25%    |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | OPDIS2795     | Internal Review of Calculations                              | 20.0d              | 20.0d     | 06-Nov-13 | 09-Dec-13  | 06-Dec-13 | 23-Jan-14              | 25%    |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | OPDIS1340     | Approve 100% Design  | 10.0d              | 0.0d      | 22-Oct-13 | 12-Dec-13  | 04-Nov-13 | 12-Dec-13              | 100%   |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | OPDIS1350     | Issue 100% Design  | 1.0d               | 0.0d      | 05-Nov-13 | 13-Dec-13  | 05-Nov-13 | 13-Dec-13              | 100%   |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | OPDIS1420     | Review/Test Plan   | 5.0d               | 5.0d      | 23-Oct-13 | 16-Jan-14  | 29-Oct-13 | 23-Jan-14              | 0%     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | OPDIS1430     | Approve Test Plan  | 2.0d               | 2.0d      | 30-Oct-13 | 24-Jan-14  | 31-Oct-13 | 27-Jan-14              | 0%     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | OPDIS1597     | Back Check of Design Comments/Final Review - 100%            | 12.0d              | 12.0d     | 09-Dec-13 | 24-Jan-14  | 03-Jan-14 | 10-Feb-14              | 0%     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | OPDIS1475     | Begin Cold Testing   | 0.0d               | 0.0d      | 01-Nov-13 | 28-Jan-14  |           | 0%                     |        |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | OPDIS1480     | Execute cold testing at SM-39                                | 20.0d              | 20.0d     | 04-Nov-13 | 29-Jan-14  | 04-Dec-13 | 26-Feb-14              | 0%     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | OPDIS1450     | Issue 100% Design Complete - L3                              | 0.0d               | 0.0d      |           |            | 05-Feb-14 | 05-Feb-14*             | 0%     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | OPDIS2800     | Approve 100% DCF   | 5.0d               | 5.0d      | 06-Jan-14 | 11-Feb-14  | 10-Jan-14 | 18-Feb-14              | 0%     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | OPDIS1400     | Draft Maintenance Guide & Draft Trouble Shooting Plan Approv | 0.0d               | 0.0d      |           |            | 24-Jan-14 | 13-Feb-14              | 0%     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | OPDIS1385     | Review and Approve Draft Maintenance Guide & Draft Trouble   | 7.0d               | 7.0d      | 27-Jan-14 | 14-Feb-14  | 04-Feb-14 | 25-Feb-14              | 0%     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | OPDIS2810     | Submit DCF to Unanswered Safety Questions (USQ) for review   | 1.0d               | 1.0d      | 13-Jan-14 | 19-Feb-14  | 13-Jan-14 | 19-Feb-14              | 0%     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|  | DAT-0243      | Start development of work order                              | 1.3d               |           |           |            |           |                        |        |     |     |     |     |     |     |     |     |     |     |     |     |     |











| FY14 Oxide Production |        |                               |          |                    |           |           |            |           |                        | 07-Jan-14 15:10 |     |     |     |                               |     |     |     |     |     |     |     |     |     |
|-----------------------|--------|-------------------------------|----------|--------------------|-----------|-----------|------------|-----------|------------------------|-----------------|-----|-----|-----|-------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Activity ID           |        | Activity Name                 | Original | Remaining Duration | BL1 Start | Start     | BL1 Finish | Finish    | Performance % Complete | 2014            |     |     |     |                               |     |     |     |     |     |     |     |     |     |
|                       |        |                               |          |                    |           |           |            |           |                        | Sep             | Oct | Nov | Dec | Jan                           | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct |
|                       | PE1860 | RP-1 Review & Comment on IWD  | 0.0d     | 0.0d               | 17-Dec-13 | 16-Dec-13 | 24-Dec-13  | 16-Dec-13 | 0%                     |                 |     |     |     | RP-1 Review & Comment on IWD  |     |     |     |     |     |     |     |     |     |
|                       | PE1820 | Craft Review & Comment on IWD | 0.6d     | 0.6d               | 17-Dec-13 | 16-Dec-13 | 18-Dec-13  | 16-Dec-13 | 0%                     |                 |     |     |     | Craft Review & Comment on IWD |     |     |     |     |     |     |     |     |     |



