

## Dangerous Discrepancies

[Download the full report](#) (61 pages)

*Originally published November 29, 2005, and reissued with corrections April 21, 2006.*

---

### Main findings

- There are major discrepancies in the materials accounts for weapons [plutonium](#) in Los Alamos Waste. An analysis of official data indicates that the unaccounted for [plutonium](#) amounts to about 300 kilograms. <sup>[1]</sup> This estimate takes into account all sources of data for [plutonium](#) discharged into waste streams (stored, shallow burial, soil, intermediate depth) as well as the hydronuclear tests that were conducted at the Los Alamos site in 1960-61. Plutonium accounting data in the safeguards account (the Nuclear Materials Management and Safeguards System (NMMSS)) show that discharges from processing areas to waste were particularly high in the 1980s. We have not been able to discover the reason for these high losses to the waste but have provided some indications of possible explanations.
- If much or most of the unaccounted for [plutonium](#) was disposed of as buried low-level waste and buried transuranic waste on site at Los Alamos, the long term radiation doses would far exceed any allowable limits. Remediation would be necessary but would be very complex due to the unknown disposal patterns. Further, in that case the NMMSS [plutonium](#) account would be wrong, since it shows less than 50 kilograms of waste before 1980, the period that accounts for almost all the documented buried waste containing significant amounts of [plutonium](#).
- It is possible that significantly more [plutonium](#) is going to the Waste Isolation Pilot Plant (WIPP) than indicated by DOE documentation. If so, this has major implications for the oversight of the operations of WIPP. The IEER review of waste characterization documents prepared for the New Mexico Attorney General's Office in 1998 indicated many areas of missing and incomplete waste documentation. If the NMMSS account is deemed as correct in the annual reported totals of [plutonium](#) in waste, the possibility that WIPP accounts are incorrect appears to be significant. Over 90 percent of 610 kilograms of [plutonium](#) in waste in NMMSS is attributed to the 1980s and 1990s.
- Even if only a part of the unaccounted for [plutonium](#) is actually missing, this would have major security implications. As a reference point, North Korea's entire stock of [plutonium](#) is only about 15 percent of our estimate for the [plutonium](#) unaccounted for at LANL.

### Recommendations

An urgent, independent investigation of the problem of discrepancies in LANL accounts of [plutonium](#) in waste is necessary to address the findings of this report and to resolve the uncertainties.

Closer oversight of the characterization of the weapons [plutonium](#) content of containers being sent to WIPP is essential and urgent. Since waste containers cannot be practically checked once they are disposed of, more certain characterization and an investigation into the state of the accuracy and completeness of WIPP documentation is essential for environmental as well as security reasons.



Notes:

1. Weights of [plutonium](#) in this report refer to the sum of [plutonium](#)-239 and [plutonium](#)-240, unless otherwise specified. [? Return](#)

Published on 2006-04-21

Last modified on 2012-04-26