

monomer (VCM), and pesticides, require some special attention on the part of the manufacturers. In the case of these, three mutual assistance programs have been established. The Chlorine Institute oversees the Chlorep program of 67 chlorine safety teams that are available to respond to any type of incident involving chlorine. The Chlorep Team closest to the incident makes the initial response. The VCM producers have a mutual assistance program whereby each producer is available to assist with the handling of a VCM transportation incident in their area.

The National Agricultural Chemicals Association (NACA) has established the Pesticide Safety Team Network (PSTN). The country is divided into 10 areas with a pesticide manufacturer representative serving as the PSTN coordinator in each area. In addition, each area has one or more safety teams. Each team has a preassigned captain. The team members are preassigned but may be different depending on the type of incident involved. The PSTN may send members to an incident scene through either of two methods: at the request of the manufacturer, or by the PSTN area coordinator if the gravity of the incident warrants and the manufacturer cannot be identified. All of these mutual assistance systems are activated through CHEMTREC.

Being prepared to provide advice or assistance is only part of an emergency response system. Each incident must be evaluated as to cause, effects, and handling procedures. These data are then used in the planning and execution of preventative programs and training programs.

Preventative activities are a major part of an emergency response system. These activities may include, but are not limited to, the following:

1. Transportation equipment specifications;
2. Transportation equipment inspections;
3. Proper filling of drums;
4. Loading patterns and techniques;
5. Blocking and bracing;
6. Appropriate placards, labels, or markings; and
7. Final gage inspections for proper shipping papers.

With any of these, there is the potential cause of an emergency incident or the ingredients for improper handling of an incident.

Preventative programs begin with the purchasing of packaging--e.g., cans, drums, or tank cars. Products must be packaged in the right container to survive the transportation environment they are likely to encounter. Loading patterns, tightness of the load, blocking, and bracing require the establishment of standards and the inspection necessary to assure compliance with the standards--assurance that all employees who need to know the various regulations receive this training and that compliance with these regulations is part of their job responsibilities.

Not all of the attention in the area of emergency response can be directed inward. There is the need to become involved with the planning and training of the public safety and emergency programs. Of the nearly 30 000 public fire-fighting forces, only a small number are full-time, professionally staffed units. The small fire companies are desperately in need of training in recognizing and identifying hazardous materials. Various association-sponsored training programs are available, but, without the involvement of the chemical manufacturer at these training sessions, the public emergency people are unaware of our concern.

The training program developed by the American Association of Railroads (AAR) and the Chemical Manufacturers Association (CMA) brings together the

railroad and chemical industries in a joint effort to provide the public emergency forces with an introductory program entitled "Recognizing and Identifying Hazardous Materials". There are currently more than 200 of these programs in circulation in the continental United States. An organization that combines railroad and chemical representatives is making this program available to public emergency forces, public agencies, civic organizations, or others. A prime contact has been designated in each of the 48 states and may be reached either through AAR or CMA.

Emergency response in the chemical industry is a multifaceted program. It requires the commitment of the company's management and is an integral part of the company's safety philosophy and product stewardship programs. There must be the willingness to make available all the resources of the company to a single event that may be many miles away from these resources. And there must be the dedication of those involved every day to assure that training, inspection, and planning are the best. Finally, to work with the transportation companies and the public emergency and safety organizations and to make sure that when an incident does happen the people responding are trained to handle the incident in a manner that minimizes public and environmental exposure ensure everyone's safety and are achieved in the spirit of cooperativeness.

## Civil Liability and Social Regulation

*Stanley Hoffman*

Both regulation and the criminal law constitute the direct exercise of governmental power to coerce conduct perceived to be socially desirable or to prohibit or restrict conduct perceived to be socially undesirable. Historically, and for constitutional reasons, the operation of the criminal law system depends on the separate exercise of legislative, judicial, and executive powers. Regulation, however, concentrates power in a single, specialized body endowed with legislative authority to define the specific content of required or restricted conduct, executive authority to investigate and enforce compliance with regulatory standards, and, usually in connection with economic regulation, jurisdiction to adjudicate disputes between private parties.

It has been asserted, therefore, that regulation is essentially a procedural mechanism which, in itself, does not establish or create substantive societal controls. Thus, in 1936 the late Justice Harlan F. Stone (1) expressed the view that regulation merely substitutes

new methods of control...for the controls traditionally exercised by courts--a substitution made necessary, not by want of an applicable law, but because the ever expanding activities of government in dealing with the complexities of modern life had made indispensable the adoption of procedures more expeditious and better guided by specialized experience than any which the courts had provided.

