NEGOTIATION AS A MEANS OF DEVELOPING AND IMPLEMENTING OCCUPATIONAL HEALTH AND SAFETY POLICY

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SUMMARY

In the health, safety, and environmental area, negotiated rulemaking, implementation, and compliance are proposed by their advocates as delivering two primary benefits: reduced rulemaking time and decreased litigation over a final agency rule. The experience to date, however, indicates that negotiated rulemaking cannot be relied upon to deliver either of these benefits. Nonetheless, experience indicates that negotiation can, in appropriate circumstances, facilitate a better understanding of issues, concerns, facts, and positions among adversaries, promote the sharing of relevant information, and provide an opportunity for creative problem-solving. This paper discusses the use of these three types of negotiation by the United States Occupational Safety and Health Administration (OSHA). Four negotiated rulemakings under the Occupational Safety and Health Act -- each of which involved an attempt to establish an OSHA standard for worker exposure to a particular toxic substance -- are evaluated according to whether negotiation was instrumental either in securing a more protective standard, or in securing an innovative technological response.

The cases do not support the proposition that negotiation is more likely to protect worker health and stimulate more innovative protective technology than is traditional rulemaking. Rather, the record indicates that equal or better results could have been obtained through the traditional rulemaking process. In contrast to its willingness to use negotiation in standard-setting, OSHA has thus far shown little interest in making creative use of negotiation to promote technological change during the implementation or enforcement of standards.

NON TECHNICAL SUMMARY

In a broad sense, there are three major instances in which negotiation is used to *make* or *effectuate* policy within the federal administrative system of the United States. First, there is *negotiated rulemaking*, wherein negotiation is used to help set regulatory standards. Second, there is what we call *negotiated implementation*, where negotiation is used to determine how a regulatory standard, once set, is to be applied to a particular firm (or other member of the regulated community). Third, there is *negotiated compliance*, where negotiation is used to determine the terms by which regulatory standards will be enforced against a particular firm (or other regulated entity) that is out of compliance with a particular regulatory standard. This paper discusses the use of these three types of negotiation by the United States Occupational Safety and Health Administration (OSHA).

Those who advocate negotiated rulemaking -- including the United States Congress -- tend to identify two primary benefits that are expected to flow from its use: reduced rulemaking time, and decreased litigation over the final rule. The experience to date, however, indicates that negotiated rulemaking cannot be relied upon to deliver either of these benefits. Nonetheless, experience indicates that negotiation can, in appropriate circumstances, facilitate a better understanding of issues, concerns, facts, and positions among adversaries, promote the sharing of relevant information, and provide an opportunity for creative problem-solving. This paper examines four negotiated rulemakings under the Occupational Safety and Health Act. The four negotiations -- each of which involved an attempt to establish an OSHA standard for worker exposure to a particular toxic substance -- are evaluated according to whether negotiation was instrumental either in securing a more protective standard, or in securing an innovative technological response.

One of the negotiations failed to produce agreement on a standard, and a health-protective standard was then promulgated through traditional rulemaking after the agency was spurred to act by a public interest group lawsuit. Although negotiation was successful in producing a promulgated standard in the three other cases, these cases do not support the proposition that negotiation is more likely to protect worker health and stimulate more innovative protective technology than is traditional rulemaking. Rather, the record indicates that equal or better results could have been obtained through the traditional rulemaking process. These cases do indicate, however, that OSHA has been willing to accept negotiation as a substitute for the analysis it is required to perform under the Occupational Safety and Health Act, and that labor will attempt to use negotiation as part of a strategy to secure health-protective standards when OSHA abdicates its stewardship role as the primary advocate for increased worker safety and health.

In contrast to its willingness to use negotiation in standard-setting, OSHA has thus far shown little interest in making creative use of negotiation to promote technological change during the implementation or enforcement of standards. As experience from the United States Environmental Protection Agency has shown, however, there is much to be gained by the selective use of negotiation in these situations. Indeed, negotiation would appear to work best a means of securing improved health, safety, or environmental outcomes in situations such as these, where the necessary regulatory signals for improvement and innovation are already in place. OSHA's attention to these areas thus is strongly advised.

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INTRODUCTION

Negotiation -- as an alternative or an adjunct to the adversarial process -- is increasingly touted as the wave of the future as a means of setting and implementing occupational health and safety policy. Negotiation, it is argued, is a more efficient use of societal resources, because it is more likely to produce a result which all sides can accept. Moreover, negotiation is said to be more likely to produce creative solutions, because it forces the parties to focus on cooperation rather than confrontation. This paper surveys the use of negotiation in formulating and implementing occupational health and safety policy in the United States, and attempts to assess the potential of negotiation to (a) foster improved health and safety outcomes and (b) stimulate technological change.

MODES OF NEGOTIATION

In a broad sense, there are three major instances in which negotiation is used to *make* or *effectuate* policy within the federal administrative system of the United States. First, there is *negotiated rulemaking*, wherein negotiation is used to help set regulatory standards. In the first instance, of course, policy-making is the sole province of Congress, through legislation. Once a particular statutory mandate is passed by Congress and signed by the President, however, it usually falls to the responsible agency to develop the particularized standards that will implement that mandate. Further, as long as they act within the bounds defined by Congress in their statutory mandate, agencies often are given considerable latitude in standard-setting. For the past twenty years or so, negotiated rulemaking -- a process whereby representatives of the various major constituencies expected to be affected by a contemplated regulation try to develop a proposed version of that regulation on which all (or most) of them can agree -- has been used by the United States Occupational Safety and Health Administration (OSHA) to help it set regulatory standards. As discussed below, use of this procedure is, generally speaking, encouraged by Congress.