| FY14 Oxide Production                                   |  |          |                    |           |            |            |           |                        |      | 07-Jan-14 15:10 |     |     |     |     |     |     |     |     |     |     |
|---|--|----------|--------------------|-----------|------------|------------|-----------|------------------------|------|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Activity ID   | Activity Name  | Original | Remaining Duration | BL1 Start | Start      | BL1 Finish | Finish    | Performance % Complete | 2014 |                 |     |     |     |     |     |     |     |     |     |     |
|   |  |          |                    |           |            |            |           |                        | Sep  | Oct             | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug |
| A1050   | Submit Technical Specifications and Requirements to PMWB   | 3.0d     | 3.0d               | 22-Nov-13 | 16-Dec-13  | 26-Nov-13  | 19-Dec-13 | 0%                     |      |                 |     |     |     |     |     |     |     |     |     |     |
| A1080   | Submit Requirements Criteria Document to PMWB              | 3.0d     | 3.0d               | 16-Dec-13 | 18-Dec-13  | 18-Dec-13  | 02-Jan-14 | 0%                     |      |                 |     |     |     |     |     |     |     |     |     |     |
| A1060   | Receive Technical Specifications and Requirements Approval | 1.0d     | 1.0d               | 27-Nov-13 | 19-Dec-13  | 27-Nov-13  | 20-Dec-13 | 0%                     |      |                 |     |     |     |     |     |     |     |     |     |     |
| A1090   | Receive Requirements and Criteria Document Approval        | 1.0d     | 1.0d               | 19-Dec-13 | 02-Jan-14  | 19-Dec-13  | 03-Jan-14 | 0%                     |      |                 |     |     |     |     |     |     |     |     |     |     |
| A1100   | Project Documents Complete                                 | 0.0d     | 0.0d               |           |            | 23-Jan-14  | 08-Jan-14 | 0%                     |      |                 |     |     |     |     |     |     |     |     |     |     |
| D1.02.01.D4.03 OP.04.04 S.02 Design                     |  | 112.9d   | 75.9d              | 21-Oct-13 | 21-Oct-13  | 19-Mar-14  | 14-Apr-14 | 42.15%                 |      |                 |     |     |     |     |     |     |     |     |     |     |
| D1.02.01.D4.03 OP.04.04 S.02.01 Title I                 |  | 112.9d   | 75.9d              | 21-Oct-13 | 21-Oct-13  | 19-Mar-14  | 14-Apr-14 | 42.15%                 |      |                 |     |     |     |     |     |     |     |     |     |     |
| Oxide33360  | Design Support through Title I                             | 94.9d    | 58.0d              | 21-Oct-13 | 21-Oct-13  | 19-Mar-14  | 19-Mar-14 | 90%                    |      |                 |     |     |     |     |     |     |     |     |     |     |
| A11338730   | Prepare Procurement (Exhibits) Documentation               | 9.0d     | 0.0d               | 21-Oct-13 | 21-Oct-13  | 31-Oct-13  | 31-Oct-13 | 100%                   |      |                 |     |     |     |     |     |     |     |     |     |     |
| A11338740   | Submit Documentation & Acquire PR Signature Approvals      | 2.0d     | 0.0d               | 21-Oct-13 | 21-Oct-13  | 22-Oct-13  | 12-Nov-13 | 100%                   |      |                 |     |     |     |     |     |     |     |     |     |     |
| A11338750   | Acquisition Services Management (ASM) Procurement Process  | 11.0d    | 0.0d               | 21-Oct-13 | 21-Oct-13  | 04-Nov-13  | 13-Nov-13 | 100%                   |      |                 |     |     |     |     |     |     |     |     |     |     |
| A11338760   | Perform Technical Evaluation                               | 2.0d     | 0.0d               | 04-Nov-13 | 04-Nov-13  | 05-Nov-13  | 14-Nov-13 | 100%                   |      |                 |     |     |     |     |     |     |     |     |     |     |
| A11338770   | Prepare Award Package (ASM)                                | 2.0d     | 0.0d               | 05-Nov-13 | 05-Nov-13  | 06-Nov-13  | 15-Nov-13 | 100%                   |      |                 |     |     |     |     |     |     |     |     |     |     |
| A11338780   | Issue Award Document (ASM)                                 | 2.0d     | 0.0d               | 06-Nov-13 | 06-Nov-13  | 07-Nov-13  | 15-Nov-13 | 100%                   |      |                 |     |     |     |     |     |     |     |     |     |     |
| A11338790   | Award Title I Contract                                     | 2.0d     | 0.0d               | 07-Nov-13 | 07-Nov-13  | 08-Nov-13  | 15-Nov-13 | 100%                   |      |                 |     |     |     |     |     |     |     |     |     |     |
| A11338800   | Prepare 30% Title I Study/Design                           | 22.0d    | 17.6d              | 18-Nov-13 | 21-Nov-13  | 19-Dec-13  | 21-Jan-14 | 20%                    |      |                 |     |     |     |     |     |     |     |     |     |     |
| Oxide33340  | Complete Title I Study/Design                              | 75.9d    | 60.7d              | 18-Nov-13 | 21-Nov-13  | 19-Mar-14  | 24-Mar-14 | 20%                    |      |                 |     |     |     |     |     |     |     |     |     |     |