Justice Stone's failure to recognize that regulation could be employed not merely to substitute for otherwise "applicable law", but also to supplement and modify such law, may reflect the limited perception of an era not yet burdened by extensive social

regulation and not yet aware that regulation itself would become one of the "complexities of modern life". Indeed, recent reforms in federal (2) and state (3) economic regulation have sought to reduce such complexities by reversion to market mechanisms designed to function with substantially less government intervention.

While the debate with regard to economic regulation has been resolved for the immediate future, it seems odd that a similar debate with respect to social regulation has hardly begun. There are, to be sure, many voices in opposition to expanded regulation and increasing government intervention in private enterprise. But such opposition has rarely attempted to articulate acceptable alternatives to the direct intervention of government in the control of socially undesirable conduct.

There has, of course, been substantial discussion in the literature (4) and even in the courts (5) regarding possible methods for better controlling the costs of social regulation (6). Such discussion, however, has simply assumed the validity of regulation as the means of control, thereby obscuring consideration of alternative means including, as in reform of economic regulation, reversion to previously applicable law accompanied by such modifications thereto as may be appropriate to the achievement of social objectives.

Social regulation and, in particular, safety regulation relate primarily to the protection of certain persons, such as employees, consumers, or motorists, against risks created by other persons, such as employers, manufacturers, or carriers. Thus, since the relation between risk makers and risk takers is noncontractual, it is improbable that alternatives to social regulation could be found in market mechanisms. If such alternatives exist, they are more likely to be found in an exploration of well-established, though continually developing, civil law pertaining to noncontractual liability. This essay seeks to probe the frontiers of such exploration.

#### CIVIL LIABILITY AS COMPENSATION FOR PRIVATE INJURY

##### Fault-Based (Tort) Liability

The law defines a tort as a civil wrong independent of contract (7). Although it is common to refer to the tort system as based on the "fault" of the responsible party, the commission of a tort may result not only from a wilful or deliberate act or a knowing failure to act, but also from an inadvertent or negligent failure to exercise reasonable care. The legal inquiry is whether or not the party charged with the commission of a tort acted or failed to act as a reasonably prudent person would or would not have acted under all of the circumstances involved in a particular situation. Unlike the consequences of criminal behavior, however, the mere commission of a tort creates no right to recover damages unless some harm or injury results, and then only when the tort is the "proximate cause" of such injury.

Because the development of regulatory mechanisms was, at least in part, a response to perceived failures of the tort system, a brief examination of the deficiencies and inequities frequently associated with that system may be profitable.

1. High Cost: The complexity of modern litigation, including pretrial discovery and other investigatory procedures, results in high cost to the litigants. As a result, injured persons are rarely "made whole" and claimants for relatively small amounts have little incentive to sue or, if they do,

are easily induced to accept settlements substantially less than those that might be recoverable at trial. Over a given period of time, however, the aggregate of such uncollected amounts may represent a huge sum retained by tortfeasors (wrongdoers) or their insurers when distribution among persons who have suffered injury would appear to be more equitable.

2. Delay: The tort system is plagued by long delays, frequently extending to four or more years between injury and recovery. The results are substantially the same as those discussed above, but they are especially pernicious in the case of persons who, by virtue of injuries tortiously inflicted, are rendered incapable of earning other income.

3. Proof of Liability: The recovery of damages under the fault-based tort system requires not only proof of such damages but also proof that the person alleged to be responsible was, in fact, at fault and that such fault was the proximate cause of injury. Although modern discovery procedures tend to mitigate the difficulty of proving facts frequently more accessible to the defendant than to the claimant, such procedures are usually time-consuming and expensive.

4. Identity of Responsible Parties: Because economic relationships in a modern society are so complex, it is often difficult to identify with certainty the person or persons legally responsible for injury in a given situation. It appears that this is especially true in connection with transportation where, for example, the builder of a tank car, its owner or user, one or more railroads, or other persons might be individually or collectively responsible for its derailment and consequent damage. Thus, claimants are frequently constrained to sue all persons even remotely connected to such incidents, thereby increasing the cost and complexity of litigation. In addition, because such litigation is generally controlled by state law, it is sometimes difficult or impossible to obtain jurisdiction over all defendants in a single forum, resulting in multiple lawsuits or risking the opportunity to later recover from a responsible person due to the expiration of an applicable period of limitations.

5. Available Defenses: Many states still adhere to the doctrine that a plaintiff whose negligence contributed to the injury in any degree may not recover from a negligent defendant, however disproportionate the negligence of such respective parties may be. The availability of such defense and others of a similar nature may inhibit otherwise valid claims or induce inequitable settlements.

6. Immunity from Judgment: Even if a claimant has successfully prosecuted a claim to judgment, recovery is not always possible because the responsible party proves to be insolvent or for other reasons (such as tax or other liens) is unable to make payment.

It is generally agreed that "direct" damages recoverable under the tort system include only medical expenses and lost wages or income in the case of personal injuries and the cost of repair or replacement in the case of damage to property. Customarily, however, the fault-based liability system also allows "incidental" damages, such as pain and suffering, which may far exceed the amount of the direct damages. The availability of such incidental damages may be at least partially responsible for inducing or prolonging litigation and, unfortunately, may provide incentive for fraudulent or unjustified claims. More importantly, such damages may be so enormous that a single incident of

disastrous proportions, involving multiple claimants, may deplete the assets of a sizeable enterprise.

### Alternative Systems of Liability

Strict liability, also referred to as liability without fault or absolute liability, developed from the celebrated English case of Rylands v. Fletcher (8). It permits recovery for "abnormally" dangerous or "ultrahazardous" activities even in the absence of fault or negligence. Thus, a defendant whose ultrahazardous activities have resulted in injury is held liable even though he was not at fault "merely because, as a matter of social adjustment, the conclusion is that the responsibility should be his" (9).

Although the courts have generally restrained expansive application of the doctrine, strict liability has found increasing acceptance in legislative enactments. Thus, to one degree or another, a strict liability regime has been incorporated in such diverse legislation as state child labor laws, federal and state pure food laws, and railroad safety statutes (10). The most recent federal adoption of such a regime is the so-called superfund bill, signed by President Carter on December 11, 1980, which creates strict liability for removal and response costs in connection with releases of hazardous substances (11).

Although court decisions that adhere to the strict liability rule of Rylands v. Fletcher have permitted recovery of all provable damages, statutes imposing such liability frequently limit the type of damages recoverable or the amount of such damages. Thus, the liability created under the superfund bill is limited to damages for clean-up costs and is further limited as to amount. In other cases, the amount recoverable without a showing of fault may be combined with additional damages if negligence can be demonstrated (12).

The term "limited liability" is a misnomer since the statutes that create it merely limit the amount of damages, but do not restrict the basis for liability or expand the defenses. Thus, for example, the Limitation of Liability Act (13) generally limits recoveries against shipowners to the value of the vessel and freight pending after an accident. Other examples of legislative restrictions on recoverable damages include the Price-Anderson Act of 1957 (14) and the superfund bill (15), as previously noted.

Interestingly, Canadian railroads have recently proposed legislation in Canada that, if adopted, would limit the legal liability of such carriers to \$120 million for damages resulting from the release of hazardous materials in transit (16). Pointing to the potential for economic disaster and the practical limits to the insurability of such risks (because additional insurance is unavailable or would be prohibitively expensive), they suggested that the continued provision of railroad service to the public could be assured either by limiting carrier liability as requested or, alternatively, by substantially increasing freight rates on hazardous materials or refusing to carry them (17).

The so-called "compensation" system is best known in connection with employees' claims against employers for work-related injuries. Although sometimes referred to as an "insurance" system, it is a comprehensive legislative scheme characterized by (a) strict, or no-fault, liability; (b) compulsory insurance, (c) administrative, as opposed to judicial, hearings on claims; (d) limited recovery for injuries, not including incidental damages for pain

and suffering or similar injuries; and (e) limited attorneys' fees.

Despite the model of the biblical Good Samaritan, physicians who happen to be present at the scene of an accident may sometimes be reluctant to volunteer expert advice or assistance. Such conduct may expose them to substantial liability if such advice or assistance is later found negligent.

In an effort to avoid such consequences and thereby encourage physicians to volunteer when needed, some states have enacted legislation immunizing the medical good-samaritan laws, while immunizing physicians against liability, do not necessarily protect them against the cost, inconvenience, and professional embarrassment of litigation.

During the past two decades, a number of shippers of hazardous materials have developed emergency assistance programs whereby personnel employed by such shippers are made available as technical experts in connection with the on-scene disposition of a transportation emergency. Since a shipper is rarely liable for injuries that result from the operations of an independent carrier, it will be seen that the advice or assistance so provided exposes the good-samaritan shipper to liability it otherwise would not have. It has, therefore, been suggested that similar exculpatory protection should be provided in such cases. Apparently responsive to such suggestions, the new superfund legislation contains what appears to be the first good-samaritan provision (18) under federal law, although such exculpation is limited to liability "under this title" and to assistance rendered "in accordance with the national contingency plan or at the direction of an on-scene coordinator appointed under such plan". Thus, the scope and effect of the new provision appear to be uncertain.

Because most liability litigation is governed by state law, action by the various state legislatures would also seem to be necessary to relieve the good-samaritan shipper of potential liability. Several states, including California and Pennsylvania, have considered or are currently considering good-samaritan legislation pertaining to assistance in connection with transportation or similar emergencies. It does not appear, however, that any state has as yet adopted such legislation.

Although not a "liability system", compulsory insurance schemes and government compensation funds are briefly discussed here to demonstrate additional techniques that have been legislatively employed in an effort to assure adequate compensation to injured parties.

The idea of compulsory insurance is well known to the general public since many states now require liability insurance as a prerequisite to motor vehicle operation. Because some operators would otherwise be unable to obtain such insurance, such plans usually require insurers to issue policies to such operators, albeit at substantially higher premiums than normally applicable, under a pooling or "assigned-risk" program.

Similarly, the Motor Carrier Act of 1935 (19) requires regulated motor carriers to obtain and submit insurance or other evidence of "financial responsibility" assuring payment of damages to injured parties. The Motor Carrier Act of 1980 (20) modified such requirements by extending them to all interstate for-hire carriers, whether regulated or not, and to all carriers, including intrastate and private (proprietary) carriers, of hazardous materials. Similarly, the Resource Conservation and Recovery Act of 1976 (21), the Clean Water Act (22), and the new superfund legislation require certain persons to provide evidence of financial responsibility. Although federal legislation generally

requires evidence of certain minimum levels of insurance coverage and prohibits the conduct of specified business activities in the absence of such insurance, there appears to be no provision compelling insurers to issue such coverage. It should also be noted that the amount of required insurance does not necessarily serve as a limitation of liability to that amount, thus exposing to recovery the assets of the insured to the extent that damages exceed the insurance coverage.

An additional legislative device for assuring such recoveries (or payment for clean-up costs or environmental damage) is the establishment of a governmentally administered liability fund. Such funds have been created under a variety of statutes, including the Deepwater Port Act of 1974 (23), the Outer Continental Shelf Lands Act (24), and the superfund legislation.

Neither compulsory insurance schemes nor liability fund programs are limited to any particular systems of liability. Thus, for example, the Motor Carrier Act requires that insurance be provided by motor carriers, whose operations are normally subject to ordinary tort liability rules, which do not limit the amount of recovery. At the same time, under various environmental laws, insurance is made mandatory in conjunction with strict liability and a limited dollar amount of recovery. Similarly, insurance is an essential feature of the compensation system, which combines strict liability and recoverable damages of a limited nature.

#### CIVIL LIABILITY AS AN INSTRUMENT OF SOCIAL (SAFETY) POLICY

##### Legislative Intervention

The system of civil liability, in addition to its function of providing redress for private injury, also serves as an important instrument of social policy because likelihood of damages tends to restrain socially undesirable behavior.

Historically, the tort, or fault-based, liability system was developed by the courts and has demonstrated a remarkable ability to expand with the development of modern civilization. (Had there been no such system, the introduction of the automobile would alone demand that one be invented.) Nevertheless, we have observed that both federal and state legislatures have tended to supplement the tort system with greatly expanded regulation and, in some cases, to modify or replace it with other mechanisms. Such legislative intervention, most of which has occurred during the past four decades, has been largely piecemeal with little, if any, effort directed toward the establishment of a comprehensive and integrated liability system, logically related to a consistent set of social objectives.

##### Liability Resulting from Noncompliance with Regulation

Among the pervasive consequences of such legislation, though curiously disregarded by many critics of the regulatory process, has been the expansion of the well-established legal principle that violation of a criminal or other statute that requires or proscribes specified behavior constitutes negligence per se and, therefore, subjects the violator to liability for civil damages (25). Although such statutes frequently require proof of criminal or specific intent, the same principle has been extended to regulatory violations, even though similar proof is rarely necessary.

Manifestly, the huge body of highly detailed regulations affords ample opportunity for assertions

of violation in private litigation. In some cases, such assertions result in the trial by jury of complicated technical issues more suitable to consideration by qualified experts. On the other hand, the involved regulation may be so obscurely drafted as to be incomprehensible even by experts and will permit a finding of violation in almost any behavior. Thus, for example, certain performance standards (as opposed to more detailed, or design, specifications) may be so broadly stated that the mere occurrence of an incident may be sufficient evidence of violation, resulting, however unintentionally, in the indirect imposition of liability without fault!

It appears that one of the factors restraining indiscriminate application of the noncompliance principle has been the sensible insistence of the courts on evidence that the violation was the proximate or probable cause of injury. Even so, in a society that heavily regulates a multiplicity of activities, it seems odd that the principle is less frequently invoked by complainants than one might expect. If indeed that observation is valid, the phenomenon may be worthy of more thorough study that might reveal either (a) that sound social regulation, coupled with a high level of compliance, may have contributed substantially to the eradication of injury-causing behavior, or (b) that such regulation has only limited relevance to such behavior.

##### Compliance as a Defense to Liability

If noncompliance with regulation constitutes negligence, it would seem to follow that regulatory compliance should afford adequate defense in liability litigation. Nevertheless, the courts have generally concluded, with rare exceptions (26), that mere compliance is not an absolute defense because the regulatory requirement may constitute only a minimum standard of safety or may be outdated and not reflective of the state of the art at the time. The validity of such reasons, however, may be questionable when, as in the case of many DOT packaging specifications, deviation from the required standard would be illegal even if such deviation proved to be safer than the standard itself.

It is sometimes argued that adherence to regulation should be deemed an absolute defense to liability in order to provide incentive to compliance. Such a thesis, however, is not persuasive in view of the sufficient incentive furnished by the corollary rule attaching liability to noncompliance. Also, to permit the assertion of compliance as an absolute defense might ultimately prove even more distasteful than the denial of such assertion, since a likely result would be the generation of excessive pressures on regulatory bodies for further proliferation of increasingly detailed and stringent requirements. Finally, even if such an absolute defense rule might serve the interests of the public generally, there would be a substantial question of equity as to why any person who has suffered serious injury should be precluded from damages merely because those whose actions contributed to such injury complied with an outdated or otherwise insufficient regulation as a result of government neglect or misapprehension.

The problem of such government error, of course, might be resolved by the assumption of liability in such cases by that responsible government. Although the Federal Tort Claims Act (27) waives federal (28) immunity from liability in tort, it simultaneously prohibits government liability for an exercise or failure to exercise a "discretionary function or duty" (29). Thus, since the promulgation of regulations clearly requires the exercise of discretion,

it appears that no liability would attach thereto absent an amendment of the Tort Claims Act, an unlikely prospect.

#### OBSERVATIONS AND CONCLUSIONS

It must be kept in mind that, unlike economic regulation, which largely replaced the previously existing market system, social regulation supplemented, but did not replace, the civil liability system by attempting to prevent or control conduct of a tortious nature or by creating new types of tort and additional remedies for recovery of damages. Thus, from the perspective of persons protected by regulation as well as by the tort system, there would appear to be little incentive to disassemble the former unless modification of the latter could produce corresponding or increased benefits as a trade-off.

As previously noted, regulation and other legislative modifications of the tort system were prompted in significant measure by the inherent deficiencies of the latter, some of which have been reviewed above. It has also been asserted that the tort system facilitates calculation of the alternative costs of avoidance or infliction of injury and permits a deliberate selection of the latter course when it is more advantageous to the prospective tortfeasor. It is, therefore, argued with considerable force that a moral society should not permit such selection and that any system of civil liability must be supplemented by other constraints that prohibit unacceptable conduct under threat of criminal and other sanctions.

Such additional constraints, however, sometimes present difficulties of considerable magnitude. The problems of proliferating regulations and burgeoning bureaucracy are legion, but beyond the scope of this essay. Similarly, the concept of compulsory insurance or mandatory contribution to liability funds, while obviously meritorious in many respects, generates difficult questions of insurability and serious problems of equity and social policy. The increased level of insurance required under the Motor Carrier Act of 1980, for example, may impede entry into the trucking business by small or minority operators, thereby conflicting with the open-entry policy simultaneously embraced under that Act in an effort to accommodate social and economic objectives unrelated to safety. So, too, there may be advantage in the idea of insurers as "private policemen" for the enforcement of socially desirable behavior, but there is also awesome potential for abuse in the capacity to withhold insurance required as a prerequisite to economic activity.

Other legislative efforts to mitigate the harsh results of the tort system may introduce problems of a similar nature. To justify statutory limitations of recoverable damages, it is often asserted that such limitations permit the insurability of otherwise prohibitive risks (30), thereby assuring the viability of enterprises whose continued existence is considered essential to society. Indeed, it may also be observed that the notion of corporate existence is itself a legal fiction designed to limit the personal liability of those participating in the venture in order to encourage investment and economic activity. Nonetheless, it may be difficult to comprehend why particular individuals should be left to suffer the burden of uncompensated loss resulting from legislative limitations of liability, while the benefits thereof accrue to others, along with society as a whole. Should not such losses more properly be borne in equal proportions by all who directly or indirectly enjoy such benefits? The same question, of course, may be raised in connection

with exculpatory legislation, including good samaritan laws, which are in effect the ultimate extension of the limited-liability concept.

The compensation system, while mitigating or eliminating many of the defects in the tort system, is simultaneously afflicted with the problems inherent in strict liability, limited recovery, and compulsory insurance systems, all of which are integral parts of the compensation scheme. Nevertheless, the compensation system seems to have enjoyed substantial approbation by a variety of interests and appears to reflect a series of practical and reasonably equitable trade-offs among the interests of all concerned. An additional attraction of that system is the incentive it provides to channel productive energies into the avoidance of injury instead of the tactics and strategy for winning lawsuits.

Notwithstanding the varied activities of legislative bodies, the courts have likewise searched for new ways to allocate the burden of damages. It is apparent that the direction of that search in recent years has leaned toward imposing a larger share of the burden on those with the greatest ability to pay. Accordingly, the interest of industry in its own survival compels serious consideration of alternatives to the tort system as U.S. society grows ever more litigious and the judicial system finds novel ways to compensate the injured, such as class actions and "enterprise liability" (31). One such alternative, conceivably, may lie in more extensive reliance on the compensation systems to afford deserving claimants an expeditious method of fair recovery without the Monte Carlo aspects of tort litigation.

It also seems entirely possible that further exploration would reveal opportunities where a modified and, perhaps, more constructive liability system could be fairly and effectively substituted for a portion of government regulation including, in particular, some of the minutely detailed hazardous materials regulations of DOT (32).

It is not here suggested, however, that any liability system could adequately replace regulation where the transportation of hazardous products involves serious potential for catastrophe. It is also possible that no existing or revised system of liability will prove fully satisfactory in sorting out the multiple possibilities of individual or joint liability associated with railroad accidents. In such complex situations, however, some reasonable combination of strict and tort liability [see note 12] could conceivably provide a creative matrix for limiting the extent of regulation or the necessity of protracted litigation.

At the opposite end of the spectrum, experience has demonstrated that the transportation of many products, when shipped in less than bulk quantities, creates little likelihood of serious harm. Although the transportation of paints and related materials, for example, has produced thousands of reported "incidents" in recent years, such incidents have resulted in no fatalities and relatively few injuries. To maintain intensive regulation of such transportation, when a modified liability system might serve as an equal or more effective deterrent to unsafe behavior, tends to waste the resources of both government and industry, probably inhibits the development of improved safety methods, and detracts from the achievement of more important objectives of transport safety regulation.

It is submitted, therefore, that regulation is not necessarily the exclusive mechanism for the achievement of reasonable social objectives. Just as alternatives were identified in the effort to reform a century of economic regulation, alterna-

tives to social regulation must be actively and vigorously pursued. The proliferation of regulation during the past two decades suggests that another century should not pass before such pursuit is begun.

#### ACKNOWLEDGMENT

Express notice is hereby given that this document has neither been submitted to nor approved by the Union Carbide Corporation, and that all statements made and all views expressed in this paper are mine and do not necessarily reflect any position or views of Union Carbide Corporation or any other person, firm, or corporation.

#### NOTES AND REFERENCES

1. The Common Law in the United States, 50 Harv. L. Rev. 4, 16 (1936).

2. See inter alia, the Airline Deregulation Act of 1978, P.L. 95-504; the Motor Carrier Act of 1980, P.L. 96-296; and the Staggers Rail Act of 1980, P.L. 96-448.

3. See, e.g., Arizona Ch. 240 (S.B. 1173), Laws 1980, effective July 1, 1982.

4. For a sampling of such literature, see Crandall, "Curbing the Costs of Social Regulation", The Brookings Bulletin, Vol. 15, No. 3 (Winter 1979); "New Light on Regulatory Costs", The Morgan Guaranty Survey (April 1979); Reilly, "Caught Between Conflicting Regulations", Dun's Review (April 1979); Jellinek, "Chemical Regulation and Regulatory Reform", Chemical Engineering Progress (March 1979); Kirschten, "Can Government Place a Value on Saving a Human Life", National Journal (February 17, 1979). See also, U.S. Senate Report 96-1018 (Part I), Reform of Federal Regulation, accompanying S. 262 (96th Cong., 2d Sess.), and the literature therein cited.

5. See Industrial Union Dept. v. A.P.I., 8 OSHC 1586 (U.S. Sup. Ct., 1980), pertaining to the regulation of benzene by OSHA.

6. Almost exclusively, such discussions pertain to efforts to apply cost/benefit theory to the regulatory process under a given statute or with respect to a given set of regulations. In my opinion, however, such efforts constitute an exercise in futility since they attempt to ascertain costs that are at best elusive, and to quantify values--such as the value of human life--that a society perceived as moral and will not permit itself to quantify, except in the context of private litigation.

Cost/benefit applications also require a variety of essentially subjective determinations, such as the likelihood of hazard, the number of persons affected, and others of a similar nature. Nor does cost/benefit theory deal with the difficult problem of equity as between the segment of society that bears the risk and the segment to whom the benefits accrue. Especially in connection with transportation safety, such segments are frequently separate and distinct as opposed, for example, to workplace safety where the workers at risk are also beneficiaries of the risk-taking venture.

Moreover, even if costs and benefits could be precisely established and equitable considerations resolved, the cost/benefit approach fails to offer any rational guidance on the appropriate ratio between costs and benefits. See, for example, "OSHA, E.P.A.: The Heyday is Over", New York Times, Section 3, January 4, 1981, quoting Douglas M. Costle, E.P.A. Administrator, as follows (p. 15):

Even if you accept the worst-case argument that regulation costs the economy \$100 billion dollars a year ... that's only 3 percent [of

gross national product]. Who's to say that's too much or too little for protecting our air and water?

I, therefore, am of the view that cost/benefit theory cannot be treated in isolation from a broader perspective. It makes little sense, for example, to deal with risks and benefits in connection with any one agency or any single body of regulations. Given the reality of limited national resources, can we justify the expenditure of millions of dollars to prevent a relative handful of injuries or fatalities in transportation accidents when those same dollars might be used to purchase ambulances adequately equipped to prevent thousands of premature deaths from coronary causes every year? If we cannot have both, the choice is obvious.

It would indeed be difficult to create the political machinery to rationalize the risk and synthesize the benefit to society as a whole. Such machinery would be necessary, first, to determine the limits of available national resources and, second, to allocate such resources so as to produce maximum national benefit. Considering the magnitude of the stakes involved (\$100 billion per year?), such a challenge seems worthy of the best talents available in government, industry, academia, and other professional communities.

7. See 74 Am Jur 2d, Torts, & 1.

8. L.R.3, H.L. 330 (1868).

9. Prosser, Law of Torts, 4th Ed. (West Pub. Co., St. Paul, MN, 1971), & 75, p. 495. For a more complete discussion of strict liability, see Chapter 13 of this work. See also, 61 Yale L.J. 1172 (1952).

10. See, for example, the Federal Safety Appliance Act, 45 USC & 1, et seq.

11. The Comprehensive Environmental Response, Compensation, and Liability Act of 1980, P.L. 96-510, & 107(a) and (b). Subsection (b) permits certain limited defenses to the liability created under subsection (a).

12. An example of such "combined" recovery appears in the Trans-Alaska Pipeline Authorization Act, 43 USC 1651, et seq., which limits damages under strict liability to \$50 million, but permits recoveries in excess thereof for ordinary negligence.

13. 46 USC 183, et seq. (1851).

14. 42 USC 2210. The limitation imposed by this statute was judicially sustained in Duke Power v. Carolina, etc., 438 U.S. 59 (1978).

15. Op. cit., & 107(c).

16. It does not appear that U.S. railroads have made a similar appeal, but it is interesting to note that there is currently pending a proposed tariff rule that would impose on tank-car shippers liability for all damages, including government penalties, resulting from failure to comply with certain specified safety requirements. The propriety and enforceability of such a provision may be questionable.

Historically, however, the duty to serve has rarely been enforced except in a few instances, the most important of which were probably those involving pipelines controlled by large petroleum producers and allegedly operated in such a way as to maintain a monopoly in the distribution of oil. More recently, both the U.S. Interstate Commerce Commission (ICC) and the courts have affirmed the duty of railroads to transport radioactive materials in common carriage. See Energy R&D Administration v. A.C. & Y.R., 359 ICC 639 (1978), aff'd., 611 F. 2d 1162 (CA 6th, 1978), and similar cases cited in the decision of the court. In unusual circumstances, the ICC recently reopened a proceeding to determine if a motor common carrier had failed to comply with a 1976 order requiring it to furnish

service. No. MC-C-887, Consolidated Freightways--Investig. and Revoc. of Certificate, decision served August 25, 1980.

Interestingly, in a recent informal memorandum, the ICC staff acknowledged that "broader grants" of operating authority to be issued under the revised Motor Carrier Act "may require a redefinition of how we prescribe the common carrier obligation". To similar effect is the decision of the U.S. Court of Appeals (D.C. Circuit) in no. 78-2163, National Small Shipments Conference, et.al. v. C.A.B. (1980), upholding the CABs decision to exempt air carriers from the statutory duty to serve as consistent with the Airline Deregulation Act of 1978. See also, 45 F.R. 86800 (December 31, 1980), indicating that the ICC will initiate a separate proceeding to "more fully" set forth its views on this issue.

In my opinion, it is of little consequence whether or not the duty to serve has survived regulatory reform or, in fact, has ever existed in more than a theoretical sense. As a practical matter, such a duty is unenforceable except in unusual circumstances, and the incentive to enforce it is absent where reasonable alternative transportation is available. With the recent relaxation of entry and rate controls, it seems more likely than in the past that the operation of free market and competitive forces will produce a proper balance of service and cost, given sufficient time.

Accordingly, it would appear unnecessary to retain any statutory obligation to serve except, of course, in those cases where effective competition does not exist and cannot be made available. Conceivably, the imposition of excessive regulatory burdens, including unreasonable safety or insurance requirements, may tend to discourage competition to such an extent as to compel reexamination of common carrier obligations.

18. P.L. 96-510, & 107(d).

19. Previously Part II of the Interstate Commerce Act, 49 USC & 301, et. seq.; currently codified as 49 USC & 10101, et. seq.

20. P.L. 96-296; the financial responsibility provisions are a5 & 30.

21. 42 USC & 6901, et. seq.

22. See 33 USC & 1321.

23. 33 USC 1517.

24. Amendments of 1978, 43 USC 1811, et. seq.

25. For a more thorough discussion of the subject, see Prosser, op. cit., & 36, citing Osborne v. McMasters, 41 N.W. 543 (1889) and other cases. See also, Thayer, Public Wrong and Private Action, 27 Harv. L. Rev. 317 (1914); and Morris, Criminal Statutes and Tort Liability, 46 Harv. L.R. 453 (1933). For a discussion of the subject in relation to product liability litigation, see & 108(B) of the Model Uniform Liability Act proposed by the U.S. Department of Commerce, 44 F.R. 62731 (1979).

26. For a case holding compliance to be a defense, see Bruce v. Martin Marietta Corp., CCH Prod. Liab. Rep. #7770 (U.S. Ct. App., 10th Cir., 1976). Several states, including North Dakota, Utah, and Colorado, have enacted legislation to like effect.

27. 28 USC & 1346, 1402, et. al.

28. Many states have adopted similar waivers. See Davis, Administrative Law of the Seventies (Lawyers Cooperative Pub. Co., Rochester, NY, 1976), Ch. 25.

29. 28 USC & 2680(a).

30. A similar, though unrelated, problem resulting from the mobile nature of transportation is the unpredictable character of liability or the amount of recoverable damages since, under our federal system, such matters may vary with the territorial jurisdiction in which a particular incident happens to occur.

31. See Sindell v. Abott Labs., 163 Cal. Rptr. 132 (1980), where recovery was permitted from a group of drug manufacturers in the absence of proof as to the fault of any.

32. 49 CFR, Parts 171-199.

#### ADDENDUM

Section 301(e) of the superfund legislation requires the submission to Congress, by December 1981, of a study "to determine the adequacy of existing common law and statutory remedies in providing legal redress for harm to man and the environment caused by the release of hazardous substances".

The study is to be conducted with the assistance of the American Bar Association and other law organizations. It is required to evaluate, among other things, the evidentiary burdens placed on a plaintiff in proving harm, particularly in light of the scientific "uncertainty" over causation with respect to carcinogens and similar materials and the health effects of exposure over long periods of time. It is possible, perhaps, to interpret that requirement as a suggestion to the study group that the law be revised to create at least a rebuttable presumption of causation notwithstanding such uncertainty with respect thereto.

The report must be submitted to Congress along with recommendations that must address (a) the need for revisions in existing statutory and common law and (b) the form of such revisions as either federal statute or recommendations to the states for adoption.

It is interesting to note that there is no suggestion that any existing regulatory requirements be displaced by revision of the law pertaining to liability.

## Criminal Sanctions and Regulating Corporate Behavior in Transportation of Hazardous Materials

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The purpose of this paper is to explore the issues of regulation of corporate behavior through the imposition of criminal sanctions for enforcing compliance with laws and regulations that affect the transportation of hazardous materials, substances, and waste. The paper will present (a) a brief historical perspective and review of current trends in the application and use of criminal sanctions; (b) the overall issues involved; (c) the basic rationale of regulatory crime, including the various theories of liability for corporations and individuals, particularly as to prosecuting senior executives; (d) the current statutory approach; and (e) in light of the issues presented, questions for consideration and resolution.

#### HISTORICAL PERSPECTIVE AND CURRENT TRENDS

Little use has been made of criminal sanctions in the enforcement of the laws affecting the transportation of hazardous materials, much less the broader areas of health, safety, and environmental laws. To this day, there have been no reported criminal convictions of corporate officers under the Hazardous Materials Transportation Act (hereafter referred to as the Act), the Consumer Product Safety Act, the