Second, there is what we call *negotiated implementation*, where negotiation is used to determine how a regulatory standard, once set, is to be applied to a particular firm (or other member of the regulated community). Under the law, such negotiation is appropriate only to the extent that it is consistent with the policy mandate set by Congress. When, for example, a statute specifies that a particular standard is to be applied uniformly across the regulated industry by a given date, no such negotiation is proper. Under U.S. environmental statutes, negotiated implementation sometimes occurs when a permit is being issued or revised, or when the regulated firm seeks a waiver or variance from the regulatory standard at issue. Of particular interest in the occupational safety and health context is the opportunity available under the Occupational Safety and Health Act (OSHAct) for selected firms to be given additional time to comply with standards so that they may perfect a promising innovative compliance technology.

Third, there is *negotiated compliance*, where negotiation is used to determine the terms by which regulatory standards will be enforced against a particular firm (or other regulated entity) that is out of compliance with a particular regulatory standard. By its nature, of course, almost all enforcement involves some amount of negotiation between the enforcing agency (or,

in the case of citizen enforcement suits, the enforcing citizen) and the alleged violator. Of interest here are those compliance negotiations that result in (a) compliance through the use of innovative technology, and/or (b) worker health or safety gains *beyond* compliance.

NEGOTIATED RULEMAKING AND THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINSTRATION

Since the mid-1970s, many commentators in the United States have advocated the use of negotiated rulemaking as a more efficient, sensible alternative to the traditional "notice and comment" procedure typically followed by federal agencies in the development of regulations.[1] Occasionally in the 1970s, and more often in the 1980s, OSHA, the Environmental Protection Agency (EPA), and other federal agencies used the negotiation process as an aid to the development of certain regulations. Often, such negotiations were held under the provisions of the Federal Advisory Committee Act, a 1972 statute governing the creation and operation of advisory committees convened to assist agency decision making.[2] In 1990, Congress formally endorsed negotiated rulemaking with the passage of the federal Negotiated Rulemaking Act,[3] and the Clinton Administration has been a strong supporter of its use.[4]

Negotiated Rulemaking Within the U.S. Administrative System

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[1] *See, e.g.,* J. Dunlop, "The Limits of Legal Compulsion," *reprinted in 1975 Occupational Safety and Health Reporter (BNA)*, p. 884, 886 (Nov. 12, 1975); L. Bacow, *Bargaining for Job Safety and Health* (MIT Press, 1980); P. Harter, "Negotiating Rules: A Cure for the Malaise," *Georgetown Law Journal*, Vol. 71, p. 1 (1982); Susskind & McMahon, "The Theory and Practice of Negotiated Rulemaking," *Yale Journal on Regulation*, Vol. 3, p. 133 (1985).

[2] 5 U.S.C. App. 2. The Federal Advisory Committee Act (FACA) requires, *inter alia*, that: (1) with certain exceptions, all groups convened by a federal agency to provide advice on agency decisionmaking be treated as "advisory committees" under FACA, 5 U.S.C. App. 2, Sec. 3(2); (2) the membership of advisory committees be "fairly balanced in terms of the points of view represented and the functions to be performed," *id.* Section 5(b) & (c); (3) the meetings of advisory committees be open to the public, *id.* Section 10(a)(1); and (4) the records of advisory committee deliberations be open to the public, *id.* Section 10(b).

[3] 5 U.S.C. Sec. 561-570. Congress permanently reauthorized the 1990 Act in the Administrative Dispute Resolution Act of 1996, Pub. L. 104-320, 110 Stat. 3870 (1996). The Negotiated Rulemaking Act specifies that negotiated rulemaking committees are to be treated as advisory committees under FACA. *See* 5 U.S.C. section 562(7).

[4] *See, e.g.,* Executive Order 12,866, Sec. 6(a), September 30, 1993. Each agency was directed "to explore, and where appropriate, use consensual mechanisms for developing regulations, including negotiated rulemaking."

The Negotiated Rulemaking Act specifies a set of procedures that may be followed if an agency wishes to use negotiated rulemaking, although the Act cautions that these procedures "should [not] be construed as an attempt to limit innovation and experimentation with the negotiated rulemaking process or with other innovative rulemaking procedures otherwise authorized by law." Under the Act, an agency may -- but is not required to -- utilize negotiated rulemaking to develop a proposed rule whenever the agency determines that it would be "in the public interest" to do so. If the agency desires to use negotiated rulemaking, it must first identify the various interests that would be significantly affected by a proposed rule, and determine whether those interests could be represented adequately by a group of persons brought together to serve as a negotiated rulemaking committee. If so, the agency may then establish such a committee, which is to be treated as an advisory committee under the provisions of the Federal Advisory Committee Act. The negotiated rulemaking committee is to be made up of persons representing the various affected interests, plus at least one member of the agency, who is to serve on the committee "with the same rights and responsibilities as other members of the committee." The committee's goal is to determine whether committee members can reach a "consensus" (which may be defined by the committee as something less than unanimity) on the wording of a draft rule.

If they do reach consensus, the rule drafted by the committee must then be put out for public notice and comment, the same as any other proposed rule. The agency retains authority over the wording of any proposed or final rule, and the agency is empowered to modify the rule drafted by the committee if it believes that the draft rule is inconsistent with the applicable congressional mandate. Moreover, a rule drafted through negotiated rulemaking is subject to judicial review to the same extent as any other rule.[5]

The Performance of Negotiated Rulemaking as a Means of Saving Time and Reducing Judicial Challenge

Those who advocate negotiated rulemaking -- including Congress -- tend to identify two primary benefits that are expected to flow from its use: reduced rulemaking time, and decreased litigation over the final rule.[6] Presumably, face-to-face meetings among the interested parties

[5] Even without the Negotiated Rulemaking Act, any negotiated rulemaking committee convened by an agency would presumably be treated as an advisory committee under the Federal Advisory Committee Act (FACA), and thus would be required to have "balanced" representation. *See* note 2, *supra*. For a more detailed discussion of notice and comment rulemaking, and of the Federal Advisory Committee Act, see N. Ashford and C. Caldart, *Technology, Law, and the Working Environment*, Rev. Ed. (Island Press, 1996), Chapter Two. For a discussion of FACA's fair balance requirement in the context of occupational safety and health, *see* N. Ashford, "Advisory Committees in OSHA and EPA: Their Use in Regulatory Decisionmaking," *Science, Technology & Human Values*, Vol. 9, Issue 1, p. 72 (Winter, 1984).

