

LA-UR-13-22971

Approved for public release; distribution is unlimited.

Title: 3706 Update - April 2013

Author(s): Jones, Patricia

Intended for: General overview for briefings

Issued: 2013-04-25



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.

3706 TRANSURANIC WASTE CAMPAIGN

April, 2013

Dan Cox



Risk

- Cerro Grande Fire in May 2000
- Began preliminary discussions with NMED shortly after New Mexico's administration change in January 2011
- Las Conchas Fire, which began June 26, 2011, highlighted the need to remove TRU waste from Area G
- Drought conditions continue

Letter to DOE Secretary Steven Chu*

- **Governor Martinez urged DOE to provide sufficient funding for:**
 - Cleanup of defense legacy wastes from LANL and
 - TRU waste disposal at WIPP



*April 19, 2011



UNCLASSIFIED

Operated by Los Alamos National Security, LLC for the U.S. Department of Energy's NNSA

Regulatory Drivers

- **Compliance Order on Consent**
 - **2005 agreement between LANL and the New Mexico Environment Department**
 - **Includes requirements and schedules for cleaning up LANL**
 - **Final deliverable is December, 2015**

STATE OF NEW MEXICO
ENVIRONMENT DEPARTMENT

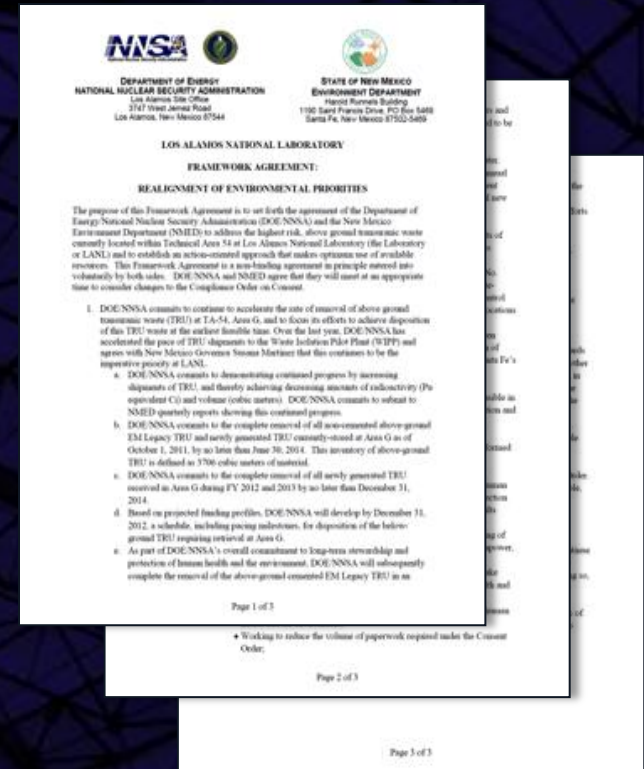
IN THE MATTER OF:

THE UNITED STATES DEPARTMENT OF ENERGY AND THE REGENTS OF THE UNIVERSITY OF CALIFORNIA) COMPLIANCE ORDER) ON CONSENT)
LOS ALAMOS NATIONAL LABORATORY LOS ALAMOS COUNTY, NEW MEXICO,) PROCEEDING UNDER) THE NEW MEXICO) HAZARDOUS WASTE) ACT § 74-4-10 AND THE) NEW MEXICO SOLID RESPONDENTS.) WASTE ACT § 74-9-36(D)

MARCH 1, 2005
(Revised June 18, 2008)

Regulatory Drivers

- Reschedule activities based on risk: focus on TRU
 - Combustible/dispersible waste (~3700 cubic meters)
 - New-gen waste
 - Below-grade waste
 - Stable-form waste
- 3706 campaign: Above-ground TRU waste to WIPP by June 30, 2014 and new-gen waste to WIPP by December 31, 2014
- Develop plan for below-ground TRU waste by December 31, 2012
- Milestones and quarterly progress review
- Annual evaluation of plans (six-month planning for FY 13)



UNCLASSIFIED

Operated by Los Alamos National Security, LLC for the U.S. Department of Energy's NNSA

April, 2013 | UNCLASSIFIED | 5

- Framework Agreement
- December Deliverable
- Below Ground Removal

LOS ALAMOS NATIONAL LABORATORY

In the Framework Agreement between the Department of Energy/National Nuclear Security Administration (DOE/NNSA) and the New Mexico Environment Department (NMED), DOE/NNSA committed to providing a schedule, with pacing milestones, for disposition of the below-ground transuranic (TRU) waste requiring retrieval at Area G at Los Alamos National Laboratory.

