Letters

We welcome letters from readers, particularly commentaries that reflect upon or take issue with material we have published. The writer's name, affiliation, address, and telephone number should be included. Because of space limitations, letters are subject to abridgment.

Exorcists and Gatekeepers in Risk Regulation

TO THE EDITOR:

Speaking for myself and not the Environmental Protection Agency, I want to commend Peter Huber for his provocative and timely article ("Exorcists vs. Gatekeepers in Risk Regulation," *Regulation*, November/December 1983). Some of us at EPA are also interested in the so-called new-source bias that Huber discusses—the possible tendency of regulation to block the introduction of new products and factories. The issue is not whether instances can be found of such a bias, but whether and under what circumstances the environmental benefits of the bias outweigh its environmental costs.

A policy of reviewing new sources more stringently than old can have important environmental and economic benefits. For most air pollutants, it is significantly more cost-effective to control new sources than to retrofit existing sources. It is easier during the design and planning of plants than afterwards to incorporate advanced control systems and to adopt processes that lower emissions (such as reduced-solvent coating operations). The new-source bias also embodies a recognition that politically and economically it is normally far easier to prevent new sources of risk than to remove old ones.

Unfortunately, the bias also threatens some negative environmental consequences. As Huber notes, the most effective means of reducing risk may be to encourage the introduction of competitors that impose a lower level of risk. Ironically, our "gatekeeper" regulations may do just the opposite. Regulations that impose significantly greater costs on new sources than on existing ones may discourage industry from replacing older heavy-polluting facilities with newer and cleaner ones. Rigorous screening of new pesticides and chemicals may unintentionally delay the entry of potentially safer substitutes for existing risky products.

Another kind of bias—unnecessary delay and uncertainty in permit review—is also neither intended nor environmentally beneficial. Delay in issuing permits is an unavoidable consequence of thorough review. Delays caused by shortages or inefficient use of state and federal resources, however, add to the environmental and other costs of the new-source bias while providing no environmental benefits. Institutional uncertainty may also be a strong disincentive for potential investors in new products and manufacturing facilities. Applicants may find it hard to determine what data they must submit, who the decision makers are, what the likelihood is of ultimate approval, and even how long the review process will take. Both delay and uncertainty can deny the public the benefits of less-risky new products and services.

The new-source bias affects not only consumer goods and services, but also the equipment and technology used in pollution control. Approval for innovative pollution-control equipment takes longer and is more uncertain than for traditional devices. That can make polluters reluctant to take a chance on buying innovative control equipment even if they expect it to be more effective and less costly than more traditional devices.

The trick is to develop mechanisms that preserve the beneficial role of the environmental gatekeeper while mitigating the adverse environmental impacts of the locked gate. EPA is currently trying to do just that. The agency is exploring steps that might reduce potential barriers to innovation without incurring significant environmental costs. These steps include reducing delay and uncertainty in the permit process, combating possible biases against innovative pollution-control equipment, lessening the cost differential between new and existing sources while achieving equivalent or better environmental results, and lowering the cost of pre-marketing approval for new products that preliminary data indicate are less risky than the currently marketed products that they could potentially replace.

David Foster,
Environmental Protection Agency

TO THE EDITOR:

It is indeed sensible for regulators to compare new products with old products for which they might substitute or be substituted, and on this Huber and I agree. Unfortunately, however, the rest of his essay is not convincing. He does not succeed in proving his claim that federal regulation poses a major obstacle to technical innovation and thereby makes the world more dangerous. Indeed, existing empirical evidence plainly contradicts this claim.

His thesis that old chemicals are regulated predominantly through standard-setting and new chemicals through screening is not borne out by a careful examination of environmental laws, particularly the far-reaching Toxic Substances Control Act (TSCA). That act does not, as Huber asserts, merely set standards for old chemicals. Under TSCA, both old and new chemicals can be held to the same requirements, and both can be subject to limitations on use, limitations on exposure, or complete bans. Huber confuses the special pre-market screening of pharmaceuticals and pesticides, in which safety must be demonstrated, with pre-manufacturing *notification*, the kind of screening done under TSCA.