[6] The legislative history of the 1996 reauthorization of the Negotiated Rulemaking Act reflects almost unanimous support for negotiated rulemaking, and stresses these two presumed benefits of negotiated rulemaking. *See: The Reauthorization of the Negotiated Rulemaking Act, 1996: Hearings Before the Subcommittee on Commercial and Administrative Law of the House Committee on Judiciary*, 104th Cong., 2d Sess. (1996); 142 Cong. Rec. H12303-12304 (October

will be able to avoid the various bureaucratic quagmires that can delay the drafting of a rule within an agency, and will, on average, produce a proposed rule more quickly. Further, since the interested parties have agreed on the wording of the proposed rule in advance, the notice and comment procedure presumably will be less contentious and time-consuming, and the incentive for anyone to file a judicial challenge to the final rule presumably will be slight.[7]

In practice, however, it is not at all clear that negotiated rulemaking delivers on either of these promises. Of all the federal agencies in the United States, EPA has used negotiated rulemaking the most often.[8] A recent study of EPA negotiated rulemakings to date has concluded that: (a) on average, the promulgation of EPA rules through negotiated rulemaking took no less time than did the promulgation of a "control" group of similar EPA rules through traditional notice and comment rulemaking; and (b) 50% of EPA's twelve finalized negotiated rulemakings were the subject of legal challenge, compared with a litigation rate of 26% for all EPA rules issued during the period from 1987 through 1991.[9] To date, then, it has not been established that negotiated rulemaking actually returns the primary benefits touted by its proponents.[10]

The Performance of Negotiated Rulemaking as a Means of Securing a "Better" Rule: The Negotiation of Toxic Substance Exposure Standards Under the OSHAct

Nonetheless, there may be other advantages of using negotiated rulemaking, at least in certain circumstances, depending on the goals one wishes to achieve. Significantly, because it facilitates face-to-face discussions among rulemaking "adversaries" that might not otherwise occur, negotiated rulemaking holds out the potential that, as differences are understood and

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19, 1996).

[7] *See, e.g.,* L. Susskind & G. McMahon, *supra* note 1.

[8] Still, negotiated rulemaking is used in a very small percentage of EPA rulemakings. *See* C. Caldart & N. Ashford, *Negotiation As a Means of Developing and Implementing Environmental Policy*, January 1998, at note 37.

[9] *See* G. Coglianese, *Assessing Consensus: The Promise and Performance of Negotiated Rulemaking*, John F. Kennedy School of Government, Harvard University (1997), pp. 35-36. If one looks only at the more *significan*t EPA rules, the litigation rate is 35%. Conversely, if one uses the Office of Management and Budget's data on the number of EPA rules issued during this period, the figure is only 19%. *Id.*

[10] Interviews with participants in negotiated rulemakings at EPA have found general satisfaction with the procedure and the results. However, "[i]n terms of satisfaction with the process and their experience with it, certain classes of participants, notably environmental interests, gave lower ratings than did the others. Their ratings were positive, but marginally so." C. Kerwin & L. Langbein, *An Evaluation of Negotiated Rulemaking at the Environmental Protection Agency Phase I* (Administrative Conference of the United States, September 1995), p.47.

addressed, creative solutions may be found to difficult issues in such a way that a substantively *better* rule emerges. Such a result might come, for example, through the identification of opportunities for innovative technological responses within the regulated community.

As an initial attempt at determining whether this potential is being realized in the occupational health and safety context, we have examined four instances in which negotiation was used in an attempt to develop an OSHAct standard governing occupational exposure to a particular toxic chemical. In addition to the limitations imposed by the small number of examples examined, the problem with an analysis of this nature is the fact that any attempt to identify a "better" result is a qualitative exercise: depending on the context, it can mean quite different things to different people. For the purposes of this paper, we have sought to evaluate the quality of the final rule produced by negotiated rulemaking according to whether it produced more -- or less -- health protection than might have been expected had negotiated rulemaking not been used, and we have given particular attention to the extent to which opportunities to promote technological change were -- or were not -- seized by the negotiating committee.

At the outset, it should be noted that not all of the examples chosen represent formal, agency-sponsored negotiation. OSHA has convened a formal "negotiated rulemaking committee" on only four occasions. Two of those dealt with toxic substance exposure standards (for benzene and 4,4-Methylenedianiline, respectively), and both are included here.[11] In addition, we have included two instances -- involving standards for formaldehyde and butadiene exposures -- in which the interested parties negotiated a proposed standard on their own, with no formal encouragement or assistance from OSHA.[12] The four rulemakings are discussed in chronological order.

In addition, it should be noted that OSHA also has from time to time used its authority under the OSHAct to establish advisory committees to "assist . . . in . . . standard-setting functions."[13] OSHA does not sit as a member of these committees, and it is not bound by their recommendations. In general, these advisory committees have been true to their name: they have served an *advisory* function on technical and/or policy issues, but they have not involved an attempt by the committee members to *negotiate* a proposed rule.[14] The advisory committee

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[11] OSHA has also convened formal negotiated rulemaking committees to devise safety standards for erection of steel structures, *see* 59 Fed. Reg. 24389 (May 11, 1994), and to devise fire protection standards for shipyard workers, *see* 61 Fed. Reg. 28824 (June 6, 1996). Both rulemakings are ongoing.

[12] A third such situation, in which labor and industry met on their own to try to resolve certain issues involving OSHA's cotton dust standard, also is discussed briefly.

[13] This authorization is contained in section 7(b) of the OSHAct, 29 U.S.C. section 656(b), which deals specifically with the establishment of OSHAct advisory committees. In addition, section 6, which contains OSHA's standard-setting authority, specifies that OSHA may, in devising an occupational safety or health standard, "request the recommendations of an advisory committee appointed under section 7." 29 U.S.C. section 655(b)(1).

established by OSHA to address occupational exposure to coke oven emissions, however, did negotiate a set of agreements that formed the basis for the coke oven emissions standard promulgated by the agency in 1976.[15] Because information on those negotiations is not as well-developed as that which is available regarding the four subsequent negotiations discussed below, we have not included an analysis of the coke oven emissions standard in this paper.

