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Should Asbestos in Buildings Be Regulated on an Environmental or Occupational Basis?^a

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The issue of asbestos abatement in buildings may be viewed as part of a larger and more fundamental scientific and social issue: Should asbestos in buildings be regulated on an environmental or an occupational basis? The environmental approach to regulation of hazardous substances has a different emphasis from that of an occupational approach. The environmental approach emphasizes abatement of property damage, while the occupational approach is more concerned with decreased exposure levels and compensation for injuries to health. Similarly, the justifications for the two approaches also have a different emphasis. The need for environmental protection is justified on the basis of diffuse injuries of toxic substances to the general population. In comparison, the justification for regulation of toxic substances in the workplace is based on identifiable injuries to *workers*. These different justifications have led to some divergence in policy approaches. Thus, this article addresses the issue of abatement of asbestos in buildings in the context of comparing the environmental with the occupational approaches to regulating asbestos in buildings.

THE ENVIRONMENTAL APPROACH

The environmental approach to regulating hazardous substances focuses on abatement remedies for property damage rather than individual compensation for health-related injuries.¹ The Federal government's role in funding abatement remedies is necessary because the particular polluters that cause injury are difficult to identify, and because tort law does not readily induce clean-ups. For example, the Comprehensive Environmental Response, Compensation, and Liability Act (also known as Superfund) was created to provide a federally mandated cleanup of hazardous waste sites, involving both a large fund of Federal money and a series of Federal common law reforms regarding strict liability.² Furthermore, compensation for health injuries is often difficult to obtain because of the diffuse injury

^a Drs. Hashimoto and Brennan taught a course at the Harvard Law School in Spring 1990 entitled "Hazardous Substance Regulation and Litigation" from which many of the ideas for this article were derived.

that is scattered over the general population. Relative risk ratios for morbidity and mortality from environmental pollution are usually less than 2.0, and therefore it is difficult for an individual to show that "more likely than not" his or her injury is due to environmental pollution. Moreover, injuries from many kinds of environmental pollution take the form of relatively common diseases, such as lung cancer or asthma, and therefore are indistinguishable from injuries due to other causes.

Another difference between the environmental and occupational settings is that environmental exposures to toxic substances are frequently regulated by the government at quite low levels. This is because environmental pollutants are more diluted than occupational exposures and yet expose larger numbers of the population. Government intervention emphasizes an *a priori* assessment of risk to the general population because individual injury is not specifically identifiable. Furthermore, environmental pollutants are more aggressively regulated because of the notion that environmental exposures are involuntary, whereas there is a higher degree of voluntariness associated with occupational exposures.³

THE OCCUPATIONAL APPROACH

Alternatively, the justification for regulating occupational toxic exposures emphasizes the identification of specific injuries to workers. Health concerns about injured workers are paramount. Injured workers have access to some compensation for injuries to their health through workers' compensation and product liability suits because those held responsible for injury (employers and producers) are often known. Furthermore, injuries that are sustained in the workplace are more likely to be identifiable in individual instances because relative risk ratios for morbidity and mortality may exceed 2.0 and the kind of injury may be unusual, such as the case of mesothelioma. Generally, compensation for personal injuries plays a more important role in the occupational context than does compensation for property damage.

When the Occupational Safety and Health Administration has chosen to act, its emphasis has been on command and control regulation, setting specific levels of exposure. Courts have insisted that the health risk of such limits be quantified,⁴ but have not allowed OSHA under the Occupational Safety and Health Act to employ cost-benefit analysis.⁵ Because potential occupational exposures are higher and cannot be "averaged" among areas within a single corporation, there is less flexibility in responses available to businesses in the occupational setting. In contrast, environmental regulation often reflects less of an emphasis on individual health, and thus more frequently allows cost-benefit analyses.⁶ For instance, the Clean Air Act allows more flexibility in arrangements between corporations as long as the aggregate pollution in a geographical region is kept below certain amounts (the "bubble concept").⁷

ASBESTOS IN SCHOOLS: A HYBRID PROBLEM

The problem of asbestos in buildings bears similarities to both environmental and occupational problems. Take, for example, the issue of asbestos in school buildings. It is similar to typical environmental issues because public exposures, that is, those of schoolchildren, are usually low-level, and risk ratios of disease are not very high. Another similarity is that the immediate economic concern

relates to property damage from the presence of asbestos. The Environmental Protection Agency (EPA) has provided funding, albeit limited, for abatement.

