

LA-UR-17-29759

Approved for public release; distribution is unlimited.

Title: BEST PRACTICES AND LESSONS LEARNED IN LANL APPROACHES TO
TRANSPORTATION SECURITY.

Author(s): Drypolcher, Katherine Carr

Intended for: Report

Issued: 2017-10-24

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.

BEST PRACTICES AND LESSONS LEARNED IN LANL APPROACHES TO TRANSPORTATION SECURITY



November 16, 2017

Katherine Drypolcher

Introduction

- **Programmatic mission**
 - unwanted radioactive and nuclear sealed sources of US origin
- **During transportation of nuclear material the risk of sabotage or theft is heightened.**

Physical Protection of Material in Transit

- Prevent theft and/or diversion for malevolent use
- Prompt detection, assessment, and reporting
- Prompt Local Law Enforcement Authority (LLEA) response



Graded Approach for Implementation Controls

Risk Category	Security Plan	State / City Notifications	Engineered Delays	GPS Tracking	Intrusion Alarm	Additional Requirements
High	Y	Y	Y	Y	Y	Y
Medium	O	N	Y	Y	N	N
Low	N	N	O	N	N	N

Y = yes, O = optional, N = no

Security Requirements

- **Engineered**
 - Hardened locks and doors
 - Stop Boxes
 - Real Time GPS tracking with or without intrusion notification
- **Administrative**
 - Notifications to appropriate authorities
 - Background vetted drivers
 - Transportation security plans
 - Procedure changes



Security Technology Installed



LANL Lessons Learned

#1 Shipping Violation

- Air shipment of fissile material
- LANL-wide pause of all Class 7 shipping operations.
 - Corrective Action Plan
 - New Procedure
 - Use Every Time Checklists

#2 Unmonitored Shipment

- 94 sealed sources at a US commercial licensee
- The shipment quantities did not trigger any supplemental physical security or tracking requirements.



#3 Foreign shipment

- May 24th 2005 one 293Pu/Be was packaged in Uruguay for transportation to the US.
 - No support
 - Conflicting priorities
 - High costs

Conclusion

- DOE – owned truck
 - Real-time tracking
 - Stop box
 - Reliable drivers
 - Minimized transport time
- Improvements from Lessons Learned