Benzene

In 1971, as required by the passage of the OSHAct in 1970, OSHA adopted several "national consensus standards" for occupational exposures to hazardous substances.[16] One such standard was a requirement that occupational exposures to benzene not exceed a permissible exposure limit (PEL) of 10 parts per million (ppm), measured as a time-weighted eight-hour average concentration in workplace air. In 1974, however, the National Institute for Occupational Safety and Health (NIOSH) issued a report suggesting that benzene could cause leukemia. NIOSH issued a revised report in 1976 concluding that no safe level of exposure to benzene could be established, and recommending that the OSHA standard be reduced to 1 ppm. Thereafter, after conducting a traditional notice and comment rulemaking, OSHA promulgated a new benzene standard, which limited exposures to the recommended 1 ppm level. The new standard was challenged by industry, and was remanded to the agency by the United States Supreme Court in 1980. In a plurality opinion that served as the lead opinion of the Court, four justices concluded that OSHA cannot promulgate a standard limiting exposures to a hazardous substance unless the agency demonstrates that the standard is necessary to reduce a "significant risk of material health impairment,"[17] and three justices found that OSHA had failed to bring forth sufficient evidence to demonstrate that benzene exposures below 10 ppm posed a significant risk of harm.[18]

Under pressure from labor unions and public interest groups to push ahead with a

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[14] *See, generally,* N. Ashford, *supra* note 5.

[15] *See* H. Perritt, Jr., "Negotiated Rulemaking Before Federal Agencies: Evaluation of Recommendations by the Administrative Conference of the United States," *The Georgetown Law Journal*, Vol. 74, p. 1625, 1682 (1986). The standard was promulgated at 41 Fed. Reg. 46741 (Oct. 22, 1976).

[16] This was mandated by section 6(a) of the OSHAct, 29 U.S.C. section 655(a).

[17] *Industrial Union Department v. American Petroleum Institute*, 448 U.S. 607, 642-646 (1980).

[18] *Id.* at 652-658. In the administrative record, OSHA had justified the 1 ppm standard with the argument that, since benzene is a carcinogen, and since there is no known safe level of exposure to a carcinogen, *any* exposure posed a risk of harm. Justice Stevens' plurality opinion (which was joined on this point only by Justice Burger and Justice Stewart) concluded that this was inadequate because the agency had not demonstrated that the risk was "significant." "OSHA," noted the plurality, "did not even attempt to carry its burden of proof" on this issue. *Id.* at 653.

revision to the standard,[19] OSHA decided in 1983 to attempt to formulate a new proposed standard through negotiated rulemaking.[20] The benzene rule was thought by OSHA to be a good candidate for negotiated rulemaking, because the parties and the issues had been well-defined over the course of the previous administrative and judicial process. At the same time, however, OSHA also recognized that that same process had tended to polarize and solidify the viewpoints of the opposing parties.[21]

Although the benzene negotiations are given credit for helping to further identify and narrow the issues to be resolved, however, they did not result in a proposed rule. Opinions as to the reason for this "failure" tend to vary. One school of thought holds that the difficulty of the issues, together with the structure of the negotiations, doomed the process to failure.[22] The petroleum industry's fear of tort liability for benzene exposures apparently was a major stumbling block.[23] All of the participants -- and OSHA -- believed that any revised standard would have to meet the "significant risk" test articulated by the Supreme Court's plurality opinion. The petroleum industry was concerned that an official agency declaration that benzene posed a significant risk at a particular exposure level would lead to enhanced tort liability for exposures at or above that level, and industry representatives thus pushed for a proposed rule that tread lightly on the issue of risk. This apparently proved difficult for the negotiators to fit within the OSHAct framework. In the words of commentator Henry Perritt, a negotiated rulemaking advocate,

> [The petroleum industry] hoped to frame a risk finding that would recognize a risk at . . . 10 ppm, but [that] would not say that a risk existed at the new [standard]. The participants, however, were unable to develop language that satisfied both the tort and statutory criteria.[24]

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[19] Renewed activity on the benzene standard came after an April 14, 1983 petition to OSHA from Dr. Sidney Wolfe of the Public Citizen Health Research Group requesting that OSHA issue an emergency temporary standard for benzene. *See* Perritt, *supra* note 15, at 1650.

[20] *See* 48 Fed. Reg. 31412 (July 8, 1983).

[21] For a detailed discussion of the "appropriateness" of the benzene issue for negotiated rulemaking, *see* Perritt, *supra* note 15, at 1653-1666.

[22] *See*, generally, *id.*

[23] Benzene was present in the gasoline fumes to which many persons -- consumers and employees both -- were routinely exposed at filling stations.

[24] Perritt, *supra* note 15, at 1654. Reportedly, there were differences of opinion among the affected industries as to what an appropriate standard would be. The rubber industry had been meeting an exposure level of 1 ppm since the late 1970s. The petroleum and chemical industries believed that they could meet the 1 ppm level only 85% to 90% of the time, and thus wanted a 2 ppm standard. The steel industry was having trouble meeting even the existing 10 ppm standard,

Substantive problems such as these, it has been argued, were exacerbated by the fact that OSHA itself did not participate in the negotiations. Although OSHA organized, and provided part of the financial support for, the negotiations, no OSHA representative was present at the meetings of the negotiating committee. Commentator Henry Perritt, for one, believes that OSHA's absence from the negotiations was a major impediment to success:

> nonparticipation by . . . OSHA gave it less of a stake in successful negotiations, and therefore less motivation to use its ultimate power to creative incentives for parties to negotiate meaningfully.[25]

However, later experience with the formaldehyde and butadiene rules -- which, as noted, were negotiated by the interested parties without the participation *or the sponsorship* of the agency -- tends to diminish the suggested significance of OSHA's absence from the process.