The issue of asbestos in schools is, however, also analogous to occupational toxic exposures because of the equally heavy emphasis on the potential health concerns of school children and the higher-level exposures to custodians and other school employees. In addition, there is the potential economic recovery through product liability suits because of identification of the producers of asbestos.

Under the Asbestos Hazard Emergency Response Act (AHERA),⁸ the EPA has regulated asbestos in schools by establishing certain requirements for local education agencies (LEAs). Public and private elementary and secondary school buildings must be inspected,⁹ and management plans may involve maintenance, repair, encapsulation, enclosure, or removal of asbestos.¹⁰

There have been at least two major difficulties involving the implementation of AHERA. First, while property damage related to asbestos has been identified in many schools, there has been a lack of adequate funding from the Federal government. Only a tiny fraction of the more-than-\$3-billion estimate by the EPA to comply with the AHERA regulations has been made available to LEAs by the Federal government.¹¹ LEAs and cities throughout the country are involved in litigation in an attempt to recover some of the expected costs from asbestos producers,¹² but it is unclear how successful these suits will be. They have not been able to take advantage of the same set of entitlements created by the Superfund for those litigants seeking abatement of hazardous waste sites, a critical element of the environmental approach to clean-ups.

Second, the AHERA does not take advantage of occupational models. There is no compensation based on strict liability available to those harmed by asbestos in schools, analogous to workers' compensation. Moreover, product liability suits are difficult to bring because of the causation problems created by low-level exposure. Litigants also face other legal barriers, such as statute of limitation problems, difficulty in establishing physical injuries, and the unforeseeability by defendants of low levels of asbestos exposures.¹³

Exacerbating both of these difficulties is the failure of the scientific community to provide clear signals for regulators and injured parties. While health concerns have been an important justification for the AHERA's implementation, LEAs are confronted with contradictory messages from scientists about how to deal with asbestos in buildings. In contrast to the EPA's position that asbestos in schools constitutes a risk significant enough to warrant abatement in certain circumstances, there have been recent, well-placed articles challenging whether low-level exposures to asbestos constitute a health hazard in buildings or schools.¹⁴ This frustrates efforts to bring common law actions, and will no doubt make it more difficult to pursue command and control regulation based on health risk. In summary, LEAs are getting the worst from the environmental and occupational approaches to regulation. Both the problems of property damage and health concerns are highlighted, but neither are presently adequately confronted.

TOWARD A HYBRID SOLUTION

We conclude that the problem of asbestos in school buildings requires a hybrid approach to regulation. First, like an environmental problem, asbestos in schools requires more consistent Federal funding for abatement.¹⁵ In our view, this is a nationwide problem that requires stronger Federal leadership.¹⁶ The risks posed

by asbestos in school buildings (whatever they may be) do not vary on the basis of geography. Moreover, the value placed on childrens' health should not be based on the wealth of local communities. Wider application of Superfund-style joint and several strict liability would place much of the onus for abatement on asbestos producers.

While it may be politically expedient to pose the issue as a question of total removal versus nonremoval, we believe that it is not helpful to depend on either extreme as the definitive answer. The better question is what kind and degree of abatement remedies are required under particular circumstances. The EPA should strive to increase the objectivity of the criteria for abatement,¹⁷ rather than leave substantial discretion to LEAs who are ill-equipped to cope with complex scientific issues. Deciding "how clean is clean" before initiating new programs would greatly facilitate them.

Finally, as with an occupational problem, a stronger scientific consensus needs to be reached concerning health effects, and clearer communication concerning health risks should be established with LEAs, parents, and children. We believe that the Federal government should undertake a stronger leadership role by sponsoring conferences such as this one to air and discuss differences of scientific opinions with the ultimate aim of developing a stronger scientific consensus about the health risks of asbestos in buildings.