| A11339030   | Complete 60% Title I Study/Design                          | 22.0d    | 22.0d              | 20-Dec-13 | 28-Jan-14  | 31-Jan-14  | 27-Feb-14 | 0%                     |      |                 |     |     |     |     |     |     |     |     |     |     |
| A11339040   | Complete 90% Title I Study/Design                          | 22.0d    | 22.0d              | 03-Feb-14 | 28-Feb-14  | 05-Mar-14  | 31-Mar-14 | 0%                     |      |                 |     |     |     |     |     |     |     |     |     |     |
| A11339050   | Complete Final Title I Study/Design                        | 10.0d    | 10.0d              | 06-Mar-14 | 01-Apr-14  | 19-Mar-14  | 14-Apr-14 | 0%                     |      |                 |     |     |     |     |     |     |     |     |     |     |
| A11338820   | Title I Study/Design Complete                              | 0.0d     | 0.0d               |           |            | 19-Mar-14  | 14-Apr-14 | 0%                     |      |                 |     |     |     |     |     |     |     |     |     |     |
| D1.02.01.D4.03 OP.04.04 S.09 Planning Package           |  | 156.0d   | 156.0d             | 18-Feb-14 | 18-Feb-14  | 26-Sep-14  | 26-Sep-14 | 0%                     |      |                 |     |     |     |     |     |     |     |     |     |     |
| Oxide33330  | MD-2 Container Preliminary Design (Planning Package)       | 156.0d   | 156.0d             | 18-Feb-14 | 18-Feb-14* | 26-Sep-14  | 26-Sep-14 | 0%                     |      |                 |     |     |     |     |     |     |     |     |     |     |
| D1.02.01.D4.03 OP.04.05 S TA55-314 Upgrades             |  | 202.0d   | 202.0d             | 02-Dec-13 | 02-Dec-13  | 26-Sep-14  | 26-Sep-14 | 0%                     |      |                 |     |     |     |     |     |     |     |     |     |     |
| Oxide33331  | TA55-314 Upgrades (Planning Package)                       | 202.0d   | 202.0d             | 02-Dec-13 | 02-Dec-13* | 26-Sep-14  | 26-Sep-14 | 0%                     |      |                 |     |     |     |     |     |     |     |     |     |     |
| D1.02.01.D4.03 OP.04.06 S Can Opener, Inner Welder, anc |  | 213.0d   | 185.0d             | 01-Nov-13 | 01-Nov-13  | 17-Sep-14  | 17-Sep-14 | 16.18%                 |      |                 |     |     |     |     |     |     |     |     |     |     |
| CAN1000   | Project Management   | 36.0d    | 8.0d               | 01-Nov-13 | 01-Nov-13  | 06-Jan-14  | 07-Jan-14 | 77.7%                  |      |                 |     |     |     |     |     |     |     |     |     |     |
| CAN1010   | Project Controls   | 36.0d    | 8.0d               | 01-Nov-13 | 01-Nov-13  | 06-Jan-14  | 07-Jan-14 | 77.7%                  |      |                 |     |     |     |     |     |     |     |     |     |     |
| CAN1020   | Quality Assurance  | 36.0d    | 8.0d               | 01-Nov-13 | 01-Nov-13  | 06-Jan-14  | 07-Jan-14 | 77.7%                  |      |                 |     |     |     |     |     |     |     |     |     |     |
| CAN1030   | Administration/Record                                      | 36.0d    | 8.0d               | 01-Nov-13 | 01-Nov-13  | 06-Jan-14  | 07-Jan-14 | 77.7%                  |      |                 |     |     |     |     |     |     |     |     |     |     |
| CAN1040   | Project Engineer   | 36.0d    | 8.0d               | 01-Nov-13 | 01-Nov-13  | 06-Jan-14  | 07-Jan-14 | 77.7%                  |      |                 |     |     |     |     |     |     |     |     |     |     |
| CAN1050   | Design Authority   | 36.0d    | 8.0d               | 01-Nov-13 | 01-Nov-13  | 06-Jan-14  | 07-Jan-14 | 77.7%                  |      |                 |     |     |     |     |     |     |     |     |     |     |
| CAN1060   | GB Engineer  | 36.0d    | 8.0d               | 01-Nov-13 | 01-Nov-13  | 06-Jan-14  | 07-Jan-14 | 77.7%                  |      |                 |     |     |     |     |     |     |     |     |     |     |
| CAN1070   | Industrial Hygiene   | 36.0d    | 8.0d               | 01-Nov-13 | 01-Nov-13  | 06-Jan-14  | 07-Jan-14 | 77.7%                  |      |                 |     |     |     |     |     |     |     |     |     |     |
| CAN1080   | Radiological Control Technicians (RCT)                     | 36.0d    | 8.0d               | 01-Nov-13 | 01-Nov-13  | 06-Jan-14  | 07-Jan-14 | 77.7%                  |      |                 |     |     |     |     |     |     |     |     |     |     |
| CAN1090   | RCT Supervisor   | 36.0d    | 8.0d               | 01-Nov-13 | 01-Nov-13  | 06-Jan-14  | 07-Jan-14 | 77.7%                  |      |                 |     |     |     |     |     |     |     |     |     |     |
| CAN1120   | Submit Facility Service Request (FSR)                      | 1.0d     | 0.0d               | 01-Nov-13 | 01-Nov-13  | 01-Nov-13  | 01-Nov-13 | 100%                   |      |                 |     |     |     |     |     |     |     |     |     |     |
| CAN1100   | Operations   | 36.0d    | 8.0d               | 01-Nov-13 | 01-Nov-13  | 06-Jan-14  | 07-Jan-14 | 77.7%                  |      |                 |     |     |     |     |     |     |     |     |     |     |