Moreover, it appears that another, less subtle, force was at work in helping to scuttle the benzene negotiations. Michael Wright, who participated in the negotiations on behalf of the United Steelworkers of America, reports that, in his opinion, "good progress" was being made on crafting a final standard on which all sides could agree. At some point in the negotiations, however, attorney C. Boyden Gray, on behalf of Vice President George Bush, contacted both labor and industry and assured them that the Administration would not approve any benzene rule with which they were not happy. Industry representatives reportedly took this as an assurance from the Reagan Administration that no benzene rule need be promulgated, and their interest in pushing forward with the negotiations waned accordingly.[26]

After the negotiations stalled, the Steelworkers and others sued OSHA in an attempt to force the promulgation of a revised standard. In response, OSHA submitted a rulemaking schedule to the court in which it committed to promulgating a revised benzene standard according to a specified schedule.[27] OSHA published the final standard in 1987.[28] Significantly,

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and opposed any reduction in the standard. *Id*. at 1651. Labor, on the other hand, did not wish to retreat from the 1 ppm standard originally proposed by OSHA.

[25] *Id.* at 1662.

[26] Phone conversation with Michael Wright, December 8, 1997. Perritt suggests, albeit obliquely, that such forces were at work as well. Without explanation, he notes that, shortly before the negotiations stalled, "some industry constituents were becoming convinced that the OMB [the President's Office of Management and Budget] would block or delay a standard from . . . OSHA unacceptable to industry, which made it difficult to achieve unity behind a position." Perritt, *supra* note 15, at 1654.

[27] *In re United Steelworkers of America, et al. v. Rubber Manufacturers Ass'n.*, 783 F.2d 1117 (D.C. Cir. 1986).

[28] 52 Fed. Reg. 34460 (1987).

the maximum permissible exposure limit was the same as it had been under the standard that had been invalidated seven years earlier by the Supreme Court: 1 ppm. The difference was that OSHA took pains in the administrative record to explain in detail its scientific basis for setting the exposure limit at this level, and to perform a quantitative analysis supporting the agency's conclusion that lowering the benzene standard from 10 ppm to 1 ppm would result in the reduction of a "significant" risk of cancer.[29] In so doing, the agency had the benefit of several additional scientific studies that had been completed since the time of the first benzene rulemaking, including epidemiologic studies that strongly suggested that benzene posed a higher cancer risk at 10 ppm than at 1 ppm.[30]

Thus, in marked contrast to its first attempt to revise the standard, OSHA constructed a rulemaking record that would be virtually unassailable under any reasoned judicial analysis. This attention to scientific detail in the crafting of the administrative record, together with the filing of the lawsuit that prompted OSHA to engage the rulemaking process in earnest,[31] appear to be the factors most responsible for the ultimate success of the benzene rule.

MDA

OSHA's next attempt at negotiated rulemaking dealt with worker exposures to 4,4-Methylenedianiline (MDA), a constituent of paints and other coating materials. In 1983, EPA issued a notice under the Toxic Substances Control Act (TSCA) indicating, on the basis of data from animal bioassays, that MDA may pose a significant risk of cancer to humans.[32] Thereafter,

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[29] *See* "OSHA Notice of Proposed Rulemaking for Exposure to Benzene," 50 Fed. Reg. 50512 (December 10, 1985), *reprinted in Occupational Safety & Health Reporter,* BNA, Vol. 15, p. 693, December 12, 1985, at 697-720. OSHA concluded that a reduction in the standard from 10 ppm to 1 ppm "would result in a reduction in risk of death from leukemia ranging from 43 to 136 per 1000 workers exposed over an occupational lifetime." *Id.* at 714.

[30] *Id.* at 712-716 (epidemiologic data), 719 ("Since 1978, three major studies of high quality in experimental animals have confirmed the carcinogenicity of benzene.").

[31] The lawsuit was filed with the Circuit Court of Appeals for the District of Columbia on December 10, 1984; in the words of the subsequent opinion in the case issued by that court: "on December 5, 1985, virtually on the eve of oral argument, the agency filed with the court a copy of a just-issued NOPR [Notice of Proposed Rulemaking], which was subsequently published in the Federal Register on December 10, 1985." *In re United Steelworkers of America v. Rubber Manufacturers Ass'n..*, 783 F.2d at 1119.

[32] 48 Fed. Reg. 19078 (April 27, 1983). Under Section 4(f) of TSCA, EPA is required to issue such a notice whenever it makes such a finding. Once such a notice has been issued, EPA is required to either take appropriate regulatory action to reduce exposures to the chemical in question, or to publish an explanation of why it believes no regulatory action is necessary. *See* 42 U.S.C. section 2603(f).

EPA began a formal process to gather additional data on MDA. Two years later, after having determined that MDA posed a likely cancer risk to workers, EPA issued a notice under section 9 of TSCA inviting OSHA to take regulatory action under the OSHAct, and indicating that EPA would take action under TSCA if OSHA declined.[33] In early 1986, OSHA responded by issuing a notice indicating that it had determined there was a reasonable basis to conclude that MDA posed a significant risk to the health of exposed workers, and indicating that it would proceed with appropriate regulatory action.[34] Thereafter, OSHA convened a negotiated rulemaking committee. The committee held seven meetings, culminating in the publication in July 1987 of recommendations for a proposed rule limiting occupational exposure to MDA. These recommendations were then incorporated by OSHA into a proposed rule in May 1989, and were promulgated by OSHA as a final rule in August 1992.[35] The standard established an eight-hour average time-weighted PEL for workplace exposure to MDA of 10 ppb; prior to the promulgation of the standard, average workplace exposures to MDA were estimated to be in the 250 ppb range.[36]

There were a number of differences between the MDA negotiations and the benzene negotiations, and many of these may have contributed to the comparative ease with which the MDA rule was negotiated.[37] It may have been important, for example, that the impetus for an MDA regulation came from EPA, and that the participants knew that EPA would issue a regulation if OSHA did not. The negotiators may have preferred to operate within the familiar context of an OSHA regulation, rather than face the more unfamiliar prospect of an EPA regulation under TSCA. What likely was more important, however, were the much more limited number of industries and workers involved, and the relatively modest financial consequences at stake. By OSHA's estimate, only 400 workers were exposed to MDA.[38] Moreover, OSHA

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[33] *See* 50 Fed. Reg. 27674 (July 5, 1985). Section 9 of TSCA allows EPA to follow such a process if the agency determines that, although a chemical poses an "unreasonable risk of injury to health or the environment" (the basis for regulation under TSCA), "such risk may be prevented or reduced to a sufficient extent by action taken under a Federal law not administered by [EPA]" (such as the OSHAct). *See* 42 U.S.C. section 2608(a)(1).