The screening of new chemicals under TSCA is not "protecting us from the ominous unknown"; it simply requires a decision as to how or whether a certain chemical should be allowed into commerce based on existing data. Unlike pharmaceuticals, new chemicals are cleared routinely without demonstrated proof of safety. Furthermore, existing chemicals can be banned under TSCA based on the results of tests ordered by EPA or on other data. The old/new distinction that Huber seeks to draw does not apply to most chemicals.

Huber also misreads OSHA's cancer policy. It is not, in fact, a form of screening. Nor is it true that "no employer could introduce into a work place chemicals found to be carcinogenic in test animals." A "no-permissible exposure level" is anticipated *only* where suitable (and safe) substitutes are available. For other carcinogens, OSHA's control is limited to exposure reduction "to the extent feasible." This policy does not make the work place more dangerous.

Huber's assertion that "under most existing regulatory statutes, the agency is clearly and flatly prohibited from comparing the risks of a new product with the risks of old products for which it will substitute" plainly does not apply to TSCA either. The determination of unreasonable risks under that statute *must* take into account the available substitute products.

Finally, Huber completely ignores the work undertaken in the last decade at MIT's Center for Policy Alternatives. Our studies of chemicals, pharmaceuticals, and automobiles clearly demonstrate that regulation can stimulate dynamic technological innovation in both product and process technology. It is not, as Huber asserts, that "too much risk regulation makes life more dangerous" but rather that stringent regulations are necessary to define new market opportunities for the development of safer products by either the regulated firm or by new entrants.

Nicholas A. Ashford,
Massachusetts Institute of Technology

TO THE EDITOR:

In attributing the new-source bias to shortsightedness and political calculation on the part of Congress, Huber underestimates the pervasiveness of the underlying political and economic pressures on any government program to control risks. The Toxic Substances Control Act illustrates this well.

The drafters of TSCA tried to avoid the pitfalls found in other statutes Huber discusses. New chemicals, and not old, must be screened by EPA before manufacture. But before EPA can ban or take other regulatory action against a chemical, it must make a finding of unreasonable risk, taking into account both costs and benefits and the availability of substitutes. This standard is not biased against new chemicals. For both old and new chemicals, any needed testing is the responsibility of the manufacturer, but the burden of proof is on EPA to make the case for regulation.

Yet, in practice, a strong "new-chemical bias" has asserted itself under TSCA. Premanufacture notifications for new chemicals arrive at EPA at the rate of four per working day, each with a ninety-day decision deadline. Inevitably, this screening process commands the attention of the agency in a way that its files on the inventory of 60,000 old chemicals, stored on computer tapes, do not. Moreover, agency officials cannot but realize that the very existence of the screening process shifts public accountability onto their shoulders. In a January 1982, report *(Priorities for Office of Toxic Substances Operation)* EPA described this very well: "PMN chemicals are in a fundamental sense different from chemicals on the Initial Inventory. . . . [T]hey have been subject to EPA review. If a new chemical that has been through PMN review becomes the next PCB or vinyl chloride, this will generally be recognized as a failure of the PMN program."

Saddled with accountability for the safety of new chemicals, but forced to make decisions about them with little concrete information, EPA is led to apply "worst-case" assumptions and "conservative" risk assessments. This not only makes new-chemical risks look larger than they are, but also effectively shifts the burden of proof back onto the manufacturer.

The incentives of regulated firms may be biased as well. Producers and users of an established commercial product will generally contest vigorously an attempt to regulate it. It is rare, however, for anyone to have a strong economic incentive to serve as an advocate for a chemical that has not yet found a market. A raised eyebrow at EPA is usually enough to elicit the acquiescence of the new-chemical manufacturer, who withdraws the chemical or signs a "consent" order rather than face formal procedures.

Of all commercial chemicals in use today, 6 percent were introduced since 1979; yet of the chemicals regulated under TSCA, 97 percent have been introduced (or would have been) since 1979. Does the relative risk to the public from new chemicals warrant such a skewing of priorities? It would seem not. Typically, new chemicals are produced in small volumes at a single site, with limited uses and limited exposure. Many do not become commercial successes; some that EPA reviews never find a market at all. Moreover, for many of the new chemicals regulated one can find numerous analogues among the unregulated old chemicals, with similar or greater risks.

