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An Economic Analysis of Illinois' New Hazardous Waste Law—P.A. 82-572[†]

INTRODUCTION

Background

In response to a growing awareness of the dangers associated with the disposal of hazardous wastes, legislation has been passed in recent years. A legislative milestone was the passage of the Resource Conservation and Recovery Act (RCRA) in 1976, part of which addressed the need to control hazardous wastes from "cradle to grave."¹ Subtitle C of RCRA required the United States Environmental Protection Agency (USEPA) to formulate specific regulations which would serve as guidelines by specifying the minimum requirements necessary for a state plant to gain the approval of the USEPA. Consequently, the states and the appropriate state agencies charged with formulating the hazardous waste regulations may impose stricter requirements for generators, transporters and disposers of hazardous wastes.

There has been a growing trend among states to enact laws targeted at the problems associated with the landfill disposal of hazardous wastes which go beyond the requirements of RCRA. Included in this group are Illinois, Missouri, Massachusetts, California, Kentucky, and Tennessee.² While the wording varies from statute to statute in each of these states, the primary purpose of the states' legislation is consistently one of re-

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1. 42 U.S.C. §§ 6901-6987 (1982).

2. The specific statute in each state is: ILL. ANN. STAT. ch. 111 1/2, ¶1039 (Smith-Hurd Supp. 1984), as amended by P.A. 82-572; Missouri Hazardous Waste Management Law, MO. ANN. STAT. §§ 260.350-430 (Vernon Supp. 1984); Massachusetts Hazardous Waste Act of 1979, as amended, MASS. GEN. LAWS ANN. ch. 31c, §§ 1-14 (West 1981); Hazardous Waste Control Law of 1973, as amended, CAL. HEALTH & SAFETY CODE §§ 25100-25105 (WEST 1984); KY. REV. STAT. §§ 224.830-.864 (1983); Tennessee Hazardous Waste Management Act of 1975, as amended, TENN. CODE ANN. §§ 68-46-101 to -117 (Supp. 1983).

stricting and eventually eliminating, as much as is reasonably possible, the landfill disposal of hazardous wastes.³

Illinois and Missouri are representative of the more restrictive attitude toward landfilling of hazardous wastes. Both states have effectively banned the landfill disposal of hazardous wastes unless it can be shown that considerations of technological feasibility and economic reasonableness preclude the use of alternative disposal methods.⁴ Several important issues arise when consideration is given to the possible economic effects of such statutory requirements. Among these issues are: (1) the legislative intent in the use and interpretation of phrases such as "economic reasonableness" when it is employed in promulgating regulations designed to achieve the desired goal of the statute; (2) the theoretical factors which should be considered when interpreting and applying the phrase "economic reasonableness"; (3) the possible implications for interstate disposal and, consequently, the general level of production of hazardous wastes; and (4) the level of efficiency in hazardous waste control that can be expected to prevail.

This paper focuses on the theoretical and legal interpretations of "economic reasonableness." The question of how courts have reviewed administrative agency actions involving consideration of "economic reasonableness" is examined focusing on case law in Illinois. It has been assumed that Illinois is representative of states actively involved in legislation of hazardous wastes and that judicial review of administrative decisions in Illinois is a good indicator of how judicial review generally proceeds in other states.⁵ The conclusions of both the theoretical model and the examination of the judicial review process may be extended to situations in states other than Illinois.

Illinois and Public Act 82-572

Illinois, like most other states, has chosen to adopt by reference the

3. For the specific wording of ILL. ANN. STAT. ch. 111 1/2, ¶1039 (Smith-Hurd Supp. 1984) see *infra* text accompanying note 7. MO. STAT. ANN. § 260.370 (Vernon Supp. 1984) states:

[w]here proven technology is available with respect to a specific hazardous waste and the economic impact is reasonable, pursuant to rules and regulations promulgated by the commission, the hazardous waste management commission shall direct that disposal of the specific hazardous wastes using landfilling as the primary method is prohibited.

MASS. GEN. LAWS ANN. ch. 21C, § 7 requires that "[h]azardous wastes shall be disposed of in a landfill only . . . (b) where the department finds that said hazardous waste cannot be recycled, destroyed, or disposed of by some other means approved by the department pursuant to its rules, regulations, procedures or standards." The remaining laws referred to in note 2, *supra*, place a similar emphasis on the need to move away from the landfill disposal of hazardous wastes via encouragement of the use of alternatives and varying restrictions on the use of landfills for the disposal of hazardous wastes.

4. For Missouri, see *supra* note 3. For Illinois, see *infra* text accompanying note 7.

5. F. E. COOPER, STATE ADMINISTRATIVE LAW, 250-63 (1965).

regulations formulated by the USEPA and has revised them in accordance with changes the USEPA incorporates into its own body of existing regulations.⁶ In early 1982, however, Illinois went beyond the requirements of RCRA and existing regulations by enacting Public Act 82-572 (Illinois Waste Law) which will severely restrict the landfill disposal of most hazardous wastes:

Commencing January 1, 1987, a hazardous waste stream may not be deposited in a permitted hazardous waste site unless specific authorization is obtained from the [Illinois Environmental Protection] Agency by the generator and the disposal site owner and operator for the deposit of that specific waste stream. The Agency may grant specific authorization for disposal of hazardous waste streams only after the generator has reasonably demonstrated that, considering technical feasibility and economic reasonableness, the hazardous waste stream cannot be reasonably recycled for reuse, incinerated, or chemically, physically, or biologically treated so as to neutralize the hazardous waste and render it nonhazardous. . . .⁷

Note that the law empowers the agency to proceed not by defining statewide standards for hazardous waste disposal but rather by defining these standards on a *generator-by-generator* basis.

Implementation of the Illinois Waste Law will depend, *inter alia*, upon interpretation of the phrase "economic reasonableness." The language of the statute places the initial burden of proof as to the nonexistence of alternatives to landfill disposal of a particular waste stream on the generator of that waste, but it will be up to the Illinois Environmental Protection Agency (IEPA) to determine whether the generator's arguments concerning "technical feasibility and economic reasonableness" are sufficient. The IEPA will either have already determined the general meaning of "economic reasonableness" or else deal with that determination on a case-by-case basis. If the IEPA refuses the generator's request to landfill the waste, the generator can then appeal to the Illinois Pollution Control Board (PCB) and, in the event that the PCB upholds the IEPA's decision against the waste generator, take the case to the appellate court.

