

Cleanup Myths and Realities

Trucks and Soil Volumes

Boeing and its surrogates have been trying to scare people about trucks, claiming unbelievable numbers for immense periods of times. The reality, however, is quite different.

NASA estimates that the soil cleanup of its portion of SSFL would entail about **three to four truck shipments per hour**, during work hours and work days only, for a period of a little less than two years.

NASA EIS

Because there are
several routes, that
would mean **about
one truck per hour**
per main route.

NASA estimates this would result in an increase of a **few tenths of one percent** in the traffic on the main routes to be used.

The cleanup of the DOE area should be comparable to that of the NASA area. It has long been estimated that the DOE and NASA cleanups should be similar in volume.

Recently, Boeing's main contractor has produced wildly inflated estimates of cleanup of chemicals at the DOE part of the property, many times higher than put forward before.

The Southern
California Federation
of Scientists analyzed
these estimates and
found them grossly
inflated.

The exaggeration basically assumed removal of virtually all soil in Area IV, out to rock outcrops and down to bedrock, even if there was no evidence of contamination below a few inches or beyond a particular spot.

In short, the DOE and NASA cleanups under the AOC cleanup agreements should entail about 1 truck shipment per hour on each of the main routes, for less than 2 years each, restricted to work days and work hours.

TREES AND “MOONSCAPING”

Boeing and its surrogates have tried to claim that the cleanup would “moonscape” the land and destroy vast amounts of high priority natural habitat. The truth is quite different.

The contamination is primarily at the former operational areas, which long ago were heavily disturbed, graded, etc., not pristine areas.

Sodium Reactor Experiment (site of 1959 partial meltdown) AE-6 and L-85 reactors

Radioactive
Materials
Handling
Facility

SNAP 8
Experimental
Reactor
(Accident: 1964)

SNAP 8
Development
Reactor
(Accident: 1969)

Advanced
Epithermal
Thorium
Reactor

Liquid
Metals
Component
Test

Plutonium
Building

Hot
Laboratory
(Site of
several
radioactive
fires)



Nuclear Area at Santa Susana Field Laboratory

Sodium Burn Pit

The cleanup agreements have special provisions to protect endangered and threatened species. No action can be taken if the Fish and Wildlife Service says it would unacceptably affect such species.

There are other provisions in the cleanup agreements to protect habitat even if there are no endangered or threatened species. For example, there is a “special circumstances” exception that can be used to exempt a particular spot from cleanup.

NASA estimates in its EIS that its cleanup will temporarily disturb ~7 acres of conservation habitat designated by CDFW as high priority -- 0.05 acre of southern willow scrub and 7 acres of Venturan coastal sage scrub.

That is out of 451
acres of land in the
NASA area.

Assuming a similar situation for the DOE portion of the property, approximately 0.5% of the 2850 acres of SSFL would be high priority habitat (two scrubs) disturbed by the cleanup.

As to oak trees,
great care is being
taken to not
disturb them.

In 2010, NASA began remediation of dioxin-contaminated soil near a former incinerator and ash pile at SSFL. Some of the cleanup work occurred in areas containing some oak trees.

NASA 2011

“We got at the soil we needed to with very minimal disturbance to the surrounding environment. That was our goal,” said Randy Dean, a CH2MHill contractor to NASA.

‘No oak tree roots were exposed or damaged during the soil removal,’ added Dean.









Risk versus Background

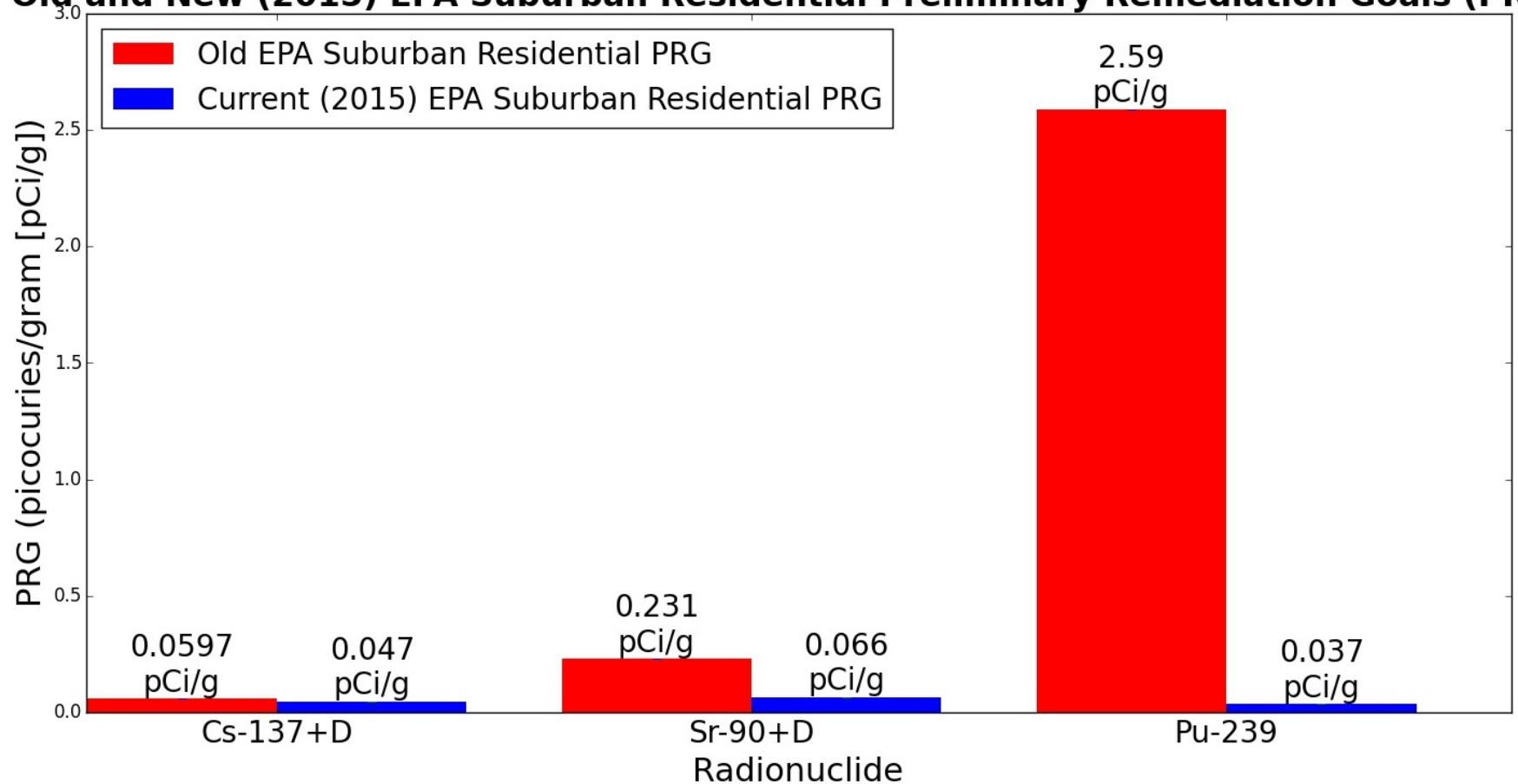
Big News: EPA has recently determined that radionuclides such as **Cesium-137, Strontium-90, and Plutonium-239** are more dangerous than previously assumed, and must be cleaned up to more rigorous standards.

EPA's new remediation goals for suburban residential are:

- **30% lower for cesium-137**
- **3.5 times lower for strontium-90**
- **and 70 times lower for plutonium-239**

than EPA's prior cleanup goals

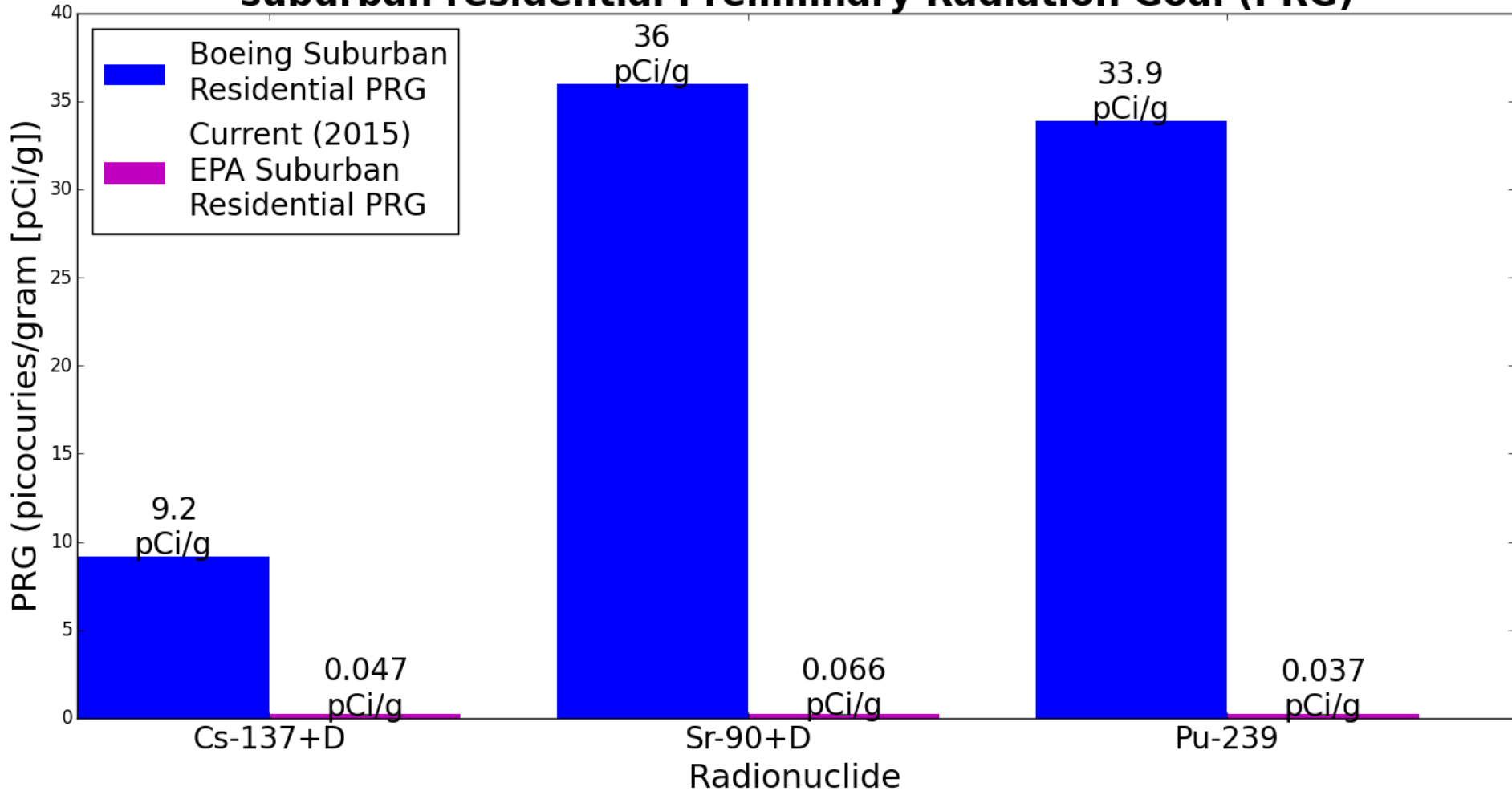
Old and New (2015) EPA Suburban Residential Preliminary Remediation Goals (PRGs)



What Boeing and its surrogates have been calling “suburban residential” cleanup levels are actually hundreds of times more lax than EPA’s suburban residential cleanup goals:

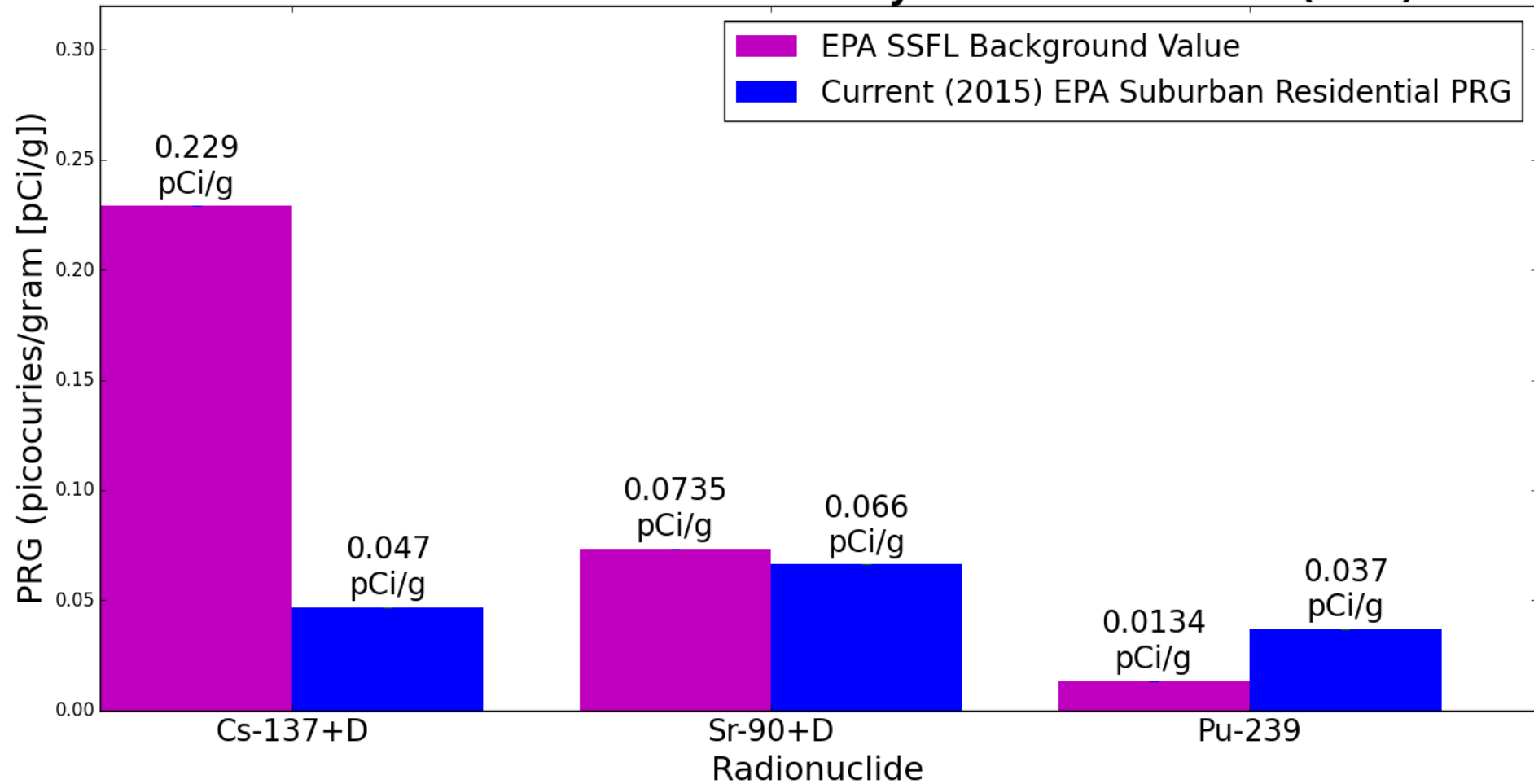
- **194 times higher for Cesium-137**
- **545 times higher for Strontium-90**
- **916 times higher for Plutonium-239**

Boeing suburban residential standard vs. current (2015) EPA suburban residential Preliminary Radiation Goal (PRG)