The lesson is that more balanced statutory standards are not enough. Serving merely as a "gatekeeper" is a seductively easy role for any regulatory agency to slip into (my own included), and a constant attention to goals and priorities is needed to keep a balanced perspective on new and old risks.

Brian F. Mannix,
Office of Management and Budget

PETER HUBER responds:

David Foster's thoughtful letter is quite right—the central issue is to decide when the new-source bias serves useful goals. There *are* significant economies in waiting to make improvements until old equipment is being replaced with new. The old-new division can thus serve to set a reasonable pace for progress in risk abatement. But this clock works only if it is allowed to run. In practice, excessively stringent risk requirements, applied only to new entrants, often permit administrative inertia and the regulator's instinct for self-preservation to delay or even halt the steady replacement of the hazardous old by the less hazardous new. We are almost certainly using more hazardous electric power plants, chemicals, pesticides, oral contraceptives, drugs, and even pollution control technology, than we would be using if the old-new division were less sharp. That EPA is concerned with its share of the problem is, however, a promising sign.

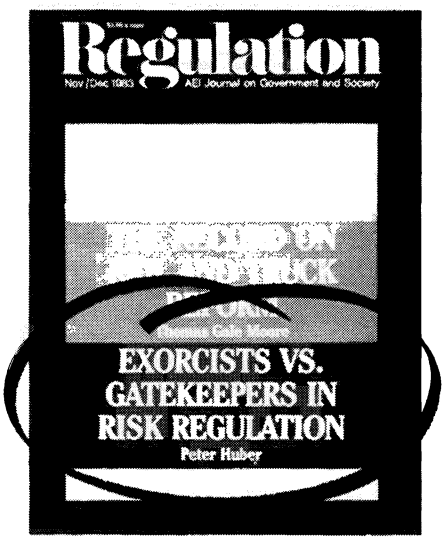
Two of Nicholas Ashford's comments can be disposed of in short order. First, the Supreme Court read OSHA's original carcinogen policy as I do, not as Ashford does. OSHA sought to shift burdens of proof concerning safety to employers, and it was this shift that the Court condemned in its 1980 *Benzene* decision. (The citation is 448 U.S. at 653.) Second, while TSCA does indeed contemplate a comparison of the risks of new products or processes with old ones, most other risk statutes do not. Comparative risk assessment plays either an insignificant or an entirely inadequate role in the regulation of drugs, food additives and natural foods, air and water emissions, hazardous waste disposal facilities, automobiles, air-

craft, electric power plants, buildings, and myriad other products and activities.

Ashford's other comments about TSCA demonstrate little familiarity with how the act has in fact been enforced. Precisely what Congress had in mind when it included the premarket notice (PMN) provision in TSCA is debatable, but, as Brian Mannix's letter makes clear, the PMN system has in fact been administered in the spirit of a conventional screening statute. Mannix correctly points out that it is altogether too easy for an agency invited to serve as a gatekeeper to lose sight of the ultimate goals of risk regulation. In its administration of the new-chemical provisions of TSCA, EPA has fallen into precisely that trap.

This makes particularly worrisome EPA's recent proposal to sweep the rich variety of "new chemicals" created by genetic engineering into TSCA's embrace. Every new strand of DNA synthesized using recombinant technology could then be classified as a "new chemical," subject to the PMN requirements and other aspects of TSCA regulation. (Genetic manipulation through the "old" technology of selective breeding will presumably remain unregulated.) What impact this will have on industry's bold new ventures to synthesize new drugs, vaccines, and other valuable products using bioengineering is not known. There is reason to fear, however, that the critical establishment, armed with TSCA and a reflexive fear of all that is new and conceivably risky, will find in TSCA's premarket notice and other new-chemical requirements potent weapons for obstruction and delay. And here, perhaps as much as in any other area, the price of delaying or halting change is likely to be the loss of potentially enormous improvements in our risk environment.