| CAN1110   | Project Start  | 0.0d     | 0.0d               | 01-Nov-13 | 01-Nov-13  |            |           | 100%                   |      |                 |     |     |     |     |     |     |     |     |     |     |
| CAN1260   | Can Opener Received  | 0.0d     | 0.0d               | 01-Nov-13 | 01-Nov-13  |            |           | 100%                   |      |                 |     |     |     |     |     |     |     |     |     |     |
| CAN1270   | Cold Test Acceptance                                       | 5.0d     | 0.0d               | 01-Nov-13 | 01-Nov-13  | 07-Nov-13  | 07-Nov-13 | 100%                   |      |                 |     |     |     |     |     |     |     |     |     |     |
| Can1300   | Labor - CM/NPI-3/ Crafts                                   | 29.0d    | 5.0d               | 01-Nov-13 | 01-Nov-13  | 16-Dec-13  | 20-Dec-13 | 82.76%                 |      |                 |     |     |     |     |     |     |     |     |     |     |
| Can1310   | Materials Expense  | 29.0d    | 5.0d               | 01-Nov-13 | 01-Nov-13  | 16-Dec-13  | 20-Dec-13 | 82.76%                 |      |                 |     |     |     |     |     |     |     |     |     |     |
| CAN1140   | Preliminary Project Documents Complete                     | 0.0d     | 0.0d               |           |            | 01-Nov-13  | 01-Nov-13 | 100%                   |      |                 |     |     |     |     |     |     |     |     |     |     |
| CAN1130   | FSR Submitted  | 0.0d     | 0.0d               |           |            | 01-Nov-13  | 01-Nov-13 | 100%                   |      |                 |     |     |     |     |     |     |     |     |     |     |
| Can1320   | Preliminary Construction Docutmentation Start              | 0.0d     | 0.0d               | 04-Nov-13 | 04-Nov-13  |            |           | 100%                   |      |                 |     |     |     |     |     |     |     |     |     |     |
| Can1330   | Kick-off meeting   | 1.0d     | 0.0d               | 04-Nov-13 | 04-Nov-13  | 05-Nov-13  | 05-Nov-13 | 100%                   |      |                 |     |     |     |     |     |     |     |     |     |     |
| Can1340   | Develop Integrated Work Document (IWD)                     | 10.0d    | 0.0d               | 05-Nov-13 | 05-Nov-13  | 20-Nov-13  | 12-Nov-13 | 100%                   |      |                 |     |     |     |     |     |     |     |     |     |     |
| CAN1280   | Can Opener Acceptance and PMT development                  | 0.1d     | 0.0d               | 08-Nov-13 | 08-Nov-13  | 08-Nov-13  | 08-Nov-13 | 100%                   |      |                 |     |     |     |     |     |     |     |     |     |     |
| CAN1290   | Final Acceptance Test (FAT) on Can Opener Complete         | 0.0d     | 0.0d               |           |            | 08-Nov-13  | 08-Nov-13 | 100%                   |      |                 |     |     |     |     |     |     |     |     |     |     |
| Can1350   | IWD Complete   | 0.0d     | 0.0d               |           |            | 25-Nov-13  | 13-Nov-13 | 100%                   |      |                 |     |     |     |     |     |     |     |     |     |     |
| Can1150   | DCF start  | 0.0d     | 0.0d               | 25-Nov-13 | 15-Nov-13  |            |           | 100%                   |      |                 |     |     |     |     |     |     |     |     |     |     |
| Can1160   | Imitate Design Change Form (DCF)                           | 1.0d     | 0.0d               | 25-Nov-13 | 15-Nov-13  | 25-Nov-13  | 15-Nov-13 | 100%                   |      |                 |     |     |     |     |     |     |     |     |     |     |
| Can1360   | IWD Signature Routing                                      | 2.0d     | 0.0d               | 25-Nov-13 | 15-Nov-13  | 26-Nov-13  | 02-Dec-13 | 100%                   |      |                 |     |     |     |     |     |     |     |     |     |     |
| Can1390   | Develop Radiation Work Permit (RWP)                        | 3.0d     | 0.0d               | 25-Nov-13 | 15-Nov-13  | 27-Nov-13  | 02-Dec-13 | 100%                   |      |                 |     |     |     |     |     |     |     |     |     |     |
| Can1190   | Submit installation instructions (II)                      | 3.0d     | 0.0d               | 26-Nov-13 | 18-Nov-13  | 02-Dec-13  | 02-Dec-13 | 100%                   |      |                 |     |     |     |     |     |     |     |     |     |     |
| Can1200   | Summit PMT requirements                                    | 3.0d     | 0.0d               | 26-Nov-13 | 18-Nov-13  | 02-Dec-13  | 02-Dec-13 | 100%                   |      |                 |     |     |     |     |     |     |     |     |     |     |
| Can1210   | Prepare Interim Work Release for discipline reviews        | 3.0d     | 0.0d               | 26-Nov-13 | 18-Nov-13  | 02-Dec-13  | 02-Dec-13 | 100%                   |      |                 |     |     |     |     |     |     |     |     |     |     |
| Can1220   | Perform discipline reviews of documentation                | 3.0d     | 0.0d               | 26-Nov-13 | 18-Nov-13  | 02         |           |                        |      |                 |     |     |     |     |     |     |     |     |     |     |