Underlying Assumptions

Given that the Illinois Waste Law is scheduled for implementation in January 1987, any assumptions about how industry and environmental groups will react to it are only speculative. However, it is probably a safe assumption that at some point this law will be brought under the

6. ILL. ANN. STAT. ch. 111 1/2, §1022.4 (Smith-Hurd Supp. 1984) as amended by P.A. 82-380 (1981).

7. *Id.* §1039 as amended by P.A. 82-572 (1981).

scrutiny of the courts. A case may arise because of noncompliance on the part of a generator. Alternatively, waste generators or disposers may appeal adverse IEPA and PCB rulings, forcing the courts to define the limits of the law and the meaning of "economic reasonableness." Finally, an environmental group may initiate legal action against a particular generator or disposer whom they feel to be in violation of the law. In any case, the final result would be a judicial review of the law.

A second assumption is that the court will have three distinct options in reviewing the legislative meaning and IEPA and PCB interpretations of "economic reasonableness." First, the court may offer its own interpretation, independent of previous decisions on the subject and instead, based upon the judges' own understanding and perceptions influenced by testimony given during the proceedings. Secondly, the court may rely on recent case law which has dealt with the question of "economic reasonableness." Finally, in reviewing a particular case brought before the court, the court may choose, or be bound by the constraints of judicial review, to evaluate the facts as they pertain to the rulemaking procedure. Judicial deference would be given to the agency's interpretation of "economic reasonableness" and the court would ascertain whether the agency's decision was reached in an arbitrary and capricious or otherwise unreasonable manner.⁸ With this standard of judicial review, and in the absence of a finding of arbitrary, capricious, or otherwise unreasonable behavior, it is presumed that the agency's decision would be upheld.

Finally, a word is in order regarding how the IEPA will implement the requirements of the Illinois Waste Law. The IEPA may authorize the landfill disposal of hazardous wastes, considering economic reasonableness and technical feasibility, only if the generator can show that no alternatives exist. We will assume that the IEPA will promulgate regulations directing the generator how to establish that no alternatives exist in fact. Such action on the part of IEPA is of sufficient likelihood as to justify the assumption.

The remainder of this paper examines the implications for economic efficiency in the disposal of hazardous wastes which stem from various interpretations of the phrase "economic reasonableness." Part II sets out the criteria necessary to determine the meaning of "economic reasonableness" which would be consistent with maximizing efficiency, from a social perspective, of the disposal of hazardous wastes. Consideration is given to both private and social costs and benefits associated with the various disposal alternatives. Part III involves an examination of case law in Illinois which identifies the dominant legal approach to reviewing an agency's interpretation of the phrase "economic reasonableness." The

8. See *infra* text accompanying note 27.

purpose is to see if the judicial approach conforms to the theoretical standards developed in Part II.

II. AN ECONOMIC ANALYSIS OF THE ALTERNATIVE INTERPRETATIONS OF "ECONOMIC REASONABLENESS"

Alternative Interpretations of "Economic Reasonableness"

Since courts and administrative agencies are responsible for interpreting and applying existing law, both groups will identify the legislative intent behind the wording in a given statute. It is important to note that all three groups involved in the legal process—legislators, administrators, and judges—take into account a broad range of concerns of which economic efficiency is only one. Economic efficiency is not the only relevant consideration in the interpretation and application of a given statute but it is of obvious importance when reviewing judicial interpretations of phrases such as "economic reasonableness."

There is a spectrum of interpretations of "economic reasonableness" in the context of the Illinois Waste Law. It is useful to analyze the interpretations that occupy the two extreme ends of this spectrum on a generator-by-generator basis⁹—economic efficiency and affordability. Economic efficiency focuses on the individual generator and takes into account the social costs and benefits of prohibiting landfilling of a particular waste. Affordability looks only at the change in the financial position of the generator when landfilling of a given waste is not allowed. In this section we shall explore these two interpretations and their likely impact on the landfilling of hazardous wastes under the Illinois Waste Law. Before analyzing these interpretations, it will be useful to consider what the socially optimal level of landfilling a particular hazardous waste might be by using a statewide standard rather than the generator-by-generator basis mandated by the Illinois Waste Law. A statewide standard will provide a bench mark to analytically compare the outcome of either economic efficiency or affordability, both on a generator-by-generator basis.

The Socially Optimal Level of Landfilling of a Given Hazardous Waste

For simplicity in determining the socially optimal level of landfilling for a single hazardous waste, it will be assumed that the waste is generated in the production of a single good¹⁰ which is bought and sold in a perfectly

9. Recall that the Illinois Waste Law is designed to be applied specifically on generator-by-generator basis. See *supra* text accompanying note 7.

10. Relaxation of the assumption of a single waste being generated in the production of a single good will not affect the conclusions drawn in the following analysis. Retention of the assumption greatly reduces the complexity of the analysis.

competitive market.¹¹ Determination of the socially optimal level of landfilling depends upon the welfare changes which result when some or all of the firms producing the good are not permitted to landfill the resulting waste. Welfare changes are equal to the difference between social costs and benefits. The social cost in this case is the loss in social welfare to both firms and consumers of their product from not landfilling the waste. This welfare loss arises from the increased cost of waste disposal incurred by switching from landfilling to the next least costly method of disposal.¹² The total welfare loss can be ascertained by analysis of the market for the good whose production results in the generation of the hazardous waste. The analysis of the welfare loss or social cost can be shown visually with the aid of Figure 1. The curves S_0 and D represent the supply and demand for the good whose production entails the generation of the hazardous waste. If producers are required to use some disposal method other than landfilling, their variable costs will increase. This is reflected in Figure 1 by the rotation of the supply curve from S_0 to S_1 .¹³ The change in the supply curve will result in an increased price of P_1 and a reduction in output to Q_1 . The social cost to producers of these changes is given by the change in producers' surplus.¹⁴ This surplus is defined as the area above the supply curve but below the horizontal price line and represents the difference between producers' total revenues and total variable costs. Thus, originally producers' surplus was given by the area $e+f+g$ in Figure 1. After the shift of some or all the firms from landfilling, the producer's surplus has been reduced to the area $b+e$ in the figure. The change in producers' welfare is simply the difference between these two areas or $b-(f+g)$.

