

Testimony of Lester B. Lave, March 15, 1995

My name is Lester B. Lave and I am University Professor and the James Higgins Professor of Economics at Carnegie Mellon University. I am director of the Carnegie Mellon University-wide Green Design Initiative, which seeks to find practical ways to prevent pollution.

I am a past president of the Society for Risk Analysis and a founding member of the environmental group GASP in Pittsburgh, I received grants from the federal EPA and am currently a member of EPA's Science Advisory Board Subcommittee on the benefits and costs of the Clean Air Act. I have received grants from the National Science Foundation, National Institutes of health and many other governmental and private organizations; I have acted as a consultant to many governmental organizations and private companies. My research was a major basis for EPA setting the National Ambient Air Quality Standard for suspended particulate matter.

I am here today to give my support for SB 1 and to discuss some related aspects of risk analysis and the economics of the bill.

A major problem with federal Superfund legislation was making existing and past industrial sites undesirable locations for redevelopment. The liability associated with these sites is so high that an individual or company would have to think twice before being willing to takeover any "brownfield" site.

Almost any past industrial activity could lead to an immense cleanup liability. Furthermore, thorough testing to determine that a site is not contaminated is extremely expensive. As a result, no one wants to take over a brownfield site. This means that virtually all of the existing sites for industrial activity would not be used for further development. Instead, the new activity would be diverted to "greenfield" locations. Using greenfield sites means that all of the expensive housing and infrastructure in our cities will be abandoned and we will have to construct extremely expensive new infrastructure and housing in the new locations. This makes no sense.

At the beginning of the environmental movement, many people hoped that the cost of cleanup would be sufficiently small that we could have pristine environment without significant costs or industrial dislocation. That hope has been dashed by 25 years of experience. Cleaning a toxic waste site to a level where children can eat dirt with no risks is expensive. In some cases, this is an expense than we can afford to bear and should bear. In other cases, a lesser standard of environmental quality can and should be chosen.

In the 1970s, scientists at the Federal Food and Drug Administration and Environmental Protection Agency rebelled at what seemed to be senseless orders. No one wants to be exposed to a cancer causing substance, but if the risk of getting cancer from that exposure is extremely low, we have more important things to worry about. The FDA settled on a risk level of no more than one cancer per million lifetimes as being a "de minimis" level. They began the development of what has come to be the science of "risk analysis" in order to estimate the consequence of small exposures to toxic substances.

In the nearly 20 years since the initial steps, risk analysis has become an important science with thousands of risk analysts, a professional society (the Social for Risk Analysis) and more than one scientific journal (Risk

Analysis). A great deal of scientific research has gone into developing the theory of risk analysis and estimating the risks in particular cases. I am pleased to have served as one of the founding members of the Society for Risk Analysis and as its president.

The development of risk analysis has allowed the FDA and EPA to state safety goals in terms of estimated risks. I urge Pennsylvania to follow the lead of the federal government.

Legislation has passed the U.S. House of Representatives and is currently pending before the U.S. Senate to require risk analysis and benefit-cost analysis of major regulations. I testified in favor of these concepts in both the House and Senate.

In both controlling environmental discharge of pollutants and in cleaning up toxic waste sites, the cost of cleanup is related to the extent of cleanup. 99.9% cleanup is much, much more expensive than 50% cleanup. If a toxic waste site is going to be made into a residential housing lot, the level of cleanup must be very high. If the toxic waste site is to be used for industrial activity, a much less stringent level of cleanup is sufficient. Thus, I support a risk range in cleaning up toxic waste sites.

If stringent cleanup happens to be inexpensive, stringent cleanup should be done. If stringent cleanup is extremely expensive and the site will be used for industrial purposes, a much less stringent level is sufficient. The regulatory agency needs to have the flexibility to decide for each site and projected use what is the proper cleanup goal, after scrutinizing both the future use and the cost of cleanup.

Thank you for your attention. I would be happy to answer your questions.