Remaining Level of Effort

Actual Work

Critical Remaining Work

▼▼ S

Actual Level of Effort

Remaining Work

◆ ◆ Milestone

Page 16 of 19

TASK filter: FY14 Only Oxide Production.

(c) Primavera Systems, Inc.

|             |   |          | FY14 Oxide Production |           |            |            |           |                        |     | 2014 |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-------------|---|----------|-----------------------|-----------|------------|------------|-----------|------------------------|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Activity ID | Activity Name                                   | Original | Remaining Duration    | BL1 Start | Start      | BL1 Finish | Finish    | Performance % Complete | Sep | Oct  | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct |  |
| Can1990     | DCF Initiation complete- issue for Construction | 0.0d     | 0.0d                  |           |            | 26-Feb-14  | 26-Feb-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |  |
| Can2210     | Record Drawings Complete                        | 5.0d     | 5.0d                  | 03-Mar-14 | 03-Mar-14  | 07-Mar-14  | 07-Mar-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |  |
| Can2380     | IWD USQ Complete                                | 0.0d     | 0.0d                  |           |            | 04-Mar-14  | 04-Mar-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |  |
| Can2390     | Develop Radiation Work Permit (RWP)             | 3.0d     | 3.0d                  | 05-Mar-14 | 05-Mar-14  | 07-Mar-14  | 07-Mar-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |  |
| Can2400     | Route RWP for Signature                         | 2.0d     | 2.0d                  | 10-Mar-14 | 10-Mar-14  | 11-Mar-14  | 11-Mar-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |  |
| Can2410     | RWP Complete                                    | 0.0d     | 0.0d                  |           |            | 11-Mar-14  | 11-Mar-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |  |
| Can2420     | Field Construction Start                        | 0.0d     | 0.0d                  | 12-Mar-14 | 12-Mar-14  |            |           | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |  |
| Can2430     | LO/TO Electrical Services                       | 1.0d     | 1.0d                  | 12-Mar-14 | 12-Mar-14  | 12-Mar-14  | 12-Mar-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |  |
| Can2440     | Install Inner Can Welder Skid                   | 2.0d     | 2.0d                  | 13-Mar-14 | 13-Mar-14  | 14-Mar-14  | 14-Mar-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |  |
| Can2450     | Anchor Inner Can Welder Skid                    | 5.0d     | 5.0d                  | 17-Mar-14 | 17-Mar-14  | 21-Mar-14  | 21-Mar-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |  |
| Can2910     | DCF start                                       | 0.0d     | 0.0d                  | 17-Mar-14 | 17-Mar-14* |            |           | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |  |
| Can2920     | Imitate Design Change Form (DCF)                | 1.0d     | 1.0d                  | 17-Mar-14 | 17-Mar-14  | 17-Mar-14  | 17-Mar-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |  |
| Can3030     | Engineering start                               | 0.0d     | 0.0d                  | 17-Mar-14 | 17-Mar-14  |            |           | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |  |
| Can3040     | Engineering kick-off meeting                    | 1.0d     | 1.0d                  | 17-Mar-14 | 17-Mar-14  | 17-Mar-14  | 17-Mar-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |  |
| Can3050     | Project walk-down                               | 1.0d     | 1.0d                  | 18-Mar-14 | 18-Mar-14  | 18-Mar-14  | 18-Mar-14 | 0%                     |     |      |     |     |     |     |     |     |     |     |     |     |     |     |  |
| Can3060     | Design Start                                    | 0.0d     |                       |           |            |            |           |                        |     |      |     |     |     |     |     |     |     |     |     |     |     |     |  |



|   |               |          | FY14 Oxide Production |           |       |            |        |                        |      | 07-Jan-14 15:10 |     |     |     |     |     |     |     |     |     |     |     |
|---|---------------|----------|-----------------------|-----------|-------|------------|--------|------------------------|------|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Activity ID   | Activity Name | Original | Remaining Duration    | BL1 Start | Start | BL1 Finish | Finish | Performance % Complete | 2014 |                 |     |     |     |     |     |     |     |     |     |     |     |
|   |               |          |                       |           |       |            |        |                        | Sep  | Oct             | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
| <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> |               |          |                       |           |       |            |        |                        |      |                 |     |     |     |     |     |     |     |     |     |     |     |



## **APPENDIX E:**

### **Spend Plan**







LANL

## FY 2014 Spend Plan

| FY 2014<br>Total Available<br>to Cost | Oct-13 | Nov-13 | Dec-13 | Jan-14 | Feb-14 | Mar-14 | Apr-14 | May-14 | Jun-14 | Jul-14 | Aug-14 | Sep-14 | FY 2014<br>Projected Cost | Projected<br>Beginning<br>FY 2015<br>Uncosted<br>Balance |
|---------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------------------------|--|
|---------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------------------------|--|