We can calculate that part of the social cost relating to the welfare loss by consumers of the product, which is associated with generation of the hazardous waste, in a similar manner. The effect on consumers' welfare from a change in hazardous waste disposal methods is simply the difference between consumers' welfare before and after the change. This difference in welfare can be measured using the concept of consumers' surplus. Consumers' surplus is defined as the area above the price line and below the demand curve¹⁵ and represents consumers' excess willing-

11. Essentially, the assumption of perfect competition means that both buyers and sellers in the market are price takers, i.e., single individuals in either group cannot influence price.

12. Following normal practice in economic analysis, it is assumed that producers/generators are currently disposing of their hazardous waste in the least cost method of disposal, landfilling.

13. For a competitive industry, the industry supply curve is simply the summation of the individual firm's marginal cost curves. See R. JUST, *APPLIED WELFARE ECONOMICS AND PUBLIC POLICY*, 52-3 (1982).

14. *Id.* at 55-57.

15. This area represents the difference between what consumers would be willing to pay (as represented by the demand curve) and what they actually pay in the market place. A change in

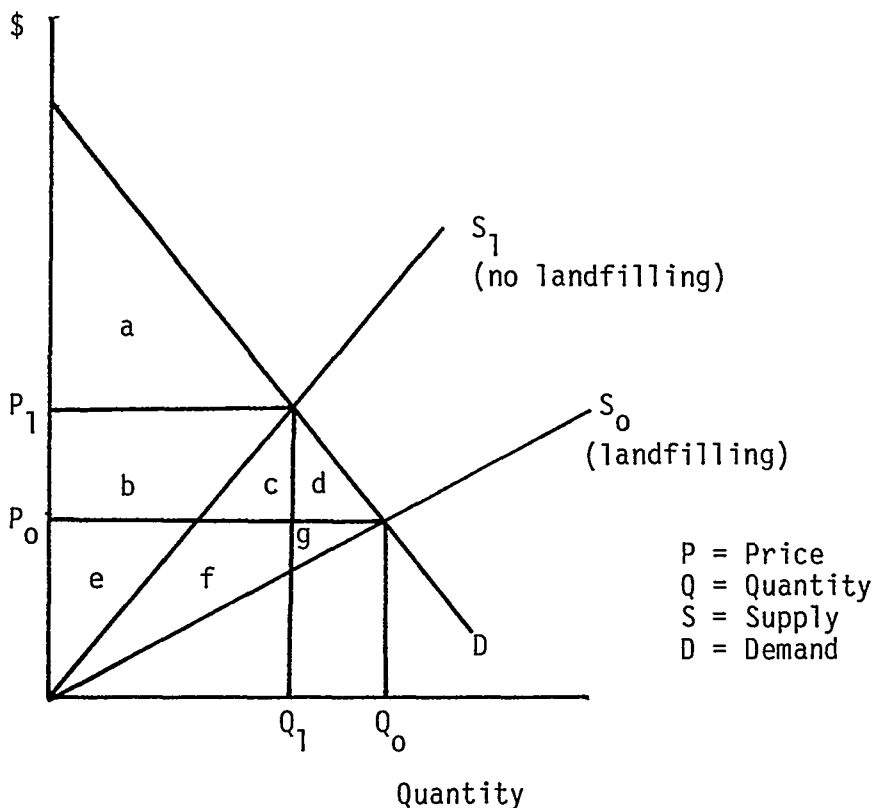


FIGURE 1. Supply and demand for a good whose production generates a hazardous waste.

ness to pay for the quantity of the good being exchanged, i.e., the difference between the maximum amount that consumers would be *willing* to pay for the quantity exchanged and the total amount actually paid. It is therefore equivalent to the extra value consumers place on the good that is realized but not paid for. Prior to the change in the price, consumers' surplus in Figure 1 was given by the area $a+b+c+d$. After the price change it is simply the area a . Therefore, the change in consumers' surplus is the difference in these areas or the area $b+c+d$. This is the amount by which consumers' excess benefits from purchasing the good have decreased.

consumer's surplus will equal the welfare loss or social cost to consumers only if the price change is small or the portion of disposable income spent on the item is small. See Willig, *Consumer's Surplus Without Apology*, 66 AM. ECON. REV. 589 (1976).

Total social costs associated with the shifting of some or all firms from landfilling their wastes is given by summing the changes in producers' and consumers' surplus. Total social costs for the industry pictured in Figure 1 are given by the area $-(f + g + c + d)$. The social costs of firms switching from landfilling to some other disposal method for a given hazardous waste can be assessed in the market for that product but the social benefits occur outside of markets. The benefits to society from a move away from landfilling are the reduction in risk to the environment and human health.¹⁶ Landfilling of a hazardous waste entails the risk that waste might migrate from the disposal site and contaminate the surrounding environment. The magnitude of this risk will be a function of several factors: the structural and functional integrity of the landfill liner, cap, and leachate collection system; the degree of persistence and hazard associated with the waste; the potential for detrimental interactions between other wastes and the waste in question, or between other wastes and the integrity of the landfill;¹⁷ and the placement of the landfill within a broader geographic and geologic setting.¹⁸

Determination of the social benefits from one or more generators of a hazardous waste switching to another disposal technology requires an understanding of the risks associated with the various disposal alternatives and the value that society places on the resulting changes in risk. Currently, potential alternatives to landfilling a hazardous waste include recycling, biological treatment, chemical treatment and incineration. Since risk is couched in terms of the threat to the environment and to human health, the following assumptions concerning the risk associated with the alternative disposal technologies will be made. First, the risk associated with a given disposal method is directly proportional to the amount of residue that remains after treatment that must be landfilled.¹⁹ All of the

16. It is risk reduction that society is concerned with because the failure of a landfill is not a certainty and, even if a landfill did fail, it is not certain that it would result in detrimental environmental or human health effects.

17. For example, some organics increase the permeability of the clay soils used as liners in some landfills and decrease the time necessary for wastes to leach out of a landfill site. See Anderson, Brown, and Green, *Effect of Organic Fluids on the Permeability of Clay Soil Liners*, in *Land Disposal of Hazardous Waste Proceedings of the 8th Annual Research Symposium on the Land Disposal of Hazardous Wastes*, Ft. Mitchell, Ky. (1982) (EPA 600/9 82-002, EPA Municipal Research Laboratory, Cincinnati).

18. This last factor is concerned with such items as the proximity of the landfill to aquifers or bodies of surface water, and the type and characteristics of the soils surrounding the landfill site.