DOE/NNNSA has determined that there are seven below-ground waste unit categories within Area G that potentially contain TRU waste that may require retrieval. These are summarized in the attached Table 1. The information and quantities in the table are estimated based on currently available data. Additionally, the volume estimates represent the current understanding of the amount of below-ground TRU waste that may require retrieval, but some of this waste volume may later be determined to be low level waste (LLW) that would not require retrieval.

For these seven categories, approximately 99.9% of the Material at Risk (MAR) and approximately 99.86% of the waste volume is contained in the first six categories - Trenches A through D, Pit 9, Corrugated Metal Pipes, Hot Cell Liners, Tritium Packages, and the 17th RH Canister.

Based on additional reviews of these seven categories, DOE/NSA has concluded that these first six categories may include below-ground TRIU waste that requires retrieval. For the remaining category, the 33 Shafts, additional evaluation is warranted.

Schedule and Pacing Milestones

The following is the schedule and pacing milestones for the disposition of below-ground TRU waste that may require retrieval.

1. Trenches A-D, Pit 9, Corrugated Metal Pipes, Hot Cell Liners, Tritium Packages, and the 17th Canister:

a. DOE/NNSA will disposition the below-ground TRU waste no later than September 30, 2018.

Page 2 of 5

DRAFT

November 13, 2012.

the schedule and pacing milestones above.

4. All TRU waste retrieved from Area G will meet the Waste Isolation Pilot Plant's Waste Acceptance Criteria.

Page 2 of 5

DRAFT

November 13, 2011

Page 3 of 3

CEJAS

November 13, 2012

* Annual Targets: FY12-FY14 "3706 Campaign"; FY15-FY16 "Below-Ground" (5 waste streams).

Page 5 of 11

DRAFT

November 10, 2012



UNCLASSIFIED

Operated by Los Alamos National Security, LLC for the U.S. Department of Energy's NNSA