MA-7B Pu

## STARS TOTAL

|  |                   |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                   |          |
|--|-------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-------------------|----------|
| <b>Cong. Rpt Adjusted Total</b>              | <b>50,363,850</b> | <b>2,116,984</b> | <b>3,338,225</b> | <b>3,313,387</b> | <b>3,856,379</b> | <b>3,506,868</b> | <b>3,664,714</b> | <b>3,724,674</b> | <b>4,441,511</b> | <b>3,555,172</b> | <b>5,445,968</b> | <b>7,043,994</b> | <b>6,340,709</b> | <b>50,348,586</b> | <b>0</b> |
| NN6001030 - ARIES                            | 50,348,586        | 2,116,984        | 3,338,225        | 3,313,387        | 3,856,379        | 3,506,868        | 3,664,714        | 3,724,674        | 4,441,511        | 3,555,172        | 5,445,968        | 7,043,994        | 6,340,709        | 50,348,586        | 0        |
| NN6001030 - LLNL SSP Modern Foundry estimate | 15,264            |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  | 0                 | 15,264   |

|  |                   |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                   |            |
|--|-------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-------------------|------------|
| <b>2MT Work Packages</b>                     | <b>50,348,586</b> | <b>2,116,984</b> | <b>3,338,225</b> | <b>3,313,387</b> | <b>3,856,379</b> | <b>3,506,868</b> | <b>3,664,714</b> | <b>3,724,674</b> | <b>4,441,511</b> | <b>3,555,172</b> | <b>5,445,968</b> | <b>7,043,994</b> | <b>6,340,709</b> | <b>50,348,586</b> | <b>(0)</b> |
| Pit Disassembly                              | 996,544           | 4,813            | 7,035            | 6,664            | 75,147           | 116,658          | 123,584          | 123,584          | 134,192          | 97,375           | 101,610          | 128,534          | 77,347           | 996,544           | 0          |
| Material Shipping and Receiving              | 1,399,164         | 121,591          | 177,709          | 132,897          | 105,762          | 95,690           | 100,726          | 100,726          | 125,907          | 95,690           | 95,690           | 125,907          | 120,871          | 1,399,164         | 0          |
| Pu Conversion                                | 1,530,882         | 8,595            | 12,562           | 11,901           | 86,064           | 200,090          | 178,450          | 169,246          | 202,141          | 139,473          | 148,726          | 194,772          | 178,862          | 1,530,882         | 0          |
| Packaging                                    | 1,333,869         | 15,810           | 23,478           | 22,928           | 29,822           | 131,824          | 188,295          | 170,542          | 166,935          | 108,879          | 159,202          | 190,552          | 125,604          | 1,333,869         | 0          |
| Nondestructive Assay                         | 301,763           | 2,964            | 4,332            | 4,104            | 21,227           | 20,771           | 37,438           | 37,438           | 43,510           | 15,840           | 43,375           | 40,222           | 30,542           | 301,762           | 0          |
| Operations Management                        | 712,539           | 17,981           | 26,279           | 24,896           | 47,316           | 63,446           | 76,650           | 74,596           | 85,031           | 60,571           | 70,291           | 88,180           | 77,303           | 712,539           | 0          |
| Pu Characterization                          | 1,116,733         | 4,813            | 7,035            | 6,664            | 52,586           | 95,400           | 95,928           | 88,070           | 114,471          | 332,410          | 135,957          | 100,635          | 82,764           | 1,116,733         | 0          |
| Preventive Equipment Maintenance             | 573,898           | 29,500           | 44,641           | 44,562           | 47,675           | 44,641           | 47,596           | 47,596           | 59,495           | 44,641           | 47,517           | 59,495           | 56,540           | 573,898           | 0          |
| Production Planning and Control              | 2,029,371         | 105,708          | 158,293          | 155,610          | 170,813          | 158,293          | 168,131          | 168,131          | 210,163          | 158,293          | 165,448          | 210,163          | 200,326          | 2,029,371         | 0          |
| Muffle Furnace - Production Capability       | 1,788,768         | 41,874           | 91,370           | 92,436           | 147,043          | 165,013          | 153,969          | 137,165          | 139,157          | 145,596          | 148,367          | 351,038          | 175,740          | 1,788,768         | 0          |
| 2nd Mill & Blend Shielding Installation      | 36,382            | 36,382           | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 36,382            | 0          |
| PF-4 Resumption                              | 3,156,629         | 406,772          | 837,013          | 947,472          | 326,783          | 70,021           | 74,689           | 74,689           | 93,361           | 70,021           | 74,689           | 93,361           | 87,759           | 3,156,629         | (0)        |
| Process Equipment Engineering Support        | 1,563,146         | 134,438          | 221,136          | 187,476          | 179,490          | 141,629          | 102,056          | 85,325           | 106,656          | 80,953           | 93,090           | 122,781          | 108,115          | 1,563,146         | (0)        |
| Analytical Chemistry                         | 1,808,474         | 67,096           | 98,064           | 92,903           | 190,992          | 157,087          | 176,390          | 166,310          | 198,209          | 171,211          | 154,579          | 151,136          | 184,496          | 1,808,474         | 0          |
| Process Qualification                        | 157,486           | 8,460            | 12,365           | 11,714           | 13,666           | 12,365           | 13,015           | 13,015           | 16,269           | 12,365           | 12,365           | 16,269           | 15,618           | 157,486           | (0)        |
| Warehousing/Procurement/Storage              | 427,769           | 22,979           | 33,585           | 31,818           | 37,120           | 33,585           | 35,353           | 35,353           | 44,191           | 33,585           | 33,585           | 44,191           | 42,423           | 427,769           | 0          |
| Spare Parts                                  | 1,500,000         | 80,579           | 117,769          | 111,570          | 130,165          | 117,769          | 123,967          | 123,967          | 154,959          | 117,769          | 117,769          | 154,959          | 148,760          | 1,500,000         | 0          |
| Program Management                           | 2,894,773         | 172,500          | 252,115          | 238,846          | 251,584          | 219,970          | 231,547          | 231,547          | 289,434          | 219,970          | 219,970          | 289,434          | 277,857          | 2,894,773         | 0          |
| TA-55 Infrastructure                         | 5,566,958         | 299,051          | 437,075          | 414,071          | 483,083          | 437,075          | 460,079          | 460,079          | 575,099          | 437,075          | 437,075          | 575,099          | 552,095          | 5,566,958         | 0          |
| TA-54 Waste Management                       | 450,000           | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 51,136           | 255,682          | 143,182          | 450,000           | (0)        |
| Quality Assurance Support                    | 3,032,417         | 89,683           | 131,076          | 164,685          | 275,401          | 131,076          | 212,803          | 246,982          | 355,263          | 290,353          | 182,905          | 648,623          | 303,568          | 3,032,417         | 0          |
| Independent Product Certification            | 376,082           | 0                | 0                | 34,653           | 24,478           | 22,818           | 51,980           | 29,970           | 0                | 59,940           | 0                | 54,332           | 97,911           | 376,082           | (0)        |
| Records Management/Document Control/Training | 600,904           | 32,280           | 47,178           | 44,695           | 52,145           | 47,178           | 49,662           | 49,662           | 62,077           | 47,178           | 47,178           | 62,077           | 59,594           | 600,904           | 0          |
| Alternative Studies                          | 1,248,704         | 67,079           | 98,039           | 92,879           | 108,359          | 98,039           | 103,199          | 103,199          | 128,998          | 98,039           | 98,039           | 128,998          | 123,838          | 1,248,704         | (0)        |
| Lathe Controller Upgrade Installation        | 1,424,147         | 237,352          | 218,085          | 104,416          | 119,978          | 103,803          | 56,743           | 79,204           | 99,005           | 75,244           | 115,771          | 112,785          | 101,760          | 1,424,147         | 0          |
| Simple Pit Disassembly                       | 1,838,565         | 77,460           | 109,841          | 104,060          | 129,180          | 164,081          | 159,202          | 284,817          | 339,460          | 120,560          | 129,549          | 134,521          | 85,835           | 1,838,565         | 0          |
| NDA Cage                                     | 715,010           | 31,222           | 41,060           | 27,095           | 208,205          | 168,018          | 85,966           | 70,344           | 83,101           | 0                | 0                | 0                | 0                | 715,010           | (0)        |
| MD-2 Container Preliminary Design            | 1,000,000         | 0                | 89,284           | 70,787           | 82,584           | 80,248           | 89,092           | 89,092           | 111,364          | 84,637           | 84,637           | 111,364          | 106,910          | 1,000,000         | 0          |
| TA-55-314 Upgrades                           | 500,000           | 0                | 0                | 24,752           | 51,980           | 47,030           | 49,505           | 49,505           | 61,881           | 47,030           | 47,030           | 61,881           | 59,406           | 500,000           | 0          |
| Can Opener, Inner Welder, Outer Welder       | 1,030,469         | 0                | 41,807           | 106,831          | 107,731          | 63,252           | 118,702          | 114,522          | 141,182          | 90,477           | 76,244           | 94,272           | 75,449           | 1,030,469         | 0          |
| Contingency                                  | 9,237,140         | 0                | 0                | 0                | 300,000          | 300,000          | 300,000          | 300,000          | 300,000          | 300,000          | 2,354,176        | 2,442,730        | 2,640,234        | 9,237,140         | 0          |

## **APPENDIX F: Commitments**



# APPENDIX F - December Commitment Report

## Oxide Production Program: NA-26 Commitments

| Contractor | Management Area | Code      | LANL Order #               | Commitments  | Entity                            | B&R CODE  | Contract Commitment Amount, \$ in thousands | Expended to-date thru Dec 2013 | Committed Uncosted to-date thru Dec 2013 | TOTAL FY14 Projected Expenditure | FY14 Projected EOY Committed Carryover | Status  | Award Date/Projected Award Date | Projected Expenditure Completion |
|------------|-----------------|-----------|----------------------------|--|-----------------------------------|-----------|---|--------------------------------|--|----------------------------------|--|---------|---------------------------------|----------------------------------|
| LANL-2MT   | MA-7B           | RISK-2000 | 113900                     | Control System Upgrade for Lathe   | B6 SIGMA INC-P4811400             | NN6001030 | 356   | 295                            | 61                                       | 61                               | 0                                      | Awarded | Aug-11                          | Q2/2014                          |
| LANL-2MT   | MA-7B           | ICAN      | 74274-001-09               | Design of new gripper for Packing System   | COLORADO SCHOOL OF MINES-P1792609 | NN6001030 | 634   | 421                            | 213                                      | 235                              | 0                                      | Awarded | Aug-11                          | Q4/2014                          |
| LANL-2MT   | MA-7B           | ICAN      | 219406<br>189577<br>321934 | Radiography and system Test Containers   | TEAM INDUSTRIAL Dynamic Flowform  | NN6001030 | 25  | 20                             | 5  | 20                               | 0                                      | Awarded | Dec-12                          | Q2/2014                          |
| LANL-2MT   | MA-7B           | ICAN      | 226719<br>226721           | Inner and Outer Can Welders  | AMET INC                          | NN6001030 | 418   | 378                            | 40                                       | 157                              | 0                                      | Awarded | Feb-13                          | Q2/2014                          |
| LANL-2MT   | MA-7B           | OSNM      | 231064                     | Operations support for 5-day campaign shipment of classified TRU waste to the WIPP as described on page 23 of the Level 3 RA&MSP   | NUCLEAR WASTE PARTNERSHIP LLC     | NN6001030 | 53  | 0                              | 53                                       | 53                               | 0                                      | Awarded | Dec-13                          | Q4/2014                          |
| LANL-2MT   | MA-7B           | ODMO      | 227571                     | SRNS Tech Review of DMO-3 Furnace  | SRNS                              | NN6001030 | 40  | 24                             | 16                                       | 16                               | 0                                      | Awarded | Feb-13                          | Q2/2014                          |
| LANL-2MT   | MA-7B           | PPPM      | 211498                     | Workstations   | Stealth Computer                  | NN6001030 | 13  | 10                             | 3  | 3                                | 0                                      | Awarded | Nov-12                          | Q1/2014                          |
| LANL-2MT   | MA-7B           | RISK-2000 | 264880                     | Engineering services for the Robotic Lathe   | B6 SIGMA INC-P4811400             | NN6001030 | 180   | 0                              | 180                                      | 180                              | 0                                      | Awarded | Dec-13                          | Q4/2014                          |
| LANL-2MT   | MA-7B           | MD2D      | 57130                      | Direct Labor   | Merrick                           | NN6001030 | 99  | 0                              | 99                                       | 99                               | 0                                      | Awarded | Dec-13                          | Q4/2014                          |
| LANL-SSP   | MA-7B           | PPPM      | 220705                     | Engineering Planning Support for ARIES Oxide Production Program. Subcontractor shall furnish qualified personnel, equipment, materials and facilities to perform as detailed in the Exhibit D. | STRATEGIC MANAGEMENT SOLUTIONS    | NN6001030 | 108   | 58                             | 50                                       | 0                                | 0                                      | Awarded | Dec-12                          | Q4/2014                          |

## **APPENDIX G: Trend Register**



# TREND REGISTER

**Project Name: FY 14 Oxide Production**

[illegible]

## **APPENDIX H: Milestone Report**



Milestone Report

FY14 Oxide Production Program

Printed on 07-Jan-14 15:36  
Scheduled as of 29-Sep-13 08:00

| Activity ID                              | Activity Name                                       | Finish     | Variance - BL1<br>Finish Date | FY2014       |   |   |          |   |   |   |   |   |   |   |   | FY2015 |   |
|--|---|------------|-------------------------------|--------------|---|---|----------|---|---|---|---|---|---|---|---|--------|---|
|  |   |            |                               | O            | N | D | JAN FY14 | F | M | A | M | J | J | A | S | O      | N |
| D1.02.01.D4.03 OP S Oxide Production Pro |   | 26-Sep-14  | 0.0d                          |              |   |   |          |   |   |   |   |   |   |   |   |        |   |
| Oxide34000                               | Resolve Criticality Safety Concerns with DMO-3 Oxi  | 28-Mar-14* | 0.0d                          | 28-Mar-14, ◆ |   |   |          |   |   |   |   |   |   |   |   |        |   |
| Oxide34010                               | Complete Design of Simple Pit Disassembly Equipr    | 15-Aug-14* | 0.0d                          | 15-Aug-14, ◆ |   |   |          |   |   |   |   |   |   |   |   |        |   |
| Oxide34030                               | Complete the Installation of the Packaging Line Inn | 29-Aug-14* | 0.0d                          | 29-Aug-14, ◆ |   |   |          |   |   |   |   |   |   |   |   |        |   |
| Oxide34040                               | Complete 3 Ready-to-Ship Submittals                 | 15-Sep-14* | 0.0d                          | 15-Sep-14, ◆ |   |   |          |   |   |   |   |   |   |   |   |        |   |
| Oxide34110                               | 150 kg Certified Oxide Accepted by MOX Services     | 26-Sep-14* | 0.0d                          | 26-Sep-14, ◆ |   |   |          |   |   |   |   |   |   |   |   |        |   |

TASK filters: 0A Fiscal Year = 14, ◆ ◆ Milestone

Remaining Work

Remaining Level of Effort ◆ ◆ Baseline Mi...

Actual Work

Critical Remaining Work

Actual Level of Effort

Summary

Page 1 of 1