[34] *See* 51 Fed. Reg. 6746 (February 26, 1986).

[35] *See* 57 Fed. Reg. 35630 (August 10, 1992), *reprinted in Occupational Safety & Health Reporter,* BNA, Vol. 22, p. 345 (August 12, 1992) (hereinafter "Final Standard"). The history of the negotiations is set forth at pages 347-349. OSHA stated in the preamble to the final standard that "the final standard, like the proposed rule, is based primarily on the recommendations made by the MDA Mediated Rulemaking Committee," and noted that there were only a "few instances" where the standard differed from those recommendations. *Id.* at 349.

[36] *Id.* at 356.

[37] *See* H. Perritt, *Use of Negotiated Rulemaking to Develop a Proposed OSHA Health Standard for MDA,* May, 1988, *reprinted in* D. Pritzker and D. Dalton, eds., Administrative Conference of the United States, *Negotiated Rulemaking Sourcebook* (1995), at 661-703.

[38] Final Standard, *supra* note 35, at 358.

estimated that the average cost of complying with the 10 ppb standard would be only $5450 per year *per employer* (for the purchase and maintenance of personal protective equipment).[39] In contrast to the benzene negotiations, then, the perceived costs to industry were inconsequential.

In its preamble to the final rule, OSHA voiced considerable support for the use of negotiated rulemaking as the means of developing the MDA exposure standard.[40] Further, the preamble expressed the agency's belief that the use of negotiated rulemaking had not involved any sacrifice of principle to expediency. Although noting that "[s]trictly speaking, it appears inappropriate to suggest that human suffering and lives become the trade off items in a mediation attempt," OSHA stressed that negotiated rulemaking

> . . . differs from the typical labor-management negotiations[,] where a limited number of issues must be resolved and bargaining or trade-off become the method to form a compromise. The key difference involves the final product expected. On the one hand, a compromise is reached; on the other hand, a consensus is achieved.[41]

In practice, however, this "key difference" appears to have been more conceptual than actual. "Consensus" was defined by the MDA negotiated rulemaking committee as 75% concurrence of those members of the negotiated rulemaking committee participating in a vote,[42] and OSHA committed itself in the notice of negotiated rulemaking to use the results of the negotiations as the basis for its final rule.[43] Thus, although the committee reportedly voted unanimously on "approximately 90% of the issues,"[44] it does appear that the agency expressed a willingness to accept a "trade off" of worker protection for expediency as the basis for its health standard.[45] Moreover, OSHA demonstrated a willingness to truncate consideration of the

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[39] *Id.* at 359.

[40] Negotiation clearly did not result in the *expeditious* promulgation of the MDA rule. The recommendations of the negotiated rulemaking committee were published on July 16, 1987, and the final rule (incorporating the bulk of those recommendations) was not published until August 12, 1992. *Id.* at 349. The preamble does not explain the reason for the five-year delay between the conclusion of the negotiations and the promulgation of the final standard.

[41] *Id*. at 348.

[42] Perritt, *supra* note 37, at 689-90. In the preamble to the final rule, OSHA acknowledged that the committee had agreed that unanimous agreement was not necessary. Final Standard, *supra* note 35, at 348.

[43] Perritt at 676.

[44] *Id.* at 690.

[45] Perritt stresses that "[t]he value of a flexible consensus rule cannot be emphasized too strongly," and believes that the agreement to treat a 75% majority vote as a "consensus" was one of the reasons that the MDA committee was able to negotiate a proposed rule while the benzene committee was not. *Id*. at 690-91.

relevant health issues in the interest of producing a rule through negotiation. Reportedly, OSHA resisted "active participation by health experts" in the negotiations, because it feared that "committee meetings would turn into a battle of the experts."[46] Although there were persons with toxicological backgrounds on the negotiating committee, some committee members felt that additional access to health professionals -- especially physicians -- would have been helpful.[47]

This is not to say, of course, that nothing was gained through the MDA negotiations. The negotiated rule *did* ultimately result in a substantial decrease in worker exposure to the chemical. Further, even if the negotiations themselves did not focus on specific pollution prevention strategies, the promulgation of the reduced exposure limits tended to create an additional incentive for the manufacture of MDA-free coating materials. Also, committee members reported that the negotiations provided them access to unpublished MDA data in the possession of other committee members,[48] and it is likely that the trust established among committee members during the negotiations was an important factor in these disclosures.

Formaldehyde

Formaldehyde became a regulatory concern in 1979, when a two-year study conducted by the Chemical Industry Institute of Toxicology concluded that the chemical causes cancer in rats,[49] and concern increased with the development of epidemiologic data over the following decade. On December 4, 1987, after traditional notice and comment rulemaking, OSHA issued a formaldehyde standard imposing an eight-hour time-weighted PEL of 1.0 ppm.[50] The agency had concluded that a standard of 0.5 ppm would be technologically and economically "feasible" within the meaning of the OSHAct,[51] but it declined to impose such a limit because it determined that the risk posed by exposures below 1.0 ppm would be "insignificant". Based on its reading of the Supreme Court's benzene decision -- in which a three-justice plurality observed that a

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[46] *Id.* at 688.

[47] *Id.* at 688-89.