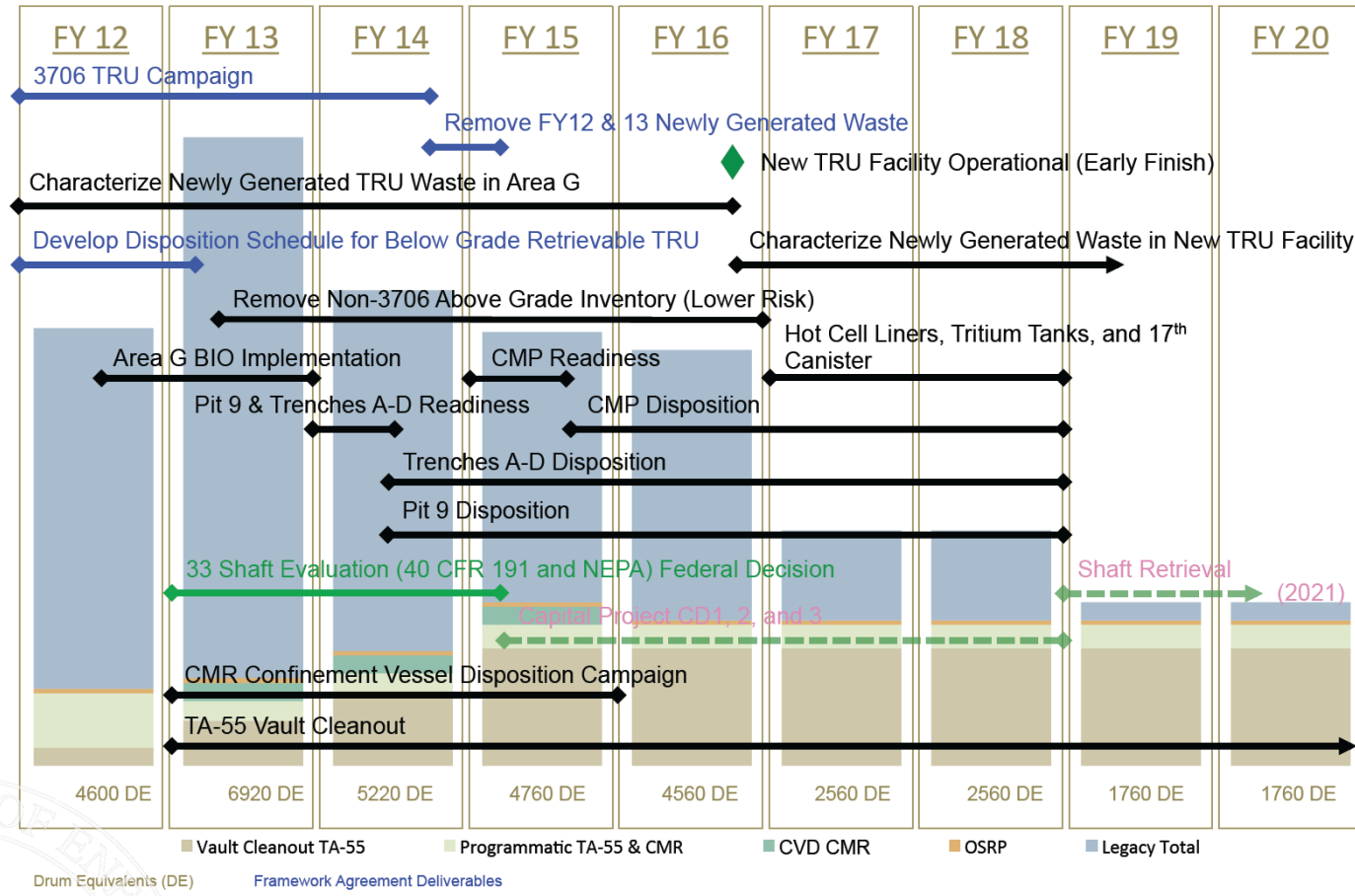
April, 2013 | UNCLASSIFIED | 6

Risk-Based Approach

Integrated LANL TRU Program Timeline

Draft R1 PROPOSED October 26, 2012 Preparation for December Deliverable includes 10-24-12 DOE EM/NNSA comments, April 17-19, 2012 LANL/WIPP Workshop comments, June 27, 2012 INP Workshop comments, and July 18, 2012 HQ Video Conference comments

DRAFT

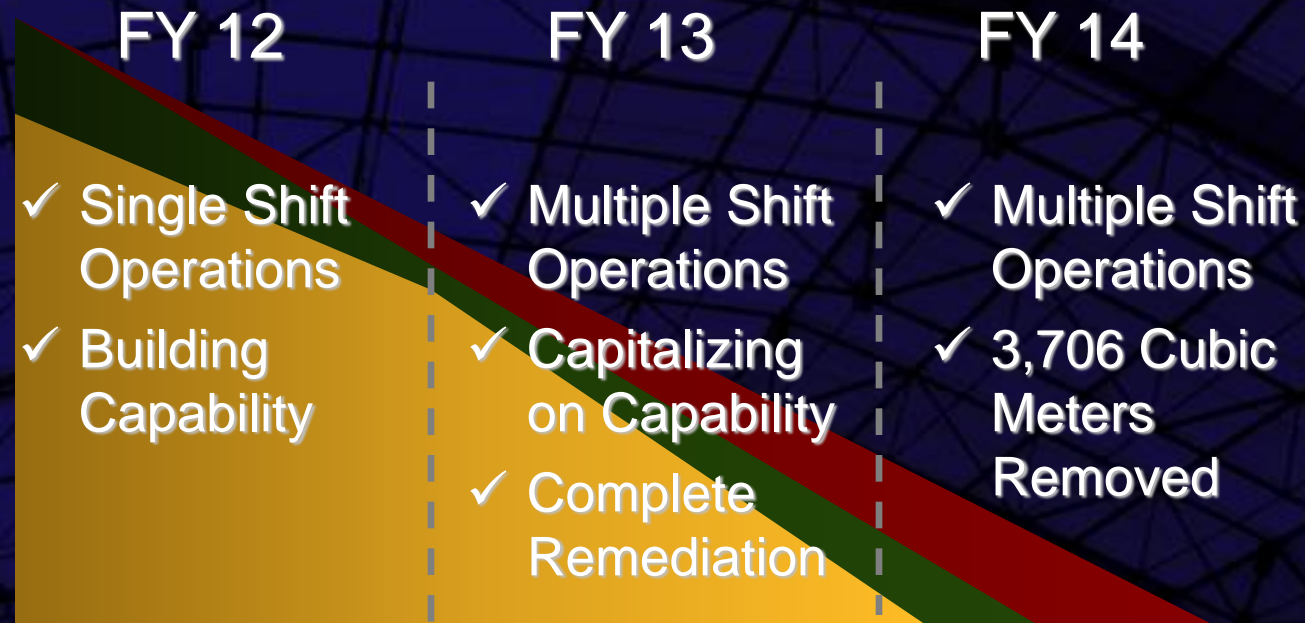


UNCLASSIFIED

Operated by Los Alamos National Security, LLC for the U.S. Department of Energy's NNSA
LA-UR 12-21193

April, 2013 | UNCLASSIFIED | 7

3706 Campaign Operational Plan



- Remediation and Repackaging
- Characterization and Certification
- Shipping

UNCLASSIFIED

Mid-Campaign Status

FY 12

- ✓ 1st Box line (bldg 412) / single shift (Radiological Operations)
- ✓ 1st Drum line (WCRRF) / single shift (Hazard Category 2 Operations)
- ✓ Single crane TRU Loading (RANT) (Hazard Category 2 Operations)

0 Cubic Meters Removed

Now

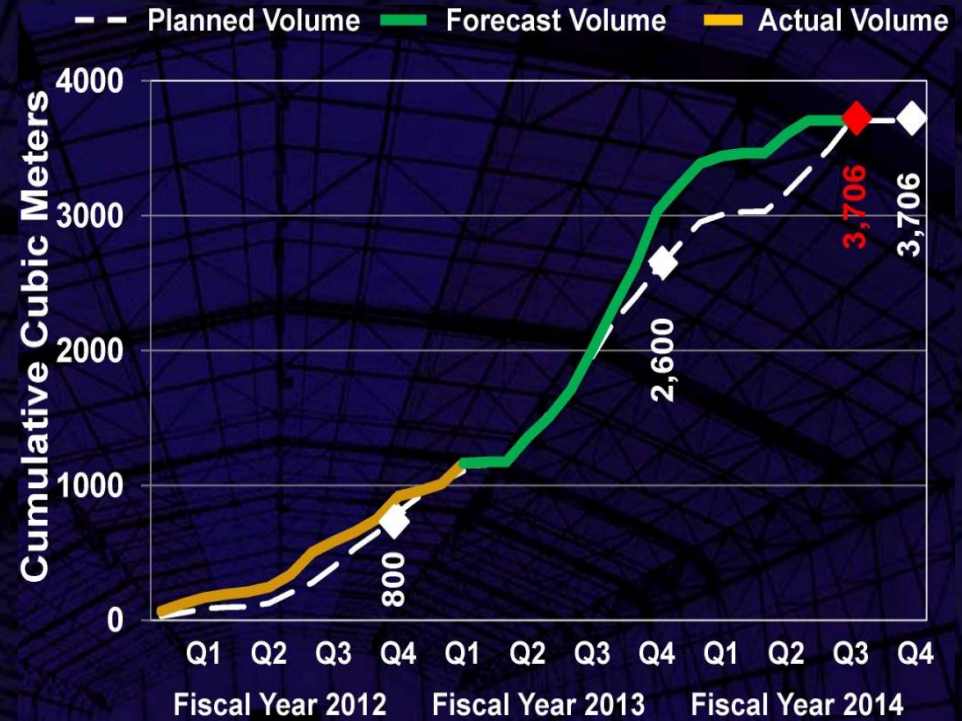
- ✓ 1st Box line (bldg 412) / double shifts (Hazard Category 3 Operations)
- ✓ 2nd Box line (Dome 231) three shifts (Hazard Category 3 Operations)
- ✓ 3rd Box line (Dome 375) single shift (Radiological Operations)
- ✓ 1st Drum line (WCRRF) / double shifts (Hazard Category 2 Operations)
- ✓ Drum Venting (Dome 33) / single shift (Hazard Category 2 Operations)
- ✓ Redundant crane TRU Loading (RANT) (Hazard Category 2 Operations)

1478 Cubic Meters Removed

UNCLASSIFIED

3706 TRU Waste Plan

- **Commitment to NMED:**
 - 800 m³ by end FY12
 - 2600 m³ by end FY13
 - 3,706 m³ by June 30, 2014



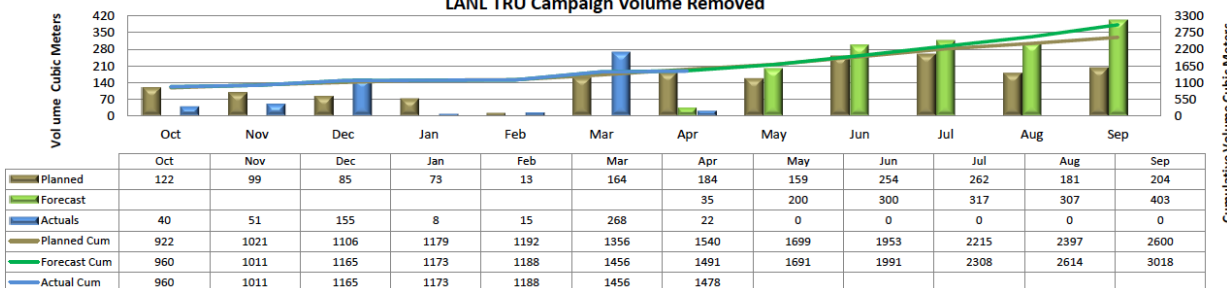
UNCLASSIFIED

Total Waste Removed

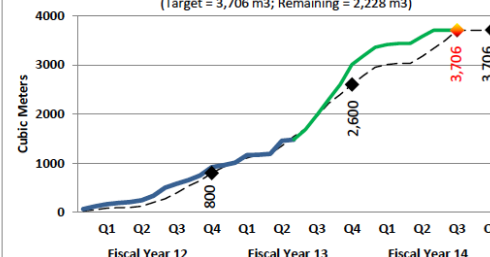
Current TRU Campaign Status

Date: 4/21/2013

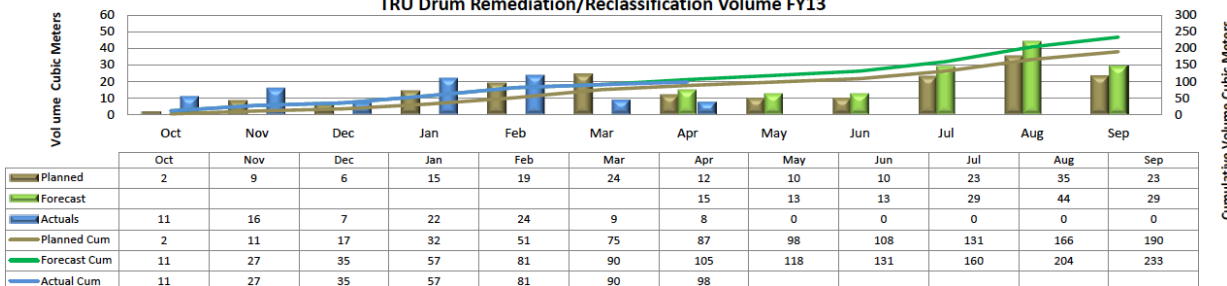
LANL TRU Campaign Volume Removed



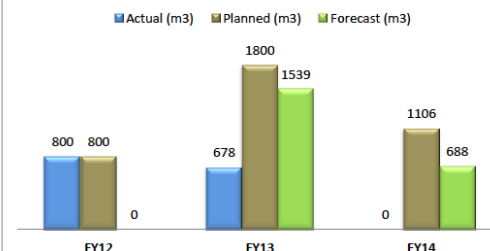
3,706 LANL TRU Campaign Performance
(Target = 3,706 m3; Remaining = 2,228 m3)



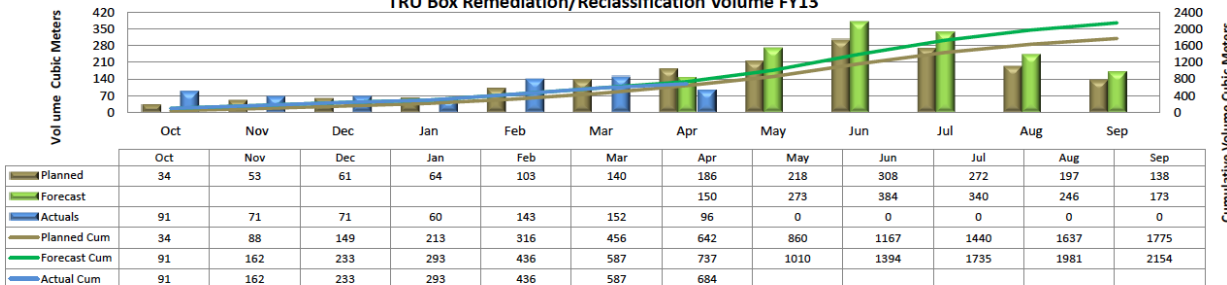
TRU Drum Remediation/Reclassification Volume FY13



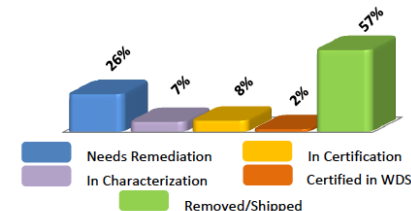
3,706 Goal vs. Progress



TRU Box Remediation/Reclassification Volume FY13



Volume FY13 Portion of 3706 Campaign

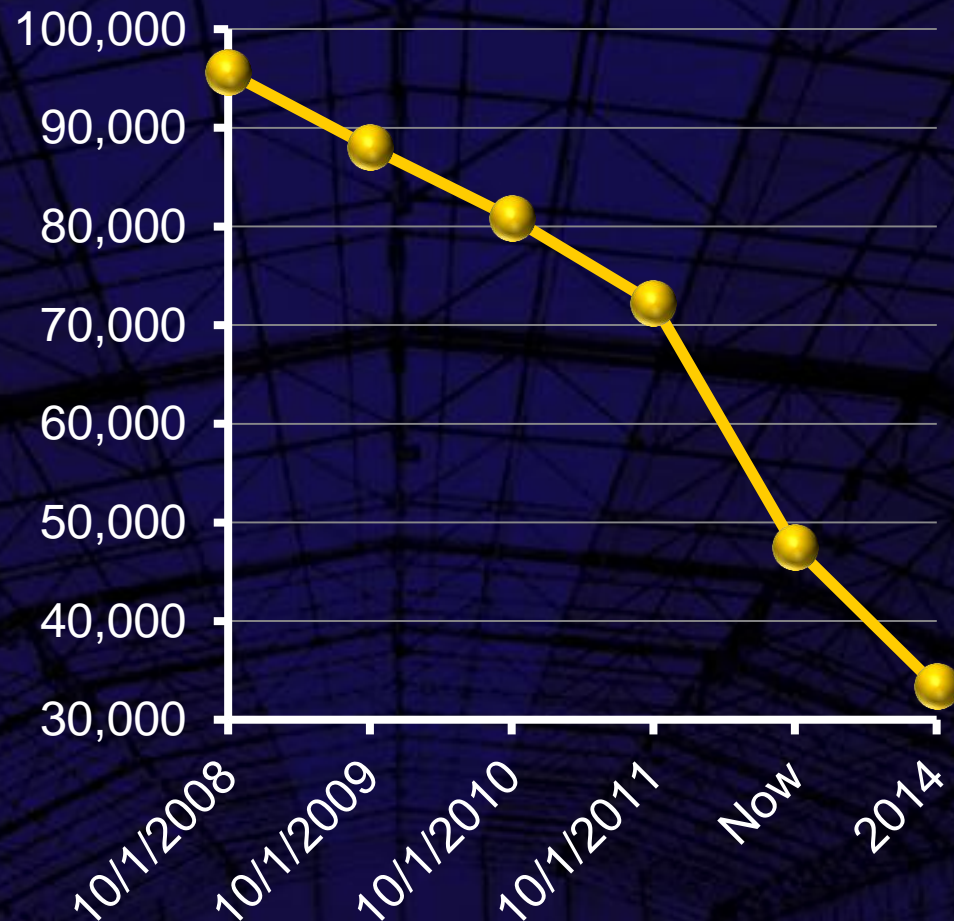


UNCLASSIFIED

Operated by Los Alamos National Security, LLC for the U.S. Department of Energy's NNSA