NOTES AND REFERENCES

1. Successful environmental litigation has centered on recovering for property damage rather than for personal injury. See *Boomer v. Atlantic Cement Co.*, 26 N.Y.S. 2d 219, 257 N.E.2d 870 (1970); *Spurr Industries Inc. v. Dell E. Webb Development Co.*, 108 Ariz. 178, 494 P.2d 700 (1972).
2. Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) S. 107(a), 42 U.S.C. S 9607(a) (1982).
3. VISCUSI, W. 1983. *Risk by Choice: Regulating Health and Safety in the Workplace*. Harvard University Press. Cambridge, MA.
4. *Industrial Union Department, AFL-CIO v. American Petroleum Institute*, 448 U.S. 607 (1980).
5. *American Textile Manufacturers Institute, Inc. v. Donovan*, 452 U.S. 490 (1981).
6. KELMAN, S. 1981. *What Price Incentives? Economists and the Environment*. Auburn House. Boston, MA.
7. STUART, R. B. 1985. Economics, environment, and the limits of legal control. *Harvard Environmental Law Rev.* 9: 1-22.
8. 15 U.S.C. SS 2641-2654 (Supp. IV 1986).
9. 40 C.F.R. S 763.80-763.99.
10. *Ibid*. The five categories of asbestos-containing materials (ACM) include damaged or significantly damaged thermal system insulation; damaged friable surfacing or miscellaneous ACM; significantly damaged friable surfacing or miscellaneous ACM; friable ACM with potential for damage; and friable ACM with potential for significant damage.
11. Although the EPA has estimated that the cost for inspection and response actions is more than \$3 billion, it made available to LEAs through grant and loan programs less than \$150 million. As a consequence, many LEAs have gone to court to attempt to obtain additional funds through product liability suits against manufacturers. See: CHRISTENSEN, B. M. & K. A. LARSCHIED. 1988. Asbestos abatement: The second wave of the asbestos litigation industry. *Washburn Law J.* 27: 454-494.
12. *In re School Asbestos Litig.*, 789 F.2d 996 (3rd Cir. 1986).
13. BRENTA, L. J. 1987. Asbestos in schools and the economic loss doctrine. *Univ. Chicago Law Rev.* 54: 277-311; LANG, R. D. 1985. The continuing problem of asbestos

- in the public schools. *J. Law & Educ.* **14**: 23–41; Cross, F. B. 1986. Asbestos in schools: A remonstrance against panic. *Columbia J. Environ. Law* **11**: 73–100.
14. MOSSMAN, B.T., J. BIGNON, M. CORN, A. SEATON & J. B. L. GEE. 1990. Asbestos: Scientific developments and implications for public policy. *Science* **247**: 294–301.
 15. The federal law CERCLA (Superfund) does not presently provide a means of funding asbestos abatement in buildings. See: BURKE, J. M. 1987. Manufacturing liability for asbestos cleanup in public schools under the comprehensive environmental response, compensation, and liability act. *Brigham Young Univ. Law Rev.* **15**: 297–311.
 16. Recently, there has been much criticism that the EPA has been overzealous in regulating asbestos in school buildings. See MOSSMAN *et al.*, *op. cit.*; ABELSON, P. H. 1990. The asbestos removal fiasco. *Science* **247**: 1017. In contrast, our criticism is that the problem lies in that the EPA has given too much responsibility to LEAs, who do not have the institutional capacities to conduct complex scientific risk assessments or to shoulder substantial economic costs.
 17. For example, air monitoring can be a useful supplement to physical assessment by providing further objective evidence of the need for abatement. Air monitoring is, however, not a panacea because it provides only a single measurement at a point in time and cannot predict the potential maximum exposures from possible disturbances of asbestos in buildings. Moreover, long-term air monitoring is impractical because of costs. See: REILLY, W. K. 1990. Asbestos Removal. *Science* **248**: 1064–1065.