19. The risk to the environment and human health from the disposal of hazardous wastes arises from the potential for exposure to the hazard. Since the alternative disposal methods render some portion or all of the waste nonhazardous, the risk of exposure is reduced in comparison to landfilling. For example, incineration of hazardous wastes requires that 99.99% of all the hazards associated with a waste be destroyed during the incineration process. Thus the only risks to the environment and human health are the 0.01% of the material that potentially leaves the stack and the ash that remains after disposal.

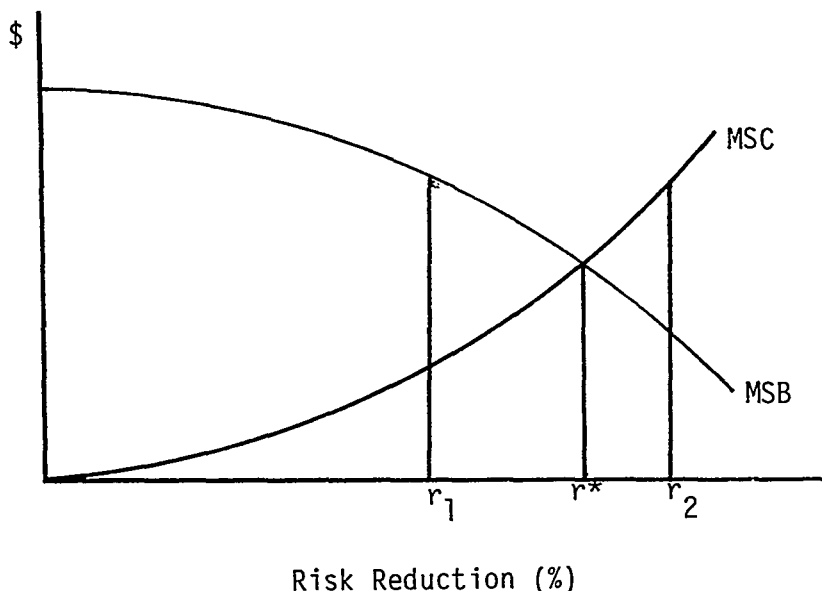


FIGURE 2. The marginal social costs and benefits from the reduction of risk associated with the landfilling of a hazardous waste.

alternative disposal methods have a lower risk associated with them than landfilling because of the reduction in quantity of the residue needing to be landfilled. Secondly, all of the above alternative disposal methods have different risks associated with them.

The value or benefit of the risk reduction to society as generators shift to one or more of these disposal alternatives is, from an economic viewpoint, society's willingness to pay for the marginal risk reduction.²⁰ Let us assume that as the risk associated with disposal of a given hazardous waste decreases, society's benefits, as measured by willingness to pay, also decrease (i.e., the demand curve for risk reduction is downward sloping). The marginal social benefit associated with risk reduction can be represented by the curve labeled *MSB* in Figure 2.

The marginal social costs of achieving different levels of risk reduction can be shown by the curve labeled *MSC*. The *MSC* curve is upward sloped on the assumption that, as risks are reduced, total social costs, as measured

20. Note that each individual may place a different value on changes in risk, and therefore the appropriate measure for society's valuation of a specific level of risk reduction would be the summation of the individual's willingness to pay for that reduction. Brookshire, Ives, & Schulze, *The Valuation of Aesthetic Preferences*, 3 J. ENVTL. ECON. MGMT. 325 (1976).

by the losses in producers' and consumers' surplus, increase at an increasing rate as more firms are required to abandon landfilling their hazardous wastes and forced to resort to more costly disposal techniques. The socially optimal level of risk reduction from the prohibition of some or all of the firms from the landfilling of a given hazardous waste occurs where the marginal social benefits from risk reduction equal the marginal social costs of that reduction, indicated by r^* in Figure 2. From an economic efficiency viewpoint, society would not stop at a level of risk reduction lower than r^* , for example r^1 in Figure 2, because the benefits of moving from r^1 to r^* outweigh the costs. Similarly, society would not reduce risks beyond r^* to r^2 in Figure 2 because the costs of such an action would outweigh the benefits. Once the socially optimal level of risk reduction is known, the amount of a hazardous waste that can be landfilled can be determined.

The topic of the socially optimal level of risk from hazardous waste landfilling and associated policies has not been extensively discussed in the economic literature. However, there is a large body of this literature that has dealt with the achievement of the socially optimal level of other environmental hazards such as air and water pollution, toxic substances, and safe drinking water.²¹ The general conclusion that can be drawn is that the determination and attainment of the social optimum requires a global focus. It is important to note, however, that the Illinois Waste Law restricts the focus of policy to the firm level by requiring a generator-by-generator level of analysis and may, therefore, make the attainment of the social optimum unlikely.

An Economic Analysis of an Economic Efficiency at the Firm Level and an Affordability Interpretation of "Economic Reasonableness"

The Illinois Waste Law requires that the landfill disposal of a hazardous waste be determined on a case-by-case (i.e., generator-by-generator) basis. Evaluation of "economic reasonableness" using an economic efficiency analysis at the individual generator level will result in a different outcome than that associated with the above analysis of the social optimum. The effect of this change in viewpoint is twofold: (1) reduction of the social costs associated with forcing the firm to undertake a different method of disposal will occur; and (2) the granting of a variance for landfilling of the waste will depend on preceding decisions regarding variances for other generators.

The effect on social costs can be seen in Figure 3. In a competitive industry the demand curve for the product as seen by a firm is perfectly

21. See W. BAUMOL & W. OATES, *ECONOMICS, ENVIRONMENTAL POLICY, AND THE QUALITY OF LIFE*, chs. 14-23 (1979).

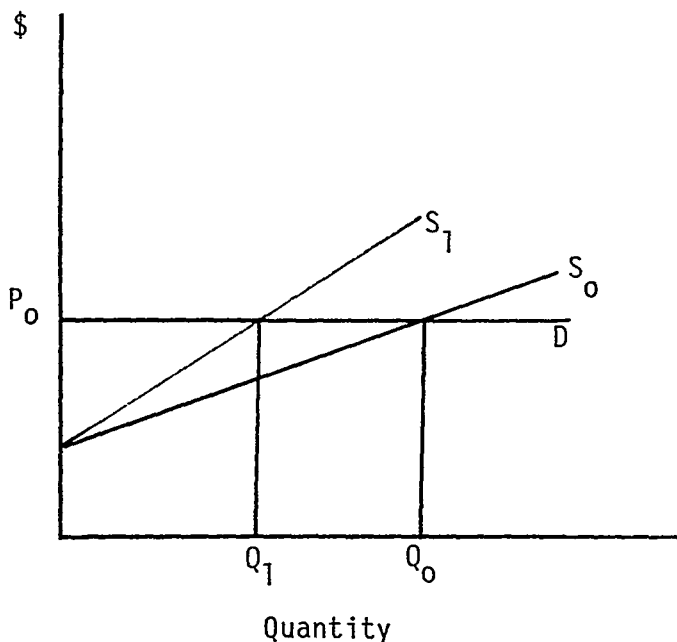


FIGURE 3. Supply and demand at the firm level for a good whose production generates a hazardous waste.

flat.²² Thus, the social costs associated with a change in disposal method would only be the change in the single firm's producer's surplus and would not include the aggregate effects on consumers' surplus when many or all of the firms in an industry are required to adopt alternative disposal methods. Consequently, changing the analysis from the industry to a case-by-case level results in the underestimation of the marginal social costs. The marginal social benefits from denying a firm's request to landfill their wastes, moreover, will now depend on whether other generators' requests to landfill their wastes have been previously denied. If other firms' requests for variances have preceded that of the firm under analysis and these requests have been denied then, assuming declining marginal benefits of risk reduction, the marginal benefits associated with denying this latter firm's request to landfill are lower. If enough firms have preceded the one under analysis, then the variance might be granted. This last result may be inefficient because it may allow a firm to landfill a hazardous waste where that particular firm is more efficient than the other firms in

22. In a perfectly competitive market the firms are all price takers and as such face a perfectly flat demand curve at the market price.

the industry at disposing of the waste by some means other than landfilling.²³

Evaluation of "economic reasonableness" using affordability as the primary decision criterion also will result in a different outcome than that associated with the social optimum. Use of this interpretation of "economic reasonableness" requires that the only factors to be taken into account when deciding to allow a firm to landfill a hazardous waste are the firm's costs, or producer's surplus, shown as the area above the firm's supply curve and below the price in Figure 3. The loss in consumers' surplus from the increased costs of disposal are not taken into account nor are the social benefits arising from not allowing the waste to be landfilled.

From the above analysis it is clear that neither of the two interpretations of "economic reasonableness"—economic efficiency on a generator-by-generator basis or affordability—results in the socially optimal level of landfilling of a hazardous waste. The interpretation that most closely approaches the social optimum is the economic efficiency interpretation because it disregards fewer social costs and benefits. An additional risk of inefficiency is associated with both interpretations because it is conceivable that under either of these two interpretations a waste that should not be landfilled at all may be landfilled. This would occur if the cost of not landfilling the waste was very large which might require the discontinuance of production of the product generating the waste. The decision whether to allow any landfilling of a waste or not can only be consistently made by an analysis of the social optimum and this decision cannot be made on a generator-by-generator basis.

III. LEGAL INTERPRETATIONS OF "ECONOMIC REASONABLENESS"

Introduction

In this section we shall focus on Illinois' attempts to implement the economic reasonableness criterion.²⁴ We shall see if the administrative agencies (Illinois Environmental Protection Agency (IEPA) and the Pol-

23. For economic efficiency reasons one would want the firms that could most efficiently dispose of the hazardous waste by some other means than landfilling not to receive permission to landfill. On the other hand, firms that are inefficient at any other means of disposal should receive permission to landfill, if this is to be granted at all.

24. We shall leave aside, again, the issue of how best to create the proper incentives for those creating hazardous wastes, landfill operators, government regulators, the courts, and others to dispose of hazardous wastes in a socially optimal fashion. For a discussion of this topic in other areas of environmental policies, see W. BAUMOL & W. OATES, *ECONOMICS, ENVIRONMENTAL POLICY, AND THE QUALITY OF LIFE* (1979), and J. Lon Carlson, *The Law and Economics of Hazardous Waste Landfill Disposal: A Framework for Analysis* (1984) (unpublished Ph.D. dissertation, Dept. of Economics, University of Illinois at Urbana-Champaign).

lution Control Board (PCB)) and the courts have interpreted and applied the economic reasonableness criterion as we have suggested that the criterion *should* be interpreted and applied. In reviewing the actions of an administrative agency a court may distinguish binding, previous decisions, or the court may be rigidly bound by precedent.²⁵ The first option is clearly beyond the pale in Anglo-American law, while the second is closer to the norm. Another option falls somewhere between the previous two and is clearly much closer to the option of being rigidly bound by precedent. This third option grants judicial deference to the administrative agency's ruling unless the procedure for reaching the ruling is found to be arbitrary, capricious, or otherwise unreasonable.²⁶ The emphasis on procedure means that the courts will not inquire into the substance of an agency's rulings if the agency has not obviously strayed beyond its constitutionally-imposed boundaries.²⁷ The courts generally defer to the administrative agency on questions of fact and reserve the power to overturn agencies' decisions for those instances where there is a question of law at issue.²⁸

While this deferential view is the norm in Illinois and every other jurisdiction in the country, it is not without critics. For example, the former chairman of the Illinois Pollution Control Board has written, "Judicial review [of the PCB's decisions] has been uneven, sometimes interfering excessively with the Board's exercise of judgment and at other times deferring too uncritically."²⁹ The same observation was offered about the Illinois courts' interpretation of the Illinois Environmental Protection Act.³⁰

Our point in turning to the cases dealing with the judicial interpretation of the pollution statutes is to derive some feeling for whether the agencies or the courts have adopted or are likely to adopt the sort of interpretation of the current statutes and the concept of economic reasonableness which we have urged upon policymakers in the previous section. For the purposes of review we shall look only at several leading appellate decisions and not at the underlying agency rulings. The cases to be considered are *Illinois Coal Operators' Association v. Pollution Control Board* (1974)³¹; *Commonwealth Edison Company v. Pollution Control Board* (1974)³² and

25. See *supra* text accompanying note 8.

26. This is the approach that has been adopted in Illinois courts when reviewing administrative actions where a question of fact is at issue. See *infra* text accompanying note 36.

27. Courts grant a similar deference to legislative actions. See K. DAVIS, *ADMINISTRATIVE LAW*, at 525-56 (3d ed. 1972).

28. *Id.* See also I. F. COOPER, *supra* note 5.

29. Currie, *Enforcement Under the Illinois Pollution Law*, 70 NW. U.L. REV. 389, 485 (1975).

30. Currie, *Rulemaking Under the Illinois Pollution Law*, 42 U. CHI. L. REV. 457, 501 (1975).

31. 59 Ill. 2d 305, 319 N.E.2d 782 (1974).

32. 25 Ill. App. 3d 271, 323 N.E.2d 84 (1974), *modified*, 62 Ill. 2d 494, 343 N.E.2d 459 (1976).

(1976)³³; and *Shell Oil Company v. Pollution Control Board* (1976).³⁴ None of these cases deal with the problems of hazardous waste disposal. They are, however, attempts to construe the same sort of economic reasonableness issue which arises in the Illinois Waste Law. The cases, moreover, deal with pollution standards defined on a statewide basis, rather than a generator-by-generator basis as in the case with the Illinois Waste Law. Note that the use of statewide standards, as in the earlier pollution cases, in general, will not achieve the social optimum.³⁵ However, the courts seem to be unwilling to question *whatever* standard is employed by the administrative agency. We find it to be probable that the courts will also defer to the administrative agency's interpretation of the Illinois Waste Law instead of urging the agency to adopt a statewide standard. Thus, the lesson we derive from this examination of the cases is that the courts in Illinois will not actively change the agency's implementation of the law.

Examination of the Cases

The first important case in Illinois to interpret the new environmental statute was *Illinois Coal Operators' Association v. Pollution Control Board*.³⁶ The Coal Operators' Association claimed that, among other things, the noise emission regulations promulgated in 1973 by the Pollution Control Board were arbitrary. Relying on its holdings in other cases in which substantive administrative agency rules were challenged, the Illinois Supreme Court said that "administrative action taken under statutory authority will not be set aside unless it has been clearly arbitrary, unreasonable, or capricious."³⁷ The court concluded that the actions of the PCB in drawing up the noise emission standards could not be characterized as arbitrary, unreasonable, or capricious. The PCB had, through the Illinois Institute for Environmental Quality, named a Task Force on Noise. The Task Force had included faculty from the University of Illinois law, engineering, and physiology units and the services of a national acoustical accounting firm. After receiving its report, the PCB then held 16 public hearings before considering and issuing its rulings in July, 1973.³⁸ While one might reasonably disagree with the resultant ruling from the PCB, it is hard to imagine that the procedural aspects of their deliberations could have been more satisfactory. The case, although not of particular note in

33. 62 Ill. 2d 494, 343 N.E. 459 (1976).

34. 37 Ill. App. 3d 264, 346 N.E.2d 212 (1976).

35. While the use of statewide standards constitutes an improvement over the generator-by-generator approach, it nonetheless fails to take account of the effects on disposal in other states and hence the effects on social welfare at the national level.

36. 59 Ill. 2d 305, 319 N.E.2d 782 (1974).

37. *Id.* at 310, 319 N.E.2d at 785.

38. *Id.* at 307.

any other regard, is important because the rule of judicial deference was applied to the new environmental regulatory statute.

In *Commonwealth Edison Co. v. Pollution Control Board*³⁹ the PCB adopted regulations in 1972 which set ambient air quality standards for coal-burning power plants.⁴⁰ The power company asserted that the posting of a bond required to obtain a permit to burn coal was an "unauthorized legislative penalty, unlawful delegation of legislative authority, and illegal usurpation of judicial powers. . . ."⁴¹ The second issue on appeal is more to the point of this article. The utility company contended that the Board had not complied with section 27 of the Environmental Protection Act,⁴² which required the PCB to establish technical feasibility and economic reasonableness criteria for the ambient air quality standards. Commonwealth Edison also claimed that the vast majority of public utilities in the state would be unable to meet the ambient air quality standards by the date specified by the PCB.⁴³

The Court in *Commonwealth Edison* referred to the prevailing standard of judicial deference to administrative rulings on matters of fact. The court said that the questions of technical feasibility and economic reasonableness were factual matters and the court would defer to the PCB's expertise.⁴⁴ "[A] regulation need not be supported by substantial evidence; rather it will be deemed valid unless shown to be arbitrary, capricious, unreasonable, or otherwise not in accord with the law."⁴⁵ Despite this hat-tipping to the entrenched view of judicial deference on questions of substance, the court then proceeded to take the PCB to task for not having conducted its proceedings with enough diligence on the issues of technical feasibility and economic reasonableness. In particular, the court urged the PCB to establish clearer guidelines. "[T]here must be some factors to which the Board [PCB] can point to show that its projection [of the effect of its proposed rules on utilities and the environment] was reasonable and capable of compliance by a substantial number of the individual units of this state. Such evidence is absent in the present record."⁴⁶ The court held that the Board had not taken into proper account the technical feasibility of its rules.

We further hold that there is no evidence that the Board took into account the economic reasonableness of these rules for a substantial number of the generating units in this state. The testimony at the

39. 25 Ill. App. 3d 271, 323 N.E.2d 84 (1974).

40. *Id.* at 273, 323 N.E.2d at 86.

41. *Id.*

42. ILL. ANN. STAT. ch. 111 1/2, §1027 (Smith-Hurd Supp. 1984).

43. 25 Ill. App. 3d at 284, 323 N.E.2d at 95.

44. *Id.* at 278, 323 N.E.2d at 90.

45. *Id.* citing Illinois Coal Operators' Ass'n 59 Ill. 2d 305, 319 N.E.2d 782.

46. 25 Ill. App. 3d at 282, 323 N.E.2d at 95.

hearings indicated the cost of the sulfur removal systems would be great. Rather than presenting a formula indicating a balance between cost and pollution control or giving some concrete cost projections, the Board in its opinion offered general statements that there must be a "balancing [of] the benefits of the contemplated rule against its costs," and that greater costs may be needed to be absorbed "when the need for pollution abatement is greater."⁴⁷

The court was caught between its duty to defer to the agency on substantive matters as enunciated in *Illinois Coal Operators' Association* and the desire to reach out beyond mere procedural issues. The line between substance and procedure can be a fine one, and the court's opinion in *Commonwealth Edison* illustrates the difficulty in locating that line. The court agreed that it was limited to examining the matters of technical feasibility and economic reasonableness only for procedural correctness. Thus, when the court found the ambient air quality standards to be void, it was bound to do so on the basis of the shortcomings of the PCB's procedure for determining technical feasibility and economic reasonableness. And yet the court discussed the Board's failure to consider the impact of the Board's ruling on a substantial number of affected units in the state. Precisely the same conclusion could have been reached if the court had never said a word about the procedures used by the Board. The court might just as well have said that the Board had underestimated the costs of the proposed standards by treating *all* utilities as if they lay on a featureless plain equi-distant from all consumers and suppliers of inputs. A conclusion based on that criticism would surely have been construed as one which delved into the substance of the agency's rulings and not one which confined itself to the procedural aspects of the ruling.⁴⁸

The Illinois Supreme Court heard the *Commonwealth Edison* case on appeal two years later.⁴⁹ The events of those intervening years allowed the court to have its cake and to eat it, too. The PCB had undertaken extensive additional hearings on the effects of the proposed ambient air quality standards and presumably on the basis of the new findings had

47. *Id.*

48. This is precisely the court's complaint of the *Commonwealth Edison* opinion in *Shell Oil Co. v. Pollution Control Board*, 37 Ill. App. 3d 264, 346 N.E.2d 212 (1976). See *infra* text accompanying note 59. Professor Currie points out the possible shortcoming of this view of the court's actions in his comment on *Commonwealth Edison*:

The court's conclusion . . . was surely hyperbole. . . . Having written the Board's opinion, I cannot claim objectivity; but I would have thought that the exercise of judgment on such questions of policy was precisely what the Board was for and that the court essentially substituted its judgment for that of the Board on a highly debatable matter.

Rulemaking Under the Illinois Pollution Law, 42 U. CHI. L. REV. 457, 501, 503 (1975).

49. *Commonwealth Edison Co. v. Pollution Control Board*, 62 Ill. 2d 494, 343 N.E.2d 459 (1976).

granted Commonwealth a conditional variance.⁵⁰ Thus, the court was able to reaffirm its judicial deference to administrative actions after the court system had goaded the PCB into revising its procedural inquiries relevant to technical feasibility and economic reasonableness of the pollution standards. Commonwealth Edison was even allowed a token of victory because it was granted a conditional variance from the proposed standards.⁵¹

The final case is a reversion away from the interesting, if paradoxical, possibilities glanced in *Commonwealth Edison. Shell Oil Company v. Pollution Control Board*⁵² is a strongly worded reaffirmation of the judicial deference enunciated in *Illinois Coal Operators' Association*.⁵³

Regulations establishing permissible levels of sound emissions from stationary sources were challenged in *Shell Oil*. The court upheld the PCB's ruling and took the opportunity to make clear that courts in Illinois should not substitute their own judgment for that of administrative agencies.

Because the courts lack the expertise possessed by administrative agencies, they should hesitate to find a regulation unreasonable. . . . In our opinion, the Board did have sufficient data before it to show that it did take into account the technical feasibility and economic reasonableness of the noise regulations. Accordingly, the disputed noise regulations adopted by the Illinois Pollution Control Board are affirmed.⁵⁴

The court said that its duty was neither to substitute its judgment nor even to specify what the PCB should consider when conducting its studies of technical feasibility and economic reasonableness. The court refused to say whether the PCB should conduct a *full study* or merely *take into account* certain factors.⁵⁵ Instead, the *Shell Oil* court favored giving the PCB wide discretion in carrying out its mandate in section 27. The court reasoned that limiting the PCB's deliberations to a consideration of the technical feasibility and economic reasonableness of currently available techniques of compliance would hamstring the PCB's ability to force the adoption of new technologies.

The suggestion that the Board, in order to adopt a rule establishing certain emission standards, must produce direct evidence that the control technologies necessary to meet those standards are technically feasible and economically reasonable for a substantial number of the

50. *Id.* at 503, 343 N.E.2d at 466.

51. *Id.*

52. 37 Ill. App. 3d 264, 346 N.E.2d 212 (1976).

53. *Shell Oil* involved precisely the same sort of regulation which was in dispute in *Illinois Coal Operators' Ass'n*.

54. 37 Ill. App. 3d at 270, 272, 346 N.E.2d at 218, 222.

55. *Id.* at 273, 346 N.E.2d at 221.

sources throughout the state, would necessarily limit the Board's regulations to a contemplation of existing technology only. This interpretation is unreasonable and contrary to the stated policy of the Act. . . .⁵⁶

There can be little doubt that this is a mistaken view. There is nothing at all to prevent the Board from considering anticipated technological capabilities as well as currently known technology when making its calculations. The socially optimal standard, moreover, which we have proposed in the previous section is independent of the state of technology. If there is no known technology available for attaining the levels of pollution deemed to be optimal in our model, the regulators are not obliged to scale down that optimum so that it is consistent with current technology. Instead, the regulators can simply impose fines on those firms which do not or cannot, for technical reasons, comply with its regulations. As our model suggests, the optimal amount of pollution will be attained. Some firms will reduce their output and, thus, their fines; some will shut down completely; and some will try to discover new and profitable techniques which would allow lower levels of pollution at any given level of output.⁵⁷

Lastly, the court urged judicial deference stating that the enabling legislation provided for a procedure to excuse a firm which could not reasonably comply with the Board's regulations. This possibility of gaining a variance from the agency, the court felt, excused it from reexamining the factual record in Board rulings:

Petitioner's concern that the Board's regulations may impose unreasonable economic burdens on specific polluters in the state was also of concern to the legislature, as evidenced by the requirements of [sections] 1035 and 1037. Those sections concern the granting of a variance by the Board from its regulations, and they require specific findings regarding economic reasonableness and individual hardship.

56. *Id.* This issue, whether a regulatory agency can, by its actions, create incentives for the regulatees to discover a new technology in order to comply with the regulations, is known as "technology forcing." It is frequently alleged to have been practiced by the U.S. Environmental Protection Agency in its regulations establishing an average mile per gallon figure for the output of domestic automobile manufacturers. When interim goals were first announced, the auto companies complained that the technology to meet those goals was not known. The issue was whether the goals could conceivably be met within the time allotted (if not, the auto companies would face onerous fines, bankruptcy, or an increased reliance on imported cars by the noncomplying manufacturers), or whether the automakers could, at reasonable cost, discover such suitable techniques. In any event, the restrictions have been relaxed, and the manufacturers have found ingenious ways to increase the gas mileage of their cars.

57. See *supra* Section II and note 21. The court recognized the point being made in the text; the court continued to say that "the Board is not required to produce a record which discloses that a substantial number of the polluters in the state can reasonably afford the cost and operation of the requisite control equipment." 37 Ill. App. 3d at 274, 346 N.E.2d at 222. This view is economically sound, as we have been arguing, but the court has not followed the implications of this thought.