[48] *Id.* at 696.

[49] For a discussion of the CIIT study, and of the early regulatory history of formaldehyde, *see* N. Ashford, C.W. Ryan, and C. Caldart, "A Hard Look at Federal Regulation of Formaldehyde: A Departure From Reasoned Decisionmaking," *Harvard Environmental Law Review*, Vol. 7, p. 293 (1983).

[50] 52 Fed. Reg. 46169, *et. seq.* (December 4, 1987).

[51] A toxic substance exposure standard under section 6(b)(5) of the OSHAct is to be set at the level that "most adequately assures, *to the extent feasible* . . . that no employee will suffer material impairment of health . . ." 29 U.S.C. sec. 655(b)(5) (emphasis added).

risk of one in one thousand is one that a reasonable person might well consider significant -- OSHA had determined that any risk of less than one in one thousand would *not* be "significant" under the OSHAct.[52]

The 1.0 ppm standard was challenged in court by labor, industry, and a non-profit public interest group, and in 1989 the District of Columbia Circuit Court of Appeals remanded the standard to OSHA for further consideration.[53] Noting that some studies put the risk of cancer higher than OSHA had estimated, the court directed the agency to either set a more stringent limit or explain more fully why it had not done so. Thereafter, the plaintiffs in the litigation met to attempt to negotiate a modified standard, and on June 27, 1990 they presented OSHA with a recommendation calling for a formaldehyde PEL of 0.75 ppm.[54] On May 27, 1992, OSHA promulgated a final standard setting the limit at the recommended level.[55]

Given the circumstances, it is not at all surprising that the negotiators were able to agree on a standard more protective than the one that OSHA had proposed. First, of course, the court's invalidation of the original 1.0 ppm standard had sent a strong signal to industry that a more stringent standard likely would be upheld, and OSHA's determination that a 0.5 ppm standard would be feasible had created a reasonable presumption that the revised standard may be set at that level. Further, even before OSHA promulgated the 1.0 ppm standard, industry concerns over a possible 0.5 ppm standard had prompted the suppliers of formaldehyde-containing resins to develop new resins containing little or no formaldehyde. In part, the development of these new products made it possible for industry to reduce worker formaldehyde exposures at less than half the pre-promulgation cost estimates.[56] The negotiated 0.75 ppm standard, then, represented a relatively painless compromise.

Butadiene

1,3-Butadiene ("butadiene") is used in the production of synthetic rubber, and in the production of a variety of other chemical products and intermediaries. As of 1996, an estimated

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[52] *See* K. Rest and N. Ashford, "Regulation and Technological Options: The Case of Occupational Exposure to Formaldehyde," *Harvard Journal of Law and Technology*, Vol. 1, p. 63 (1988).

[53] *International Union, UAW v. Secretary of Labor*, 878 F.2d 389 (D.C. Cir. 1989).

[54] *See* "OSHA Proposal to Revise Formaldehyde Standard in Response to Remand by U.S. Court of Appeals for D.C. Circuit," 55 Fed. Reg. 32302 (July 15, 1991), *reprinted in Occupational Safety & Health Reporter* (Bureau of National Affairs), Vol. 21, p. 202, *et. seq.*, at 203.

[55] 57 Fed. Reg. 22290 (May 27, 1992).

[56] *See* N. Ashford and C. Caldart, *supra* note 5, at 506.

9,700 U.S. workers at 255 facilities were exposed to this chemical in their workplace.[57] In 1971, OSHA had adopted a "national consensus" PEL[58] for butadiene of 1000 ppm as a time-weighted eight-hour average. In 1983, however, the National Toxicology Program released the results of a study indicating that butadiene causes cancer in rats.[59] Thereafter, OSHA solicited comments and gathered data for a six-year period,[60] culminating in the issuance in 1990 of a proposal to lower the butadiene PEL to 2 ppm, with a short-term exposure limit (STEL) of 10 ppm over fifteen minutes.[61] In addition, the proposed standard specified an "action level" of 1.0 ppm, which triggered increased workplace monitoring requirements.[62]

During public hearings on the proposed standard in 1991, labor and industry representatives "began discussions on issues such as the quality and interpretation of scientific data, carcinogenic causality, permissible exposure limits, and economic and technological feasibility."[63] For sometime thereafter, working outside the formal regulatory process, and without the participation of OSHA, the parties attempted to resolve their differences over the proposed standard.[64] Although a number of the companies in the rubber industry reportedly were achieving average butadiene exposure levels of less than 1.0 ppm, industry was seeking a PEL of 4 ppm.[65] The union, on the other hand, sought to bring the OSHA standard in line with the performance of these rubber companies, both to reduce exposures in other industries and to put "moral" pressure on the rubber industry to lower exposures world-wide.[66]

The break in the negotiations occurred in 1995, after the release of an epidemiologic

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[57] "OSHA Preamble, Final Rule Reducing Worker Exposures to 1,3-Butadiene," 61 Fed. Reg. 56746 (Nov. 4, 1996), *reprinted in Occupational Safety & Health Reporter* (BNA), Vol. 26, p. 705, *et. seq.*, Nov. 6, 1996 (hereinafter "Butadiene Preamble"), at 754.

[58] *See* note 16, *supra.*

[59] Butadiene Preamble, *supra* note 57, at 707.

[60] *Id.* at 708.

[61] *See* 55 Fed. Reg. 32736 (August 10, 1990), *reprinted in Occupational Safety & Health Reporter* (BNA), Vol. 20, p. 475 *et seq.*, August 15, 1990 ("1990 Proposed Standard"), at 543.

[62] *Id.*.

[63] C. Gordon, C. Jones, S. Sherman & C. Thurber, "Union-Industry Recommendations Give a Big Bounce to OSHA's Butadiene Standard," *Job Safety & Health Quarterly*, Winter/Spring 1997, p. 27.

[64] In the preamble to the final butadiene rule, OSHA noted that it "was neither a party to nor present at the negotiations." Butadiene Preamble, *supra* note 57, at 709.

