



## **What Should Comprehensive Cleanup of Area G Cost? Budget Comparisons between Material Disposal Areas B, C, and G**

The New Mexico Environment Department (NMED) is on track to approve or not before the end of the year the method of cleanup for Material Disposal Area (MDA) G, the main radioactive waste dump at the Los Alamos National Laboratory (LANL). The Lab has submitted to NMED its preferred “remedy” of “cap and cover” with an estimated cost of \$186 million.<sup>a</sup> LANL claims that this cap will protect the public and the environment for 1,000 years. However, many of the buried radionuclides in Area G will remain dangerous for 10’s to 100’s of thousands of years, and the dump is located in an active seismic zone between a rift and a dormant supervolcano.

The Lab also submitted an option of full cleanup and offsite disposal of Area G wastes, but estimated that cost at \$29 billion. This seems clearly financially impossible, leading to its automatic rejection. But is that estimate for comprehensive cleanup of Area G credible, especially given LANL’s deteriorating reputation for cost estimates? The purpose of this analysis is to compare available actual and estimated costs in an attempt to estimate realistic costs for full cleanup of Area G. More importantly, LANL and NMED should objectively estimate realistic costs.

A “Corrective Measures Evaluation” (CME) for Area G was released by LANL in September 2011. Area G consists of 51 acres of subsurface pits, trenches, and shafts. The purpose of the CME was to investigate cleanup alternatives while analyzing safety and cost, which arrived at the full cleanup estimate of \$29 billion. In comparison, a fully excavated MDA B is now being completed, and can be a model of what can be done at what cost. Additionally, an estimate for another MDA, Area C, was recently released, which can be used to further buttress cost comparisons.

In our chart on the next page LANL’s actual or estimated costs per acre and per cubic meter (m<sup>3</sup>) for cleanup of the three MDAs are radically different. Area G is eight and a half times the size of MDA B (51 acres vs. 6) and may have up to 41 times more wastes to be excavated (1,400,000 m<sup>3</sup> vs. 32,875m<sup>3</sup>). But incongruously it has a total estimated cleanup cost an astronomical 213 times higher than that of MDA B (\$29B vs. \$136M), when typically costs tend to go down with greater volume. As a relevant example, the original cost estimate for full excavation and cleanup of MDA B was \$110 million, but double the expected wastes was found at twice the depth and 10 times the radioactive curie count than what was originally expected. Despite all that the total cleanup cost for MDA B increased by only \$26 million.

*903 W. Alameda #325, Santa Fe, NM 87501 • Voice and fax: 505.989.7342  
info@nukewatch.org • www.nukewatch.org • http://www.nukewatch.org/watchblog/  
http://www.facebook.com/NukeWatch.NM*

It is unknown exactly what wastes are in Area G and at what amounts. Estimates on the amount of actual wastes are around 250,000 cubic meters, but upwards of 1.4 million cubic meters was excavated to bury these wastes in unlined pits. It is then reasonable to assume that much of the backfill used in the pits at Area G is now contaminated. In order to better capture all likely costs, the tables below use a high estimate of 1,400,000 cubic meters of waste and fill that would need to be excavated from Area G for full cleanup.

**MDA cleanup costs (& dates) using LANL data**

<i>Material Disposal Area</i>	<i>Acres</i>	<i>Total cleanup costs</i>	<i>Cost per acre</i>	<i>Excavated waste &amp; fill (m<sup>3</sup>)</i>	<i>Cost per m<sup>3</sup> excavated</i>	<i>Meter<sup>3</sup> of waste per acre</i>
MDA B Feb. 2012 <sup>b</sup>	6.0	Actual \$136,000,000	\$22,700,000	32,875	\$4,136	5,480
MDA C Sept. 2012 <sup>c</sup>	11.8	Est. \$787,116,295	\$66,704,770	259,110	\$3,973	16,788
MDA G Sept. 2011 <sup>d</sup>	51.0	Est. \$29,000,000,000	\$568,627,451	1,400,000	\$20,714	27,451

This chart calculates what the estimated cost for Area G cleanup would be if the per unit prices of MDAs B and C are used.

**Area G cleanup cost estimates using MDA B and MDA C costs per acre and per cubic meter**

	<i>Area G acres</i>	<i>Per acre cost (from above)</i>	<i>Total Area G using per acre costs</i>	<i>Area G excavated waste &amp; fill (m<sup>3</sup>)</i>	<i>Cost per m<sup>3</sup> (from above)</i>	<i>Total Area G per meter<sup>3</sup> costs</i>
Using MDA B costs	51	\$22,700,000	\$1,157,700,000	1,400,000	\$4,136	\$5,790,400,000
Using MDA C costs	51	\$66,704,770	\$3,401,943,270	1,400,000	\$3,973	\$5,562,547,011

**Bottom line:** Full cleanup of Area G should cost between the range of \$1.2 billion and \$5.8 billion. The latter figure uses per cubic meter costs, which is probably the more realistic, but still nowhere close to LANL’s estimated \$29 billion. The fact that using MDA B & C per cubic meter costs nearly agree with other while calculating the total Area G cleanup cost help to corroborate each other. Given the recent experience of discovering twice the wastes at MDA B, it may be reasonable to give complete cleanup at Area G an overall contingency raising total cleanup costs up to \$7 billion. We argue that even that amount of money would be well spent. The estimated \$6 billion for the CMRR facility for nuclear weapons plutonium work was not going to create a single new permanent job. In contrast, **up to \$7 billion to clean up Area G would be a win-win for New Mexicans, permanently protecting the environment, groundwater and the Rio Grande while creating 100’s of high paying jobs.**

This analysis was made possible by the support of the New Mexico Community Foundation’s Community Involvement Fund. November 14, 2012

a - MDA G CME Report, Revision 3, <http://permalink.lanl.gov/object/tr?what=info:lanl-repo/eprr/ERID-206324> , Table 8.2-2

b - ARRA PROJECTS – LANL, Feb 2012, <http://permalink.lanl.gov/object/tr?what=info:lanl-repo/lareport/LA-UR-12-24668> , Slide 8

c – MDA C CME Sept 2012, <http://permalink.lanl.gov/object/tr?what=info:lanl-repo/eprr/ERID-222830>, Section 8.2.5.5 , Table I-3.5-1

d - MDA G CME Report, Revision 3, <http://permalink.lanl.gov/object/tr?what=info:lanl-repo/eprr/ERID-206324> , Table 8.2-3, Table 2.1-1

903 W. Alameda #325, Santa Fe, NM 87501 • Voice and fax: 505.989.7342  
[info@nukewatch.org](mailto:info@nukewatch.org) • [www.nukewatch.org](http://www.nukewatch.org) • <http://www.nukewatch.org/watchblog/>  
<http://www.facebook.com/NukeWatch.NM>