Ashford's last point is correct: I did indeed ignore his published views that technological innovation is stimulated by regulation. My failure to cite his work on this subject was not accidental; I now invite others to make their own assessments of that work by reading his article (with George Heaton) entitled "Regulation and Technological Innovation in the Chemical Industry," which appeared in the Summer 1983 issue of *Law and Contemporary Problems*. In my view Ashford's happy conclusions about the impact of regulation on innovation reflect little more than extremely wishful and persistently fuzzy thinking. As J. Clarence Davies, executive vice-president of the Conservation Foundation, remarks in the same symposium, "it is clear that health and safety regulation must be justified on the grounds of improved health and safety, not as



an obscure and indirect way of stimulating innovation." My own experience as both an engineer and a lawyer has been that technological innovation is emphatically *not* the product of lawyers pushing paper. Indeed, only the legal profession could be vain enough, and foolish enough, to argue that it is. I think it plain beyond dubitation that this century's dramatic technological advances have been wrought despite regulation, not because of it, not by lawyers who write regulations but by scientists and engineers, farmers, chemical companies, electric utilities, and others who conduct research, manufacture products, supply services, and develop new markets. Ashford's suggestion that "stringent regulations" are needed to "define new market opportunities" is a laugher. Whatever happened to the invisible hand?

Electric Utilities: Save Now, Freeze Later?

TO THE EDITOR:

Peter Navarro attacks public utility commissions (PUCs) for allegedly not giving electric utilities a reasonable opportunity to earn a "fair" rate of return ("Save Now, Freeze Later—The Real Price of Cheap Electricity," *Regulation*, September/October 1983). The basic problem, he says, is that political forces have put pressure on PUCs to keep rates low even during unprecedented bouts of inflation. He offers persuasive empirical evidence that if electric rates are held down now, we will risk long-term underinvestment in cost-justified generating capacity, leading to higher rates and a greater likelihood of brownouts and blackouts. The utilities and their trade groups, several notable economists, and the Department of Energy have made similar charges.

But Navarro's policy prescription —namely, that PUCs should give electric utilities higher rates when they ask for them—is narrow-minded and arguably undesirable. In the first place, it ignores the potential adverse consequences that could result from cost-plus regulation. Some critics believe that this system by its nature promotes inefficiency because it gives utility management an inadequate incentive to control costs. These critics generally recommend that regulators should base the level of profits they allow a utility to earn on its performance rather than, for example, on just its cost of capital and the book value of its rate base.

Among the practices Navarro supports are the use of future test-year data, the inclusion of construction work-in-progress in the rate base, and the adoption of fuel-adjustment clauses. These practices may lead to needlessly large rate increases because they would encourage utility managers to make major expenditures without adequate incentives for cost control. Thus, although Navarro offers convincing arguments on the form regulatory reform should take, he may significantly overestimate the benefits of his proposal to ratepayers.

My other comments are on specific points the author makes:

(1) The empirical evidence is mixed on whether the Averch-Johnson effect led to the overinvestment in new power plants that took place during the 1960s.

(2) It is not obvious that consumer groups have been effective in hurting "the interests of utility shareholders." The financial positions of many electric utilities have improved greatly during the last couple of years, partly because PUCs have been increasingly sensitive to their financial hardships. While consumer groups have become more aggressive intervenors

(Continues on page 46)

(Continued from page 4)
in rate cases, both elected and appointed officials may ignore them. Many economists would argue that regulation has harmed the consumer on balance; it has probably conferred its biggest benefits on producers and other small homogeneous groups with large amounts of money at stake per capita.

(3) Navarro blames part of the rate-suppression problem on the skimpiness of commission staffs and budgets. But sometimes the PUCs with the largest staffs and budgets put up the greatest opposition to utility rate requests. Certainly it is uncommon for utilities to lobby state legislatures for higher PUC budgets. In fact, in many states they have probably been the guiltiest party in lobbying for cuts in those budgets.

(4) He also criticizes PUCs for yielding to the redistributionist demands of consumer groups. It is true that the regulatory process is an inappropriate way to redistribute income. Nonetheless, it has been used to do just that throughout its history. Were not the utilities themselves the major impetus behind the formation of state PUCs, because they expected state regulators to be more sympathetic to their interests than were the municipal regulators?

