



# Responding to the Double Standard of Worker/ Public Protection

by Patrick Derr, Robert Goble, Roger E. Kasperson, and Robert W. Kates

In the first article of this series (*Environment*, September 1981), we posed the general social problem of differential protection as illustrated by three hypothetical individuals: a Connecticut glass-blower whose workplace exposure to nitrogen oxides, while deemed "safe," was nearly 25 times greater than his exposure outside the factory; a neighbor of the Three Mile Island nuclear plant whose work decontaminating the plant will expose him to much higher levels of radiation than those experienced by members of the public during the accident; and a U.S. embassy employee in Moscow whose microwave exposure, while exceeding permissible levels in the Soviet Union, was only 1/500th of that allowed in the United States.

The exposure of these and other workers to the hazards of technology, we argued, is generally much higher than that permitted for the public. Inevitably, one is led to question whether such differential protection is justified.

At the outset, we recognized a number of preliminary findings to be explored further in subsequent articles in this series. They were:

—that there is a double standard of protection for workers and publics, manifested in a significant portion of all technologies and in recently enacted occupational and environmental standards. While public protection

is ordinarily set below the level of medically defined hazard, worker protection is customarily set above the hazardous level, thereby exposing workers to known dangers;

—that this double standard of protection is not unique to the United States but exists across a wide variety of economic, political, and ideological systems;

—that differential protection is a problem in part because of the significant, if poorly understood, health toll that it represents and in part because of the serious questions of justice it raises about parts of our social and economic systems; and

—that four major justifications—utility, ability, consent, and compensation—have been offered to support this double standard, but each is subject to questions concerning the validity of assumptions, both empirical and moral.

In regard to the last, we formulated four justifications as principles of equity that could support the existence of the double standard. Stated briefly, they are:

□UTILITY: An allocation is just if, and only if, it maximizes the summed welfare of all members of the morally relevant community. If "summed welfare" is understood collectively, the roots of this principle can be traced to the earliest documents of our civilization. If "summed

welfare" is understood distributively (as simply adding up individual welfares), the principle takes its classical formulation from the work of the Utilitarians, Bentham and Mill.

□ABILITY: An allocation of risks is just if, and only if, it is based upon the ability of persons to bear those risks. Since "need for protection" mirrors "ability to bear risk," this principle is simply a special case of the more general claim that allocations are just if, and only if, they treat people according to their needs.

□COMPENSATION: An allocation of risks is just if, and only if, those assuming the allocated risks are rewarded (compensated) accordingly. This principle is derived from the somewhat more general one that an allocation is just if, and only if, it is made according to the actual productive contributions of persons.

□CONSENT: An allocation of risks is just if, and only if, it has the

consent of those upon whom the risks are imposed. Typical formulations of the principle are found in the Nuremberg Code and in guidelines for experimentation on human subjects.

At one level, these principles are distillations of common sense and readily appear, consciously or unconsciously, as part of a discussion of the magnitude of occupational risk. At another level, the principles are part of the venerable history of writings in ethics. We have used the principles in two ways: as social theory, potential empirical explanations for the discrepancies we have found between worker and public protection; and as a normative base for evaluating the existing state of affairs.

In both cases we have examined (1) the regulatory mechanisms that affect the allocation of risk to determine whether they explicitly considered the principles, and (2) the actual allocations of risk to determine whether they satisfy the conditions of the principles. This inquiry has revealed that it is often difficult to ascertain when the conditions are, in fact, satisfied and that the four prin-

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This is the final article in a series which explored the differences in hazard protection given to workers and to the general public. Most of the research for the series has been conducted at the Center for Technology, Environment, and Development at Clark University or by individuals associated with the Center. Roger E. Kasperson and Robert W. Kates are coeditors of the series.

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ciples are frequently in conflict.

Over the series of articles, we have reported on the following detailed work:

● *Three case studies*—lead, radiation from power plants, and parathion—in which we examined the allocation of risks between workers and the public, identified the operative regulatory structure, and evaluated the extent to which the four equity principles were applicable.

● *Three cross-hazard studies* treating the screening of sensitive workers, the existence of wage differentials based on risk, and the informing of workers about risks, studies which have permitted an in-depth examination of the operation of three of our equity principles.

● *One international comparison*, contrasting the protection of workers in Sweden and the United States.

In this concluding article in the series we have two objectives: first, to summarize what we have learned in the various studies as to the existence of the double standard and whether it is justified; and, second, to propose how society may respond to this situation. We begin with our surprises.

### Two Surprises

Unexpected findings in science are a cause of both dismay and delight—dismay because they may lead to rejection of a favored hypothesis and delight because discovery of the unexpected can lead to new hypotheses and understandings. We found two major surprises over the course of our research.

The worldwide existence of differential protection and the lack of safety margins in standards for workers were features we anticipated. We were surprised, however, by the pervasiveness of that pattern and the apparent absence of societal awareness of its existence. Both in the general literature and in our case studies, we unearthed little if any discussion of the double standard and little or no debate as to its justification.

A second surprise is the degree of

inconsistency in the treatment of different groups of workers exposed to similar hazards. We found inequities as great as those that prevail in the differential between publics and workers. Primary workers (those unionized and possessing job skills, security, and high wages) appear on the average to receive a wage increment associated with hazard exposure, yet secondary workers (those non-unionized and possessing few job skills, lack of security, and low wages) experience greater danger, have higher death rates, and appear to receive no wage increment for hazard exposure. Screening procedures intended to identify and protect workers more sensitive to hazards themselves, we found, involved potential abuse and unintended consequences (such as social or sexual discrimination).

### The Double Standard in Law and Practice

The preliminary findings reported in the first article dealt with the scope of differential protection and its associated health toll. We now reconsider both of these areas of inquiry in light of the series as a whole.

#### Scope

There is a universal differential in societal protection for workers and the public embodied in law, administrative standards, and current practice. The baseline for the occupational standard is to permit workers to be exposed to deleterious materials or energy at levels at or above the level of observed harm without a significant margin of safety. This contrasts with the public standard, where permissible exposure levels 10 to 1,000 times lower than the occupational standard characteristically prevail.

The three case studies—dealing with lead, radiation from power plants, and parathion—confirm the discrepancy in mandates in governmental regulatory agencies. The discrepancy operates at three levels: in the statutory authority under which

the agencies operate; in the regulatory proceedings of the agencies on specific hazards; and in the results of standards after they are imposed.

The regulatory authority of OSHA derives from the Occupational Safety and Health Act of 1970, which requires the secretary of labor to

*set the standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity even if such employee has regular exposure to the hazard dealt with by such standard for the period of his working life.*

The regulatory authority for EPA derives from a number of statutes, including the Clean Air Act, the Clean Water Act, the Safe Drinking Water Act, the Toxic Substances Control Act, and the Federal Insecticide, Fungicide, Rodenticide Act (FIFRA). The Clean Air Act, which covers many of the same substances regulated by OSHA in occupational settings, requires the EPA administrator to set standards that "... in the judgement of the administrator ... [allow] an adequate margin of safety ... to protect the public health."

There are at least two significant differences between the statutes. OSHA is required to consider the technical and economic feasibility of any control it might impose, whereas EPA must not. OSHA is required to prevent "material impairment," whereas EPA has the more stringent duty of protecting public health with an adequate margin of safety (see our discussion of lead, *Environment*, January/February 1982, for a more detailed discussion of the statutes).

A double standard functioned in the action of the regulatory agencies in each of the three cases we examined. It was most transparent in EPA's treatment of occupational and public standards for radiation exposure. There, the public standard was set at one-tenth the occupational standard to "provide a margin of safety" (see *Environment*, December 1982).

In the case of lead, the occupational standard for lead in the air is

50 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ), more than 30 times less stringent than the public standard of  $1.5 \mu\text{g}/\text{m}^3$ . (The occupational standard, it should be noted, is relevant only during working hours and is based on a different averaging time.) Both EPA and OSHA set the level of their air standard to achieve certain goals in controlling the amount of lead in blood. EPA set a more stringent upper limit, 30 micrograms per 1/10 liter of blood ( $30 \mu\text{g}/\text{dl}$ ), than OSHA's  $40 \mu\text{g}/\text{dl}$  level. EPA further demanded a much stricter observance of the upper limit than OSHA. EPA's public standard aimed to leave a maximally exposed group of 6,000 (urban children) with blood levels of  $30\text{--}40 \mu\text{g}/\text{dl}$ , while OSHA's occupational standard was expected to leave 35,000 workers above  $40 \mu\text{g}/\text{dl}$  and 2,000 above  $60 \mu\text{g}/\text{m}^3$ .

EPA's decision in 1972 to secure increased protection of the environment by banning DDT and substituting parathion was taken with full awareness that an increased risk to the 400,000 workers exposed to parathion was likely. Moreover, the EPA never addressed the particular problems posed by worker exposure to field residues or the presence of large numbers of Mexican agricultural laborers.

The discrepancy is a matter of fact as well as regulation. In the case of radiation, nuclear power plant worker exposure averages 5 times the natural background, with numerous workers receiving 10-30 times natural levels. "Normal" releases from nuclear power plants, by contrast, are required to produce exposures no greater than one-half of natural background, and the actual average exposure to the public from nuclear power reactors is negligible.

In the case of lead, although compliance with the occupational limit of  $50 \mu\text{g}/\text{m}^3$  may not be achieved for many years, blood-lead levels are improving and approaching the OSHA targets (which are much higher than levels of public exposure). Air-lead levels in cities are also improving,

principally as a result of controls on lead in gasoline; however, measured blood-lead distributions show more people with high levels than predicted by EPA in its model.

The case of parathion shows both worker and public impacts. Along

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with the occupational poisonings from parathion anticipated by EPA, accidents to the general public (particularly children) as well as mass poisonings due to accidental contamination of food in warehouses and cargo ships have occurred.

Interestingly, highly exposed workers are apparently drawn from both the most skilled and the least skilled segments of labor. Thus, in our case studies we found both highly skilled specialty workers and unskilled temporary workers in nuclear power plants, reproductively active workers in lead, and migrant agricultural workers in areas of parathion use to be highly exposed because of the operation of this double standard.

#### Health Toll

The health toll attributable to the double standard varied widely across our cases. In the case of radiation, the extra occupational toll is small but not negligible (5-9 premature deaths/year). The use of parathion involved a relatively comparable health toll: some 22 job-related deaths, 71 public fatalities, and accidental exposures of 1300 workers and 300 members of the public between 1966 and 1972. The toll from lead is much more serious: 40,000-50,000 workers with blood levels indicating physiological damage, in-

cluding life-shortening effects to the neurological system and to organs such as the kidneys.

Meanwhile, the substantially lower Swedish mortality rates for workers (as compared with the U.S. rates) hint that a more determined effort to

reduce the differential could reduce the toll from occupational hazards.

#### Is the Double Standard Justified?

The double standard for protecting workers and publics from particular technological hazards is not, in itself, necessarily unjust or inequitable. There can be compelling justifications for such differentials in particular cases. But neither should differential protection, in general, be presumed to be acceptable. Each case requires careful analysis of the moral argument, social context, and empirical facts. Some differentials may well prove just; others likely will not.

There are, in our view, four major moral justifications that may apply to particular cases of the double standard: differential protection maximizes benefits to society as a whole; workers are better able than members of the public to cope with hazardous exposures; workers are compensated for the risks they bear; and workers voluntarily consent to higher risk as a condition of employment.

*Utility.* The principle of utility suggests that the discrepancy in protection may be justified on the grounds that the benefit to society outweighs the cost to workers. This is certainly plausible, since the high concentration of hazardous material in the U.S. occupational setting and the compar-

atively small number of people exposed suggest that there will be differences in the most efficient management of hazards in the two areas.

The evidence from our case studies, however, shows that the particular existing discrepancies do not in fact maximize social welfare. The "spreading" of risk to temporary workers in nuclear power plants in preference to more effective exposure reduction management programs and broader use of remote control maintenance have contributed to a growing total radiation burden for society and to reduced incentive to employ cost-effective measures.

In the case of lead, where we were able to compare directly the imposition of controls based on human health effects, the imposed incremental cost-per-health effect on the margin was significantly lower for occupational standards than for environmental standards. It appears likely that the level of parathion exposures for field workers is not justified by any utility calculus.

**Ability.** Considerations of differential ability to bear hazards can justify differential protection in particular cases. The differential protection in lead and radiation standards, for example, can be partly justified by consideration of the specially vulnerable publics (e.g., infants, pregnant women) who are excluded from or receive special protection in employment. But there are other cases—and our work would suggest that they are more typical—in which considerations of ability do not justify current practices and standards.

As discussed in our case studies, the regulatory agencies (EPA and OSHA) took seriously the need to identify sensitive populations. Yet, their treatments of sensitivity in the standard-setting process differed. The discrepancies in differential protection for workers and the public, it should be noted, cannot be accounted for by differential sensitivity. In the case of lead, for example, the public standard was based on the characteristics of children, the most sensitive subgroup; OSHA, by contrast, iden-

tified workers of reproductive age (both male and female) as the most sensitive group at risk but concluded that it was not feasible to set standards that would protect their potential offsprings.

We have also considered a second issue with regard to differential sensitivity within the population of workers. The use of screening programs to identify and remove from the workforce people who are at greater risk of adverse health effects is increasingly common and carries the potential for abuse and unintended consequences (*Environment*, June 1982). In some cases, the means by which less risk-tolerant workers are protected are themselves unjust, when all potentially fertile female employees, regardless of family plans, are excluded from workplaces posing possible teratogenic hazards.

In other cases, it is the differential consideration of such ability that is unjust, as when blacks with hemoglobin defects are "protected" from military flight duty while white officers with recessive genes for similar hemoglobin defects receive no such similar "protection." In still others, the groups placed at most risk are in fact least able to bear the risks imposed, as in the use of the elderly, children, or the malnourished for agricultural work in pesticide-treated fields.

**Compensation.** Explicit compensation through wages for risk occurs rarely. Although a few jobs do appear to compensate occupational risk through specific increments in wages, these are the same parts of the labor market that are already best-off in other ways (see *Environment*, January/February 1983). Thus, policemen, who are at far less occupational risk than cab drivers, are explicitly compensated for risk, whereas cab drivers—already much less well paid than policemen—are not.

Temporary nuclear power plant workers hired for specific tasks in high radiation environments receive no specific compensation for risk. The protracted legal debate over the "medical-removal" provision of the occupational lead standard never

considered risk premiums in wages. Ruckelshaus did not count the increased payments that pesticide applicators and farm workers ought to receive as an additional cost of changing from DDT to parathion.

Of course, compensation for hazard exposure in wages need not be explicit. Our detailed analysis of the factors (including health risks) affecting worker earnings (*Environment*, January/February 1983) concluded that some workers in the major unionized manufacturing sectors, the primary segment, may receive an implicit wage premium for hazard exposure. Most workers in the secondary labor segment, by contrast, do not receive any such increment to their wages even though they experience equal or greater risk and their actuarial mortality is higher.

**Consent.** An ethically adequate consent to specific occupational risks would require at minimum that it be both free and informed. Our work suggests that these criteria are rarely met in the workplace. Rather, a consistent pattern emerges that (1) workers are primarily provided information directed toward telling them what they should do to control their exposures once they are on the job; they are not provided information with the expectation that they will choose whether or not to accept the exposure; and (2) workers do not generally feel free to accept or reject exposure; the prospect of losing one's job is considered more serious than even the possibility of quite severe health effects (*Environment*, November 1981).

Because of workers' fear that a severe lead poisoning could lead to dismissal, when OSHA established a medical-reproval provision for the lead standard, one-and-a-half years' job security and wages protection were offered so that employees would not refuse to have blood-lead measurements taken. Most temporary workers in nuclear power plants and most agricultural field workers are not in a position to refuse employment in an economy where the unemployment rate is running higher than 10 per-

cent. It is largely for these reasons that the Swedish approach to occupational health protection assumes that free choice of employment by workers is impossible and that information concerning risk should be geared to risk reduction programs.

#### Why the Double Standard?

In light of our findings that these four potential justifications are not met, why does the double standard exist at all? The roots of differential protection are complex, and they derive from at least three distinct sources: technological, historical, and socioeconomic. By definition, workers are at the source of occupational hazards and many of these hazards are concentrated at their points of production. Thus, if no effort were made to reduce exposures, workers would be exposed to higher levels of hazard simply by their connection to the productive process.

Because of these higher exposures, workers have experienced impairment, disfigurement, and death from occupational sources for hundreds of years. Thus, the essential inequality in exposure has become fixed in society's practice and expectations. Indeed, we seem to tolerate the highest hazards in some of the oldest occupations (e.g., farming, forestry, and mining). The recognition that the general public may also be seriously affected by similar pollutants is of much more recent origin.

The technological principle of heavy concentrations of deleterious materials at points of origin also leads to differential protection arising from socioeconomic stratification. The lives and interests of workers in the older, dirtier, marginal occupations have always been further from centers of power, influence, and concern. Employers quite naturally have focused on production first and on health issues only secondarily. Workers, as they have gained collective strength in bargaining for conditions and protection under law, have emphasized economic conditions rather than health and safety.

Public health and environmental protection command the support and attention of the majority of citizens, whereas occupational health issues are generally restricted to a small segment of workers and industry. As pointed out in our review of occupational health protection in Sweden (*Environment*, May 1983), strong worker links to a major social democratic or labor party have wielded considerable influence in shaping national responses to workplace hazards. Thus, as the Swedish example demonstrates, public attitudes and political influence can affect the perpetuation or narrowing of differential protection.

To conclude, our analysis of these relevant principles—consent, compensation, ability, and utility—finds that these considerations are rarely publicly discussed and are honored at best only in very limited ways. Some workers, but not most, are partly informed of risks and tolerate them, but only with hindsight after they have accepted employment. Only under rare conditions are risk premiums in wages directly paid; when they are, these compensations tend to correspond with social class rather than the

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level of risk experienced by the individual worker. Some workers demonstrate greater ability to tolerate hazardous exposure either because the least appropriate among them have been screened out of employment, because they are inherently healthier and are thus able to survive as the fittest, or because they have had training and experience to cope with or reduce their exposure. Additionally, there is the widespread belief

(to be found both in opinion and law) and some evidence (as in our nuclear and parathion studies) that the overall aggregate social benefit can be increased by selective use of differentials in exposure.

#### What Should Society Do?

In light of our findings concerning the broad scope of the double standard, the significant associated health toll, and the intrinsic injustice to workers embodied in differential protection, we believe that society should act to rectify this situation. There are two major responses society can make: it can take measures to decrease differential protection for workers and publics, or it can increase the application of other means of redress to make the differential more morally acceptable. We recommend the following guidelines (see Figure 1 on page 35) for response:

**Step 1:** In all cases of differential protection for workers and publics, it should first be determined that the discrepancy carries significant benefits to society as a whole. If such benefits do not exist, the level of risk presented to workers should be re-

duced to that which prevails for the public.

**Step 2:** Even if differential protection carries significant benefits to society, action should be taken to reduce the risk to as many workers as possible and to reduce it to as close to the level of protection afforded to the public as can reasonably be achieved, where "reasonableness" is determined according to the viability of the in-

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## The Double Standard

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dustry and net benefits to society as a whole. The argument for such action is not only an equity one; the widely recognized ethical principle of non-maleficence calls for the avoidance of harm wherever possible as a hallmark of decent and responsible behavior. Care should be taken that the risk is actually reduced and not simply reallocated and that other equivalent new risks are not substituted in its place.

**Step 3:** For those workers for whom the risk cannot reasonably be reduced to the level of public protection, action should be taken to increase the degree of consent (through increased information and enlarged choice in employment) and compensation (as through insurance or risk premiums in wages). Increased information will also, of course, better equip workers to enter into negotiation with employers.

**Step 4:** As a last step, a determination should be made as to whether there remains residual risk to certain groups of workers due to differential sensitivity to hazards. If so, special educational and protective measures should be undertaken to achieve as much equality in risk as is reasonable. Only as a last resort should exclusion of groups of workers from exposure to the hazard occur, with transfer to equivalent jobs (as measured by various social goods) the preferred strategy. Since this action carries the danger of abuse and other unintended consequences, it should be particularly avoided where the groups involved are traditional victims of economic or social discrimination.

The potential applicability of these guidelines is suggested by our nuclear power plant case study (*Environment*, December 1982), where we recommended that:

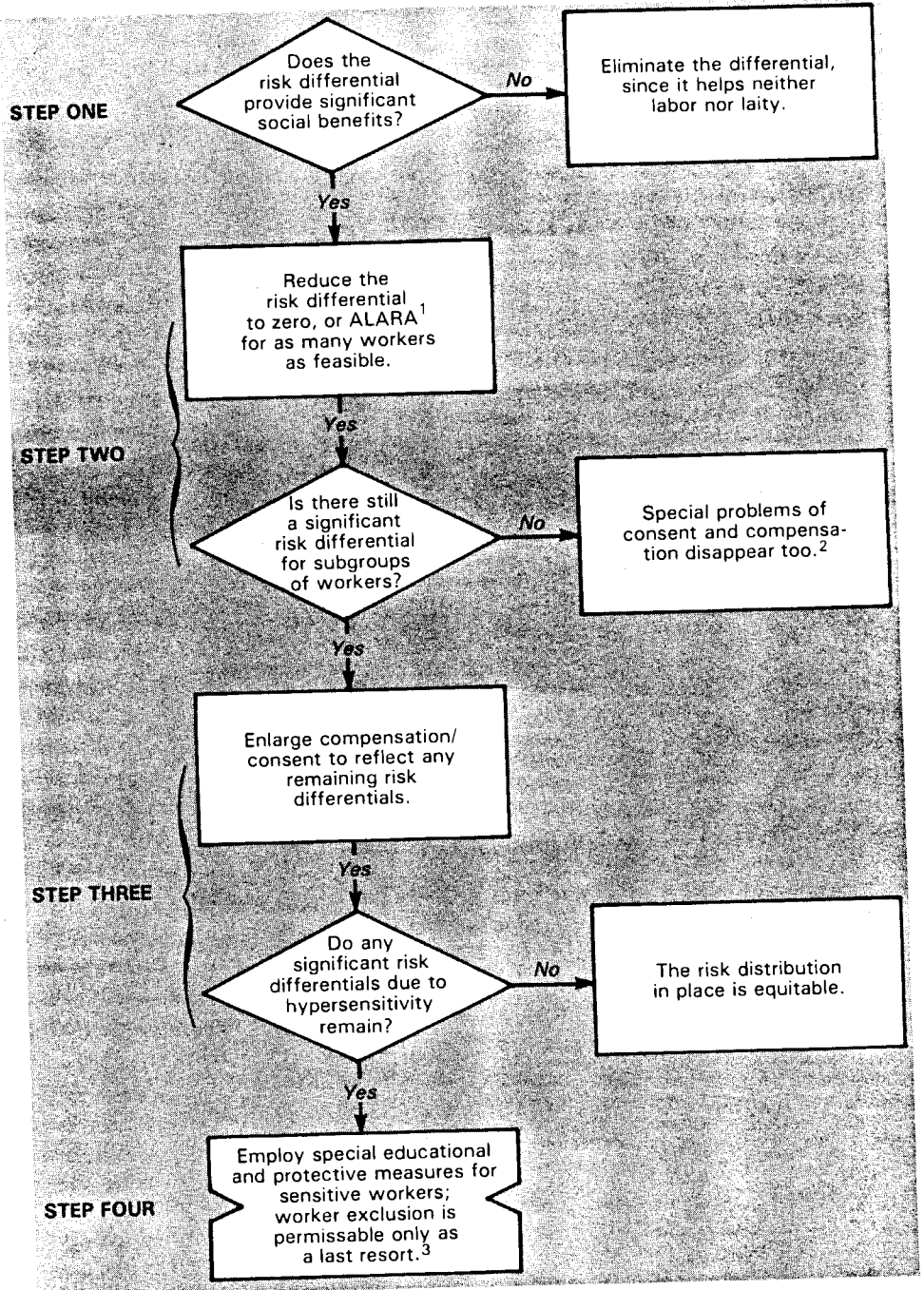
(1) the occupational radiation exposure standard should be set at the level of public protection (0.5 whole body rem) except for a small group of specialty workers;

(2) these high-risk workers should receive special education and training in radiation health risks as well as special hazard compensation (set at \$1,000 per person-rem) in their wages;

(3) annual collective radiation dose

limits for individual reactors should be established to reduce the spreading of risk over an expanding workforce, particularly to those workers less able to assess and respond to risk; and

(4) increased worker participation in risk control should occur, through



<sup>1</sup> As low as is reasonably achievable.

<sup>2</sup> Because, of course, there is no excess risk that requires any special consent or compensation.

<sup>3</sup> Because the avoidance of bodily harm in this way carries the potential for substituting other serious harms associated with exclusion and discrimination. Identifying and responding to differential sensitivity to hazards poses a complicated set of scientific and ethical problems, issues which we have begun to explore in a new research effort.

FIGURE 1. Schematic diagram of guidelines for responding to inequities in risk.

financial incentives and specially designed programs.

These guidelines are our preferred approach. But recognizing that they will be employed only by those already committed to narrowing differential protection and that the current anti-regulatory climate in Washington makes a timely response unlikely, we see the need for more direct and pragmatic action.

We recommend, therefore, that the Occupational Safety and Health Administration institute a comprehensive review of its existing standards for the protection of worker health and safety. Where OSHA finds that its standard exceeds (in equivalent terms) the level of protection afforded to members of the public in comparable standards and regulations enacted by other government agencies, we propose that the secretary of labor institute procedures to adopt the more protective standard, and thereby eliminate the current discriminatory practices against the American worker.

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#### City-States

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residents and local financial institutions, the money market fund offered security and a higher interest rate. But the price was a lack of funds lendable to local residents and businesses.

#### The Municipal Corporation

Caught in a vicious cycle, cities end up competing for fewer and fewer

companies. In 1971, there were 12.4 million business enterprises of all sizes and kinds in America, including 3.3 million farms. Of that 12.4 million, over half (6.4 million) had gross sales of less than \$10,000. Another 3.4 million failed to reach \$50,000 in sales, and still another one million had \$100,000 in yearly sales. Thus, nearly 11 million of the nation's 12.4 million firms, or 87.2 percent, had sales of less than \$100,000 in that year.<sup>5</sup>

On the other hand, less than one percent of the service firms had multistore operations. Of the 275,000 manufacturing companies in the United States, about 10 percent had more than 99 employees.<sup>6</sup> Three companies sold 80 percent of the cold breakfast cereal in 1975. Three companies sold 80 percent of the home insulation in that year. Four sold 70 percent of the dairy products. One sold 90 percent of the canned soups.<sup>7</sup> Fewer than 30 giants owned over 20 percent of the cropland. Eight oil companies controlled 64 percent of proven oil reserves, 44 percent of uranium reserves, 40 percent of coal under private lease, and 40 percent of copper deposits.<sup>8</sup>

Yet it turns out that small businesses, not the giant corporations, are the backbone of local economies. A massive study of 5.6 million firms (representing 82 percent of the nation's private jobs) was conducted by David Birch. He tracked these firms over a seven-year period, from 1971 to 1978, and concluded that the country's biggest job producer was small firms. Two-thirds of all new jobs were created in companies employing fewer than 20 people. The top 1,000 firms on the *Fortune* list generated only 75,000 jobs, or just a little more than 1 percent of all new jobs created between 1970 and 1976.<sup>9</sup> Birch found that most jobs came from the start-up of new firms and the expansion of existing small businesses, destroying the myth that economic development is created by plant relocations and expansion by big corporations.

These figures gave an ironic twist

to the frenzied competition among cities for giant plant locations. Cities, built on a foundation of thousands of small businesses, often found themselves in the position of forcing out small firms in order to make room for a branch of a larger corporation.

By the end of the 1970s, cities were beginning to understand the nature of their dilemma. They began to directly involve themselves in economic developments. In 1974 the Housing and Community Development Act provided Community Development Block Grants (CDBG), lump sum payments to cities that enabled them to coordinate community development and economic development planning. The 1977 amendments to this act expanded the economic development activities permitted under the CDBG program.

Increased funds and authority gave rise to dozens of local economic development corporations, with the power to acquire land, lease land, construct buildings, and provide short- and long-term financing to businesses. Cities directly control vast human, physical, and financial resources. There are at least seven counties or cities in California that have over \$100 million in public pension funds. The city of Washington, D.C., owns over 4,000 buildings and hundreds of acres of land.

Cities have an important lever in encouraging local small business development: government purchasing. The dollar volume of state and local government purchasing has grown dramatically in the past decade, and it now exceeds that of the federal government.

This abundance of resources is now combined with expanded municipal authority. The judicial system has accepted the right of cities to favor local commerce. Detroit and Livermore, California, have purchasing provisions awarding contracts to local suppliers even if they bid up to 5 percent higher. The state legislature in Maine mandates that state institutions such as penal institutions, vocational and technical schools, and state hospitals purchase food produced