

## Gains from cutting tap-water lead

The Environmental Protection Agency (EPA) expects to propose sometime next year a reduction in the amount of lead it will permit in drinking water — from 50 parts per billion (ppb) to 20 ppb. A new EPA study, now in draft form, estimates that in addition to the health benefits, the annual economic benefit of such a change would be \$800 million — a projected 7:1 ratio of benefits to costs.

Currently, an estimated 40 million people in the United States drink water that exceeds the proposed standard. The primary culprits are lead pipes and the lead solder used to seal pipes that carry drinking water. The metal, liberated by the corrosion of the water conduits, can produce high levels of lead in tap water even from copper pipes, if they have been sealed with lead solder. The problem is especially serious in residences with new plumbing, because the highest lead leaching from solder occurs within the first 24 months; the report adds that "lead levels [attributable to solder] can remain elevated for five years." The June 1986 amendments to the Safe Drinking Water Act (SN: 7/19/86, p.40) ban the use of soldering materials exceeding 0.2 percent lead for public water systems and the use of pipes containing more than 8 percent lead.

Severe lead toxicity can cause severe retardation or even death. At lower levels, the EPA study notes, lead can interfere with the blood-forming process, vitamin D metabolism, kidney function and neurological processes. It can also elevate blood pressure, affect brain wave patterns and impair cognitive performance as measured in IQ tests. In assessing benefits of lower levels of drinking-water lead, the study estimates the cost of compensatory education needed to deal with learning-related manifestations of lead toxicity and reduced earnings that might be expected for individuals who had suffered IQ deficits.

The study found that the proposed new lead rule would annually save \$7.7 million on medical treatment for childhood lead poisoning, \$29.6 million on high blood pressure, \$424.1 million from fewer heart attacks, \$43.6 million from fewer strokes, \$370 million from fewer deaths due to heart disease, \$22.7 million in compensatory education, \$151.7 million in reduced earnings and \$421.6 million on materials degradation from corrosion.

Though the new economic analysis has not been reviewed by all EPA officials, those involved in the study say they do not expect there will be major changes between this and the final report, expected out in early December. — J. Raloff

# SUPERFORCE

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— from the book

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