Risk Reduction

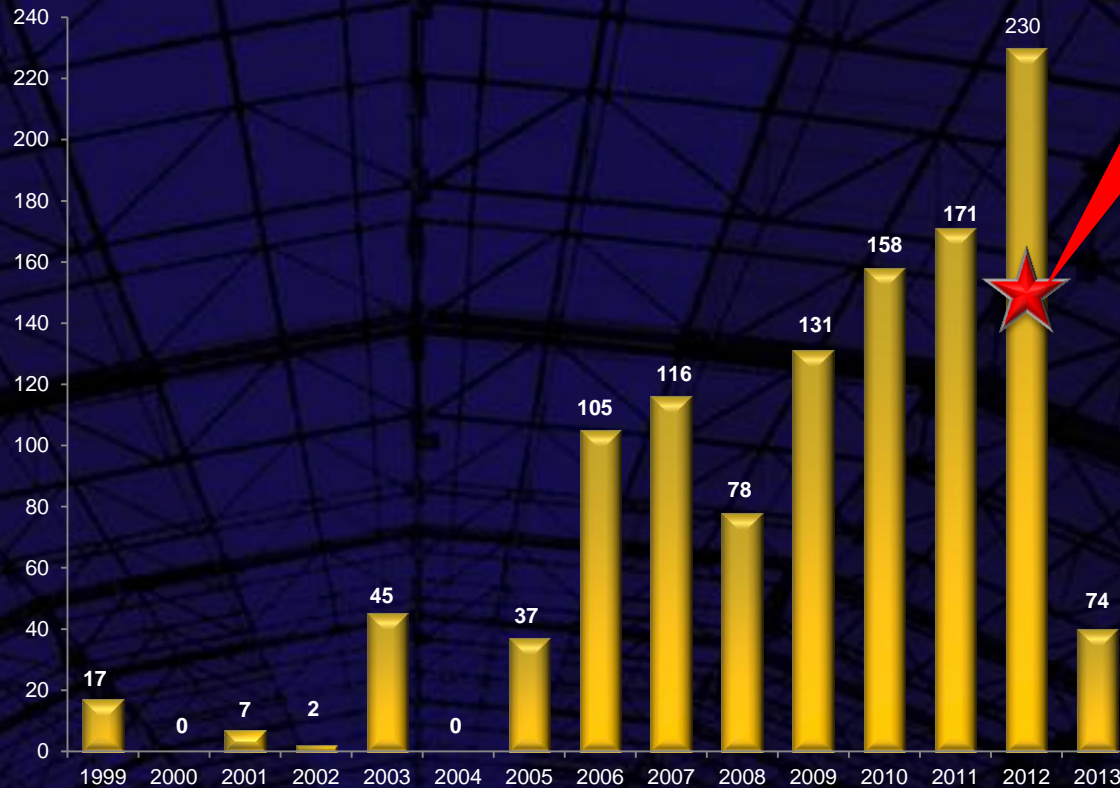
LANL Annual MAR Reduction through 6/30/14



UNCLASSIFIED

Shipping Performance

Total Shipments to WIPP



■ Total Shipments to WIPP

**1,000th
shipment to
WIPP**

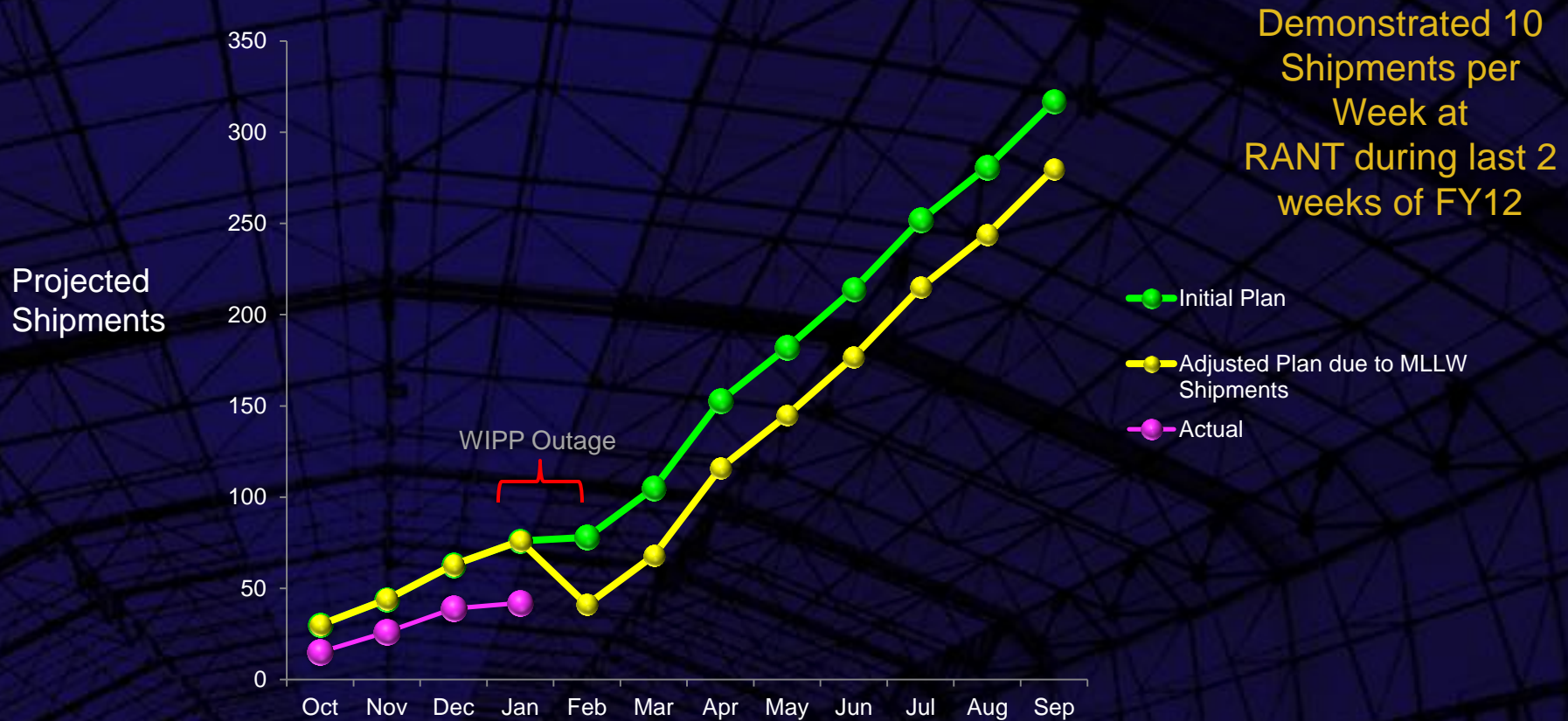


UNCLASSIFIED

Operated by Los Alamos National Security, LLC for the U.S. Department of Energy's NNSA

Increased Shipping

- Approximately 250 - 300 Shipments for 3706 Campaign in FY13



UNCLASSIFIED

Innovations

- Project approach
- Solution package concept
- Graded approach for readiness
- Production Modeling
- Multi-purpose facilities



UNCLASSIFIED

Operated by Los Alamos National Security, LLC for the U.S. Department of Energy's NNSA

April, 2013 | UNCLASSIFIED | 15

Opportunities and Successes

■ Successes

- **Keeping our Focus on Safety – 184 days without recordable injury**
- **Material at Risk within TA-54 is less than 50K PE Ci**
- **Completed the Federal Readiness Assessment for Drum Venting**
- **412 and 231 Box Lines now HC3 operations**
- **375 box line now radiological operations**
- **Developed a Technical Team for Box Line Innovation and Efficiencies**
- **Exceeding our Interim Shipping Goals**
- **Redundant Crane at RANT installed and operational**

UNCLASSIFIED

Summary

- DOE and NMED have defined an improved process to achieve effective cleanup at LANL while balancing risk with budget realities
- Transparency with stakeholders is a key element
- A focused “campaign” is delivering exceptional results
- Positive relationship with the regulator has been key





3706 TRANSURANIC WASTE CAMPAIGN

New Mexicans working together to meet a national environmental challenge

