



Georgia Industry Environmental Coalition

GIEC'S CONCERNS WITH CURRENT LEAD RULE

The Georgia Environmental Protection Division's (EPD's) rule, as adopted by the Board of the Department of Natural Resources in October 1999, is inconsistent with sound science, does not recognize accepted institutional controls, and is more stringent than USEPA and possibly as many as 85% of the other states in the nation.

1. EPD's Bright-Line Concentration Presumption

A fundamental scientific feature of USEPA's child and adult blood-lead models is that the lead concentration term is the average concentration of exposure over the exposed area, not a bright-line, single-point cleanup level as EPD has presumed for application of such blood-lead models under HSRA. EPD's bright-line presumption means that site-specific HSRA standards for both residential and non-residential properties will be some three to ten times more restrictive than would otherwise be determined with proper scientific application of the blood-lead models.

GIEC has recommended a mean-to-maximum multiplier of 3.0 for application of the model results on the use of exposure area composite samples to determine compliance. USEPA recommends a composite sample approach.

2. Site-Specific Standards Needed for Groundwater

Current HSRA rules allow for calculation of site-specific standards for constituents of concern – except for lead. The HSRA ground-water standard for lead is limited to the USEPA tap water "action level" of 15 ppb. This means that all groundwater at a HSRA property ("...any subsurface water that is in a zone of saturation") must be maintained or remediated to the USEPA at-the-tap drinking water value, irrespective of use potential or other site-specific factors.

GIEC has recommended site-specific application of blood lead models to compute both site-specific soil and ground-water standards. A part of that calculation would then take into account the actual exposure persons on the property have to the groundwater; i.e., where groundwater is not or could not be used for drinking, exposure would be limited and acceptable concentrations would be higher. [As a broader issue, GIEC has also asked for discussion of a ground-water classification system, similar to other states, that would acknowledge not all groundwater is capable of serving as drinking water, independent of lead contamination. Some groundwater for example may have levels of solids or salinity that preclude drinking water use or some aquifers may not yield sufficient water to be viable sources of water.]

3. Water Ingestion Term

Proper site-specific application of the child and adult blood-lead models requires a water ingestion term (input) that represents the average concentration of lead in the water being ingested by individuals occupying the subject lead-contaminated property. (An assumption that individuals are ingesting more lead in groundwater lowers the amount that would be acceptable

in soil – so that lead in soil cannot leach to groundwater and thus increase exposure.) The most appropriate way to determine this water concentration term is to test the tap water at the site; or if there is no potable water supply now available on site, to test the most likely source(s) of such potable water. This may or may not entail an on-site, ground-water source, depending on site-specific conditions.

EPD has, however, forced a generic presumption that the water ingestion term used in the site-specific, blood-lead models must be the maximum concentration of total lead in any site ground-water sample, irrespective of the actual site-specific source of potable water and irrespective of whether that groundwater may exceed acceptable concentrations for drinking water. This “all groundwater is drinking water” presumption - even though it may not be and could not be - can compel excessively stringent soil clean-up levels while ignoring the reality that lead exposure in tap water is typically associated with lead in older plumbing systems. This forced generic presumption for site-specific HSRA standards is not a scientifically-sound approach and does not, in our view, represent prudent public policy.

GIEC recommends use of actual tap water values or default values that approximate typical lead values in public water supply systems (<<15 ppb).

4. Point-of-Exposure for Groundwater

The present HSRA rules for site-specific standards require a demonstration that any lead concentrations in soil above the uppermost groundwater will not leach at a level that would cause such groundwater to exceed the applicable ground-water standard at any location where a well “could be” installed. For lead, the only ground-water standard now available is the USEPA tap water “action level” of 15 ug/l. Furthermore, EPD’s practice has been to force the generic presumption that a drinking water well “could be” installed directly beneath the subject soil at the presumed point of maximum concentration without any further dilution or attenuation. This series of excessively stringent, forced-exposure presumptions can compel soil cleanups that go far beyond what is needed to be suitably protective of public health and the environment. Property owners however should have the option to accept deed restrictions prohibiting wells on site, so that fate-and-transport modeling could be used to demonstrate that appropriate standards are being met at the most likely point where a well could be installed, after properly considering dilution or attenuation.

Conclusion

Overall, the present site-specific standards (Type 2 and Type 4) available under HSRA offer little or no site-specific flexibility. EPD forces the generic presumptions that exposure will occur to both soil and groundwater and that the groundwater directly beneath the soil will be used for drinking water supply, irrespective of actual site-specific conditions. The present HSRA “risk-based” generic residential standard (Type 1) for lead in soils is a bright-line “background” concentration of 75 mg/kg while USEPA considers a yard-wide average soil concentration of 400 mg/kg as being suitably protective for all residential properties. With a reasonable mean-to-maximum multiplier of 3.0, **the HSRA generic, residential standard for lead is 16 times more stringent than the USEPA value.**

For generic, non-residential properties (Type 3), the present HSRA rules specify a maximum bright-line soil concentration of 400 mg/kg which is the same as the USEPA limit for a yard-wide average at residential properties. With a mean-to-maximum multiplier of 3.0, the generic HSRA, non-residential clean-up level is three times more stringent than the USEPA generic residential value. And for industrial properties, the USEPA soil screening level average is 2,000 mg/kg compared to the HSRA bright-line, non-residential clean-up level of 400 mg/kg. On an

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equivalent measurement basis, **the HSRA non-residential soil standard is 15 times more stringent than the USEPA soil screening level.** We do not understand why HSRA soil levels need to be so much more stringent than USEPA levels.

In comparison to other states, EPD's Type 3 non-residential standard of 400 mg/kg may be more stringent than about 85% of the other states in the nation. (It is difficult to be precise with this comparison because of the way other states structure and report their standards. About 35% of the 42 "less stringent states" actually allow site-specific standards – an approach we also endorse. The other 50% clearly specify less stringent standards for non-residential settings.) EPD strives to be a leader in protecting human health and the environment. The question should be asked, however, whether 42 other states in this country might also be protecting human health and the environment best on sound science and in a more cost-effective way.

EPD has been a leader in adopting blood-lead models that are based on sound science. We are asking for more complete use of that sound science – especially for non-residential settings where EPD can insure non-residential status by requiring access control, deed restrictions and/or zoning laws, or can require cleanup to residential standards if those conditions change.

GIEC's Concerns with the Process for Providing Input to Rule Changes

1. Proper consideration should be given to sound science.
2. Effective engineering and institutional controls should be allowed.
3. "Cost Benefit" should be considered.
4. Georgia's position relative to the USEPA and other state agencies should be considered.
5. The positions of each stakeholder group should be documented at each stage in the process.
6. Agreements reached in meetings should be documented (by a neutral party).
7. Timely responses should be enforced.
8. ???