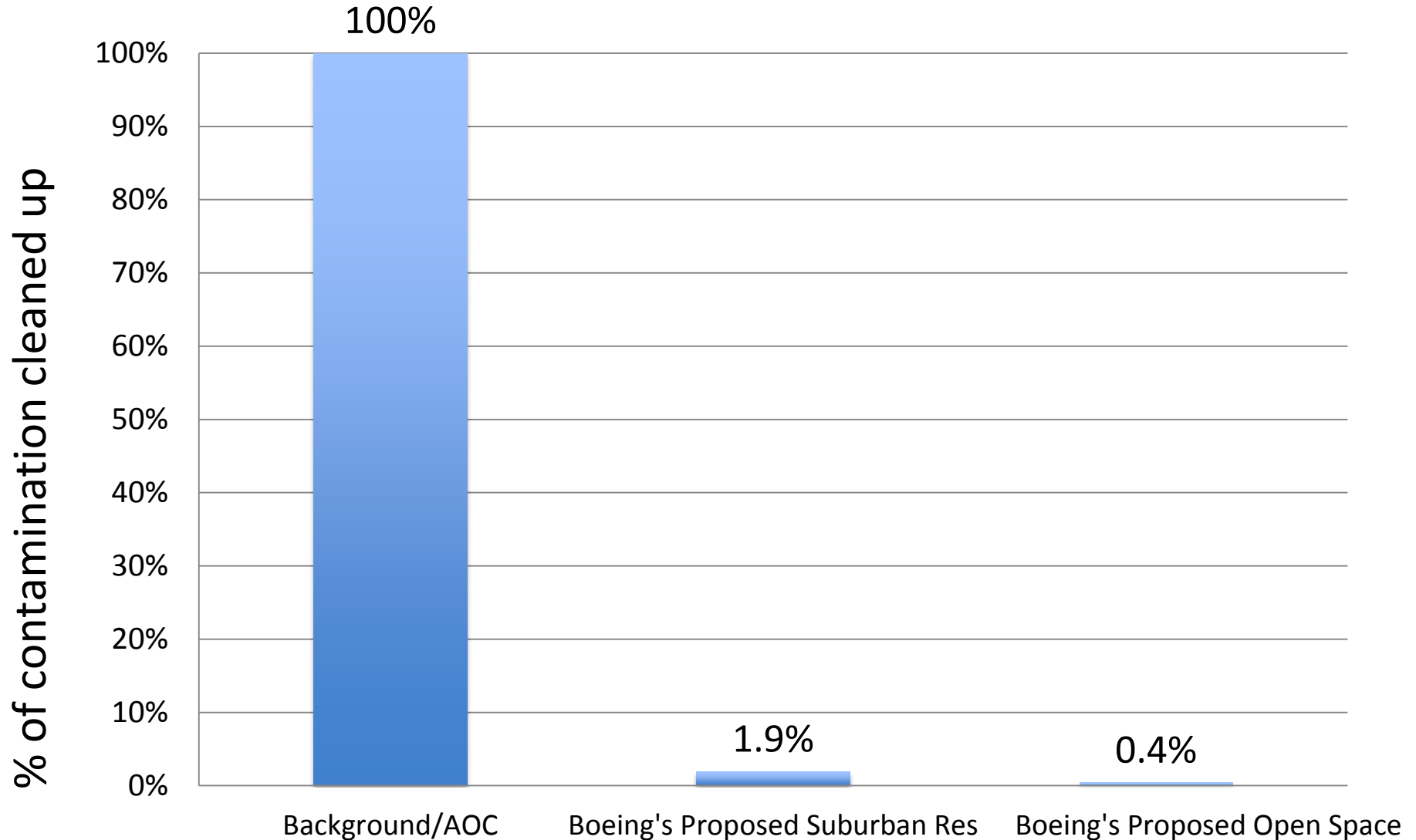
A cleanup to background is thus essentially equal to a cleanup to EPA's suburban residential cleanup goals, which is why, to simplify the cleanup, cleanup to background was agreed to.

A cleanup to background vs. cleanup to current (2015) EPA Suburban Residential Preliminary Remediation Goal (PRG)

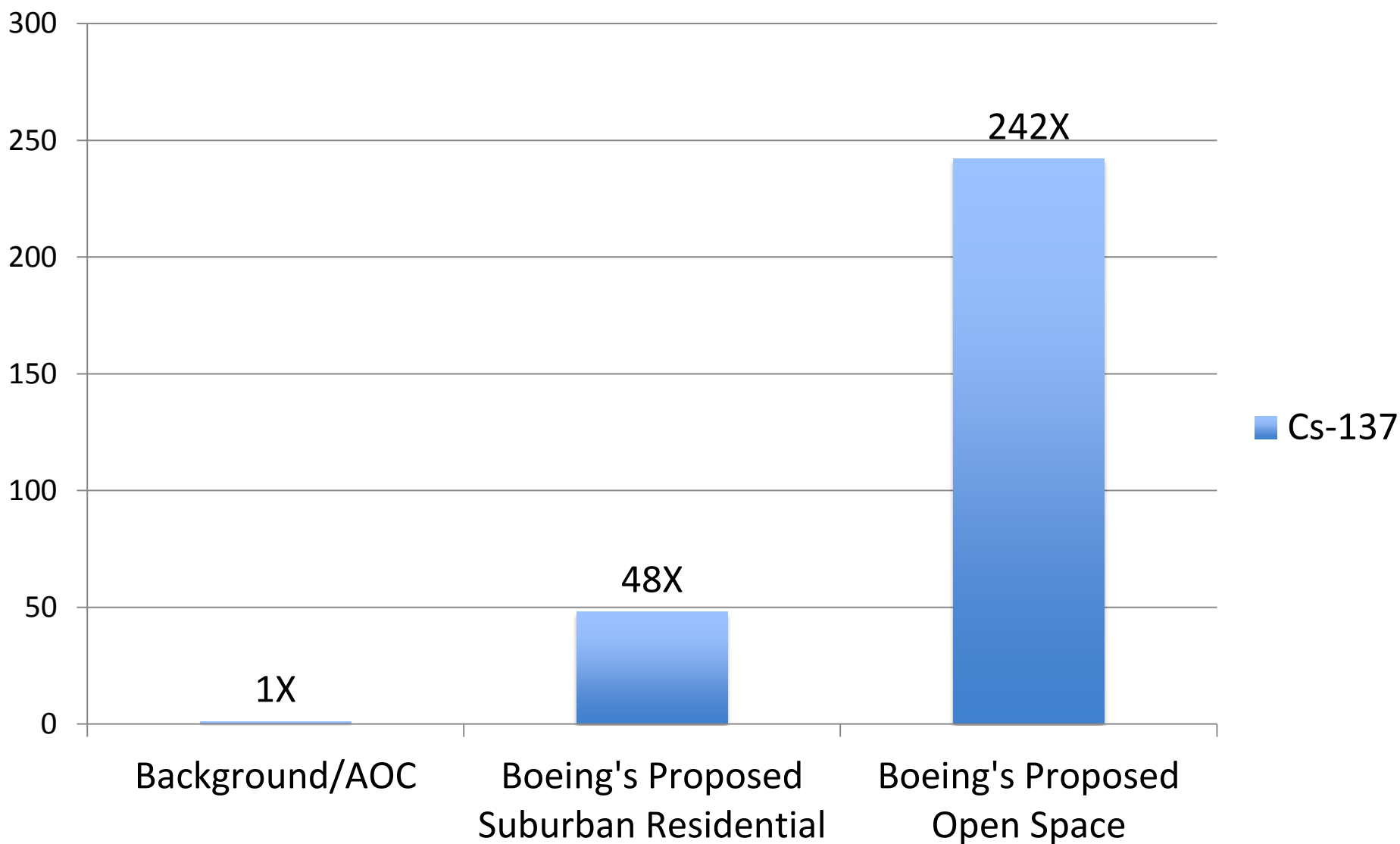


If the cleanup level pushed by Boeing and its surrogates were adopted for radionuclides, of the ~500 locations where EPA found radioactive contamination, **virtually none would be cleaned up.**

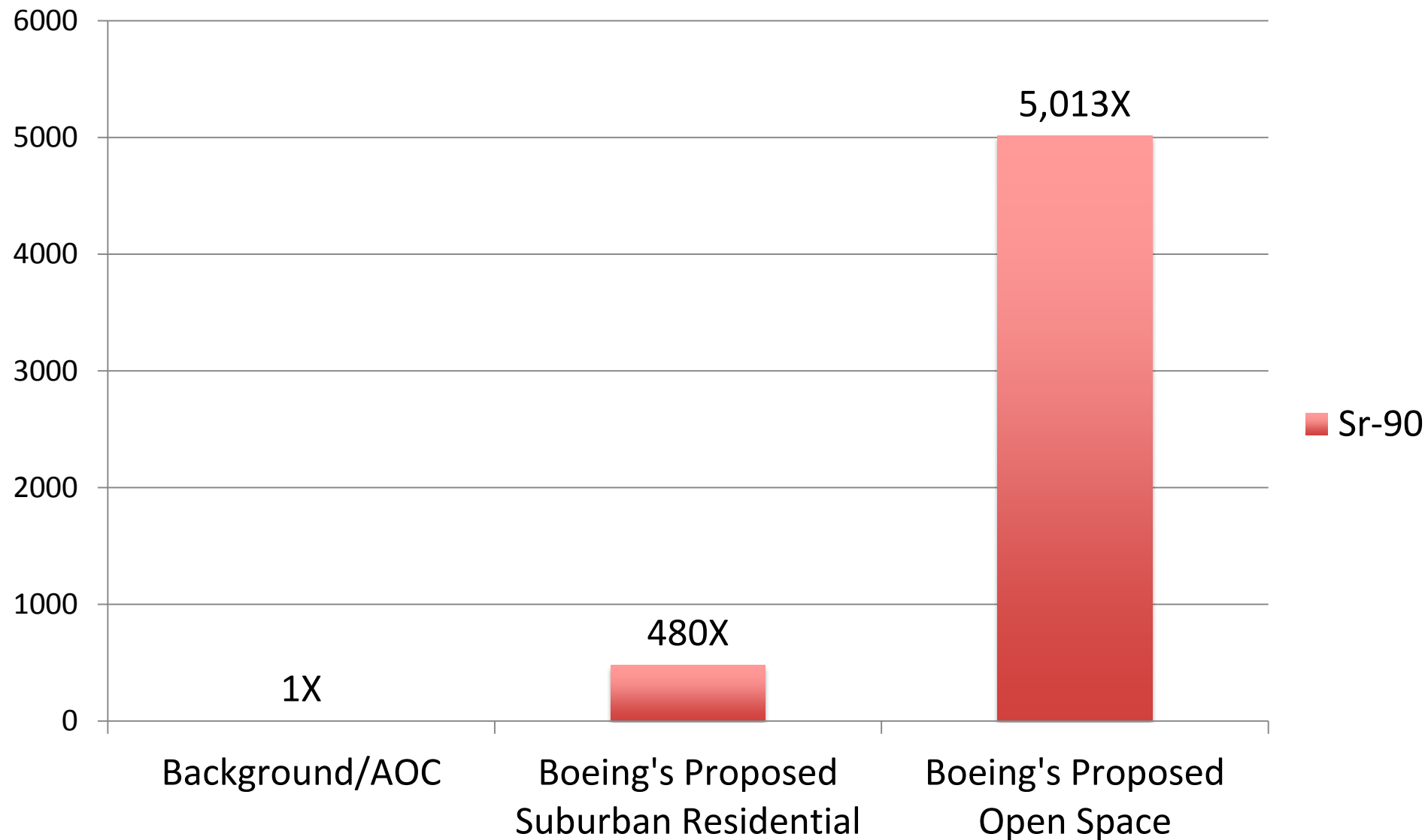
Percentage of the SSFL Soil Found by EPA to Have Radioactive Contamination Above Background that Would be Cleaned Up if DTSC's 2010 Cleanup Commitments Were Kept Versus if Boeing's Cleanup Alternatives Were Allowed



How Many Times Higher (Less Protective) are Boeing's Proposed Cleanup Levels than the AOCs (Background) for Cesium-137?



How Many Times Higher (Less Protective) are Boeing's Proposed Cleanup Levels than the AOCs (Background) for Strontium-90?



The same is true for chemicals.
What Boeing and its allies pushing for not having to clean up the site claim is a “suburban residential” standard is actually **hundreds to thousands of times more lax than suburban residential standards using EPA’s default assumptions or those in the Standardized Risk Assessment Methodology.**

Boeing “suburban residential” vs. actual “suburban residential” cleanup levels

- Arsenic -- **400 times higher**
- Methyl Mercury – **5800 times higher**
- Hexavalent Chromium – **658 times higher**
- Dioxins—**641 times higher**
- PCBs—**477 times higher**

Conclusion

Parties responsible for the contamination can save a lot of money if they and their surrogates can scare people into opposing the cleanup. But the claims are false.

Their so-called “suburban residential standard is hundreds to thousands of times more lax than EPA’s suburban residential remediation goals.

Boeing and the government
contaminated the site.

They must meet their
obligations to clean up the
toxic mess they made.