In the event that petitioner concludes that the Board's regulations subject it to an unreasonable economic hardship, an appropriate resolution of this problem is provided for in the variance procedure.⁵⁸

The court in *Shell Oil* plainly did not view the opinion in *Commonwealth Edison* charitably:

[W]hile professing to apply the arbitrary and capricious standard of review, the First District [court in *Commonwealth Edison*], through an extensive examination of the evidence, actually weighed the evidence in making its final determination . . . We believe that . . . the very active role assumed by the First District is an inappropriate one for review of administrative action which is in essence legislative in character.⁵⁹

The result of the *Shell Oil* decision has been that the courts in Illinois firmly hold to judicial deference to administrative agency rulings first laid out in *Illinois Coal Operators' Association*. The less rigid standard favored in *Commonwealth Edison* can now be seen to have been a brief interlude. There are no clear guidelines to determine which administrative procedures the courts will find arbitrary, capricious, and unreasonable. The Illinois Supreme Court did not lay out a standard in *Illinois Coal Operators' Association*, nor did it comment on the lower court's approach in *Commonwealth Edison*. Nor has the high court of Illinois taken the opportunity to establish a standard of judicial review since *Shell Oil* or comment on the lower court's actions in *Shell Oil*.

On the basis of this survey of cases it is not expected that the Illinois courts will develop the economic efficiency interpretation for "economic reasonableness" which we have urged in the previous section even though the courts *can* establish the standard of economic efficiency for interpreting "economic reasonableness" which we have argued. For example, as in *Commonwealth Edison*, the court could hold that calculations made on any basis other than the one which we have previously urged are arbitrary or unreasonable. However, it is not even clear that the courts are the appropriate agent for interpreting "economic reasonableness." Moreover, it appears to be true that the Pollution Control Board and the Illinois Environmental Protection Agency will not move to the economically defensible interpretation because of the specific wording of the Illinois Waste Law. Without the intervention of the legislature there is little hope that the law in Illinois dealing with the disposal of hazardous waste will be interpreted in the way in which we have urged. As dem-

58. 37 Ill. App. 3d at 274, 346 N.E.2d at 222.

59. *Id.* at 268, 274, 346 N.E.2d at 218, 222.

onstrated, this will inevitably lead to non-optimal landfill disposal of hazardous wastes in the state of Illinois.⁶⁰

CONCLUSIONS

The disposal of hazardous wastes presents serious public policy problems. Most states deal with the potential risks to the environment and to human health which result from landfilling wastes by adopting regulatory measures which are more stringent and less flexible than those currently in place for dealing with other environmental pollutants. Illinois' new Hazardous Waste Law is no exception and is due to go into effect on January 1, 1987. The Illinois Waste Law establishes a procedure for determining whether to allow the landfilling of hazardous wastes on a generator-by-generator basis. Illinois' statutes which empower the Illinois Environmental Protection Agency and the Pollution Control Board to promulgate regulations on noise, ambient air, water, and other forms of pollution have adopted a different method from that to be applied to the landfilling of hazardous wastes. In all previous pollution statutes, the state has instructed the administrative agency to proceed by establishing statewide standards for which variances can, under certain circumstances, be granted. With regard to hazardous wastes, no statewide standards are to be promulgated. Each instance of landfill is to be treated individually by the regulators.

The more common statewide standard, the recently enacted generator-by-generator standard, and the standard of affordability do not achieve, from the economic efficiency standpoint, the socially optimal amount of

60. The issues we have been discussing for the state of Illinois' attempts to enforce efficient environmental regulation have also been the focus of some important, recent federal decisions. In *Industrial Union Dep't, AFL-CIO v. American Petroleum Inst.*, 448 U.S. 607 (1980), commonly known as the *Benzene Case*, the Supreme Court was asked to decide if the criterion used by the Occupational Safety and Health Administration in reducing the maximum allowable industrial exposure to benzene was constitutional. Since there was no majority opinion, merely a plurality, it is not entirely clear what the decision stands for. The central issue was whether the administrative agency should have used the criterion of technical feasibility, regardless of the financial consequences, or that of cost-benefit analysis. A plurality of the justices avoided this issue, very much like those we have been discussing, by holding that OSHA had not made the threshold showing that the then currently allowable levels of benzene exposure posed a significant threat to the health of workers. There is, however, dictum in the opinions which could reasonably lead one to believe that a majority of the Court favors the cost-benefit criterion.

That the Court would favor that criterion over one of mere technical feasibility cannot now easily be maintained after the Court's decision the next term in *American Textile Mfrs. Inst. v. Donovan*, 452 U.S. 490 (1981). The case involved OSHA's reduction in the maximum allowable exposure to cotton dust in textile mills. OSHA here made the threshold showing that there was a significant health risk in the then currently allowed exposure levels and went on to assert that the new, lower standard, although very costly, was technically feasible. The Court agreed in an opinion which relied heavily on statutory construction. The holding can perhaps be reconciled with the plurality dicta in the *Benzene Case* by asserting that the administrative agency is entitled to the feasibility standard, and no more, where toxic substances are involved.

landfilling hazardous waste. This paper has discussed better methods of minimizing the societal risks that arise from hazardous wastes. However, if a choice must be made by policy makers from only these three standards—statewide standards with variances, standards set on a generator-by-generator basis, and affordability—then society's best interests are served by adoption of the statewide standard. The potential inefficiencies of that policy are less, and perhaps substantially less, than those of the alternatives. The new Illinois Waste Law, by relying on an administrative agency's developing standards on a generator-by-generator basis, can lead to the imposition of more costs and fewer benefits on society than can reasonably practical alternative policies.

We have examined the interpretation, by the Illinois courts, of the phrase "economic reasonableness" in earlier pollution statutes in order to see if the courts have been willing to interpret that phrase differently from the manner in which the administrative agencies have interpreted it. In Illinois, as is generally the case in every jurisdiction, the courts defer to the agency except where the procedures used by the agency in reaching its decision have been arbitrary, capricious, or otherwise unreasonable. The courts, because of their deference to the administrative agencies, cannot be looked to as the agent which will read the standard of economic efficiency into pollution statutes which will help to achieve the socially optimal amount of pollution. It would be a mistake, moreover, for the courts to undertake to force the agencies to adopt that standard, even if they could do so.

Thus, we conclude that public policy toward the landfilling of hazardous wastes must take a different path from that laid out in the Illinois Waste Law. At a minimum, the law should be rewritten to compel the regulators to establish statewide, rather than case-by-case, standards.