(5) To determine the results of his "rate suppression" scenario, Navarro simply asked individual utilities what they would do in such a case. How believable are the answers? Each utility said it would attempt "to meet its expected load," which implies that it did not consider such demand-side alternatives as conservation and load management. His anonymous Midwest utility, for example, simply planned to increase its "use of purchased power and existing oil and gas-burning capacity." Navarro's predictions about the consequences of rate suppression would be much more credible if he had used some type of optimization model to identify the true least-cost responses to such suppression.

He also overstates the influence of misregulation on the migration of industry between states. I doubt that he could document many cases, if any, in which a firm moved out of a state because of bad utility regulation.

(6) Navarro seems to think that when a utility makes mistakes the costs must fall entirely on the ratepayers—if not at once, then in the form of higher rates in the future. That implies that regulators must overlook bad decisions by utility management.

The Supreme Court decisions Navarro cites do *not* say that "PUCs . . . must allow the utilities to earn a 'fair and reasonable return' on their investment." For example, the landmark *Bluefield* decision states that a "fair" rate of return must be consistent with "efficient and economical management." Thus, if a PUC finds that poor management had led to unnecessary labor costs, it can exclude some of those costs from recoverable expenses, even though Navarro would find this to be "rate suppression." In fact, *Bluefield* would seem to make it illegal to allow management to pass through expenses that are *not* "efficient and economical."

Navarro's analysis strongly suggests that ratepayers are better off in the long term if regulators set rates "too high" rather than "too low." For some individuals, that might mean "pay now, freeze now."

Kenneth W. Costello,
Senior Economist,
Illinois Commerce Commission

PETER NAVARRO responds:

(1) The basic problems with state utility regulation go beyond simple political pressure. They include inadequate institutional resources and, at times, well-intentioned but counterproductive ideological behavior. (See my earlier article in *Regulation,* January/February 1981 for discussion.)

Because of this mix of factors, some commissions that have large budgets—but are subject to intense political pressure or an ideological desire to redistribute income—do indeed put up "the greatest opposition to utility rate requests." My statistical analysis shows, however, that on average, commissions with bigger staffs and budgets do a better job of regulating—a fact that myopic utility lobbyists too often ignore when seeking to slash commission budgets.

(2) Providing utilities with appropriate incentives to minimize costs and allowing them the opportunity to earn their market cost of capital are not mutually exclusive goals. A commission that has the resources and expertise to monitor carefully whether utility expenses are prudently incurred is the best antidote to "cost-plus regulation." I do not regard excluding costs imprudently incurred as rate suppression. Allowing utilities the opportunity to earn their market cost of capital is the best way to ensure not over- or under-investment but the economically optimal level of investment. I take strong exception to Costello's suggestion that I believe consumers would be better off if rates are "too high" than if they are "too low." Set them at the levels that the laws mandate and we will *all* be better off.

(3) It is accurate to say that "[t]he financial positions of many electric utilities have improved greatly during the last couple of years." In my view, however, the improvement results as much if not more from the "strategy of capital minimization" I described in my article than from any "increasing sensitivity" of the PUCs to the utility industry's financial woes. The real issue, however, is not the financial health of the utility industry per se but rather whether it provides low-cost, reliable service. Under the present regime of rate suppression, that is impossible.

(4) Costello acknowledges the redistributional role of the commissions and then goes on to blame it on the utilities who, in his view, created a Frankenstein's monster by being a "major impetus" behind the creation of the commissions in the first place. This "capture view" of the genesis of state regulation is hardly the conventional wisdom; most historians see the origins of the commissions in the public-interest motives of Progressive-era reformers out to curtail corporate abuses.

(5) The investment and operating strategies used in my rate forecasts were indeed based on "some type of optimization model"—namely, the production-cost, engineering, and financial models that utilities regularly use to project just such strategies. The "objective function" of these models typically is minimization of the cost of meeting customer needs subject to financial and other constraints. This is, in fact, the "true least-cost response." In these strategies, "demand-side alternatives such as conservation and load management" were taken into account. Each strategy submitted to me was carefully scrutinized for plausibility.

(6) The prospect of expensive electricity in short supply has already begun to affect the aluminum industry, which is now locating its plants abroad, and firms in Silicon Valley, which are looking for alternative locations in the Southwest. But Costello misses the point if he insists on having his regulatory disasters now; many of the effects of rate suppression are still down the road —and therefore avoidable if we act now.