[65] Phone conference with Michael Wright, *supra* note 26. *See also* note XX, *infra*.

[66] *Id.*

study -- funded by the International Institute of Synthetic Rubber Producers -- supporting the conclusion that butadiene exposure was causing cancer among workers at approximately the rate predicted by extrapolations from the animal data.[67] Spurred by this new confirmation of the seriousness of the butadiene risk,[68] labor and industry representatives were able to reach agreement on a set of recommendations, which were presented to OSHA on January 29, 1996.[69] OSHA then reopened its rulemaking process to solicit comments on the recommendations, and the parties to the labor/industry agreement submitted draft regulatory language, which translated their regulations into specific requirements.[70] On November 4, 1996, OSHA issued a final butadiene standard based largely on the language drafted by the labor/industry negotiators.[71]

As recommended by the negotiators, the revised butadiene standard sets an eight-hour PEL of 1 ppm, an STEL of 5.0 ppm over 15 minutes, and an "action level" of 0.5 ppm. If monitoring reveals that the 0.5 ppm action level is being exceeded, the employer must implement an "exposure goal program" designed to "limit employee exposures to below the action level during normal operations."[72] Such a program is to consist of specified engineering controls, worker training, medical surveillance, and additional monitoring.[73]

OSHA was enthusiastic about the butadiene standard, and about the role played by the negotiations in developing the standard.

> At the signing of the butadiene standard . . . [then OSHA Administrator] Joe Dear remarked how the groundwork laid by the labor-management agreement gives both a more protective standard and a strong scientific underpinning for [the] regulation. 'Because the standard is based on the agreement and supported by

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[67] The results and methodology of this study, conducted by Delzell, *et al.*, are discussed in the Butadiene Preamble, *supra* note 57, at 718-720.

[68] *See* C. Gordon, C. Jones, S. Sherman & C. Thurber, *supra* note 63, at 27 ("It wasn't until after new data confirmed the risk of butadiene, in 1995 . . . that these groups began negotiating joint recommendations on the issues."). This was confirmed with the Steelworkers' Michael Wright. Phone conference with Michael Wright, *supra* note 26.

[69] *See* Butadiene Preamble, *supra* note 57, at 708.

[70] *Id.* at 708-09.

[71] In the preamble to the final standard, OSHA stated that the provisions of the standard "are, in large part, similar to the requirements recommended by the labor/industry group." *Id.* at 757. Indeed, a comparison of the standard with the language drafted by the labor/industry negotiators demonstrates that, both in substance and in form, the standard is based largely on the recommendations.

[72] *See* 29 CFR section 1910.1051(g).

[73] *Id.* The specified engineering controls include, among other efforts, leak prevention, detection, and repair, and the use of pump exposure control technology.

both workers and their employers, we are confident the provisions are practical, and the protections will be put in place.'[74]

Without doubt, negotiation facilitated OSHA's adoption of the butadiene standard. It is apparent that the agency deferred both to the trade-offs and to the timetable of the labor/industry negotiators, and it is not clear what timetable OSHA would have followed in the absence of these negotiations. Certainly, it is conceivable that, absent some other form of outside pressure (such as a union lawsuit seeking to force promulgation), OSHA would not have issued the final standard by 1996.

It is less clear, however, that the negotiated standard is "more protective" than what OSHA would have produced on its own. After the industry-funded epidemiologic study confirmed the carcinogenic risk of butadiene, OSHA was in a strong position to impose a PEL more stringent than the 2.0 ppm standard it had proposed in 1990. The feasibility of a standard below 2.0 ppm was not seriously in doubt,[75] and industry representatives reportedly were concerned that OSHA would set the PEL at *0.5* ppm.[76] The negotiated compromise -- a PEL of 1.0 ppm and a 0.5 ppm "action level" -- thus appeared palatable in comparison. Moreover, in return for their agreement to accept these lower levels, industry representatives were able to secure a compromise on the use of respirators. The 1990 proposed standard had specified -- consistent with OSHA policy -- that the exposure limits generally were to be met through the use of engineering controls and work practices, and it permitted compliance through the use of personal respirators only for those situations in which the employer could establish that compliance was not otherwise technologically feasible.[77] The negotiated compromise, however, allows compliance through the use of personal respirators during intermittent non-routine peak exposures. In deference to the negotiators, OSHA retained these provisions in the final rule.[78]

Instead of producing a standard that is clearly stronger than the one originally proposed by OSHA, then, the negotiations produced a result that arguably *reduces* the incentive for meaningful technological change by industry. For, although a 1.0 ppm PEL is more protective than a 2.0 ppm PEL, the workplace technology that is capable of meeting 2.0 ppm during routine operation likely will be capable of meeting 1.0 ppm as well. It is achieving these levels during

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[74] C. Gordon, C. Jones, S. Sherman & C. Thurber, *supra* note 63, at 29.

[75] In the preamble, OSHA noted that "many facilities in the affected industries have already achieved the reductions in employee exposures required by the final rule." *See* Butadiene Preamble, *supra* note 57, at 754.

[76] Phone conversation with Michael Wright, *supra* note 26.

[77] *See* 1990 Proposed Standard, *supra* note 61, at 544, 548. OSHA's standard policy is to require that compliance be achieved through the use of engineering controls and/or changes in work practices unless the employer can demonstrate that this would be infeasible.

[78] *See* 29 CFR section 1910.1051(h).

periods of *non-routine* operation that poses the greater technological challenge.[79] That is why, in the words of the International Institute of Synthetic Rubber Producers (IISRP) in its comments urging OSHA to adopt the compromise language drafted by the negotiators, "industry needed respirator flexibility to accept . . . lower [exposure limits]."[80] By giving industry the flexibility it wanted on this point, the negotiated standard secured a short-term goal: it hastened the implementation of stricter butadiene exposure limits by assuring that industry would not challenge those limits in court. In the long term, however, the inclusion of such flexibility may also have removed much of the pressure for further technological improvement.

Evaluation

There is perhaps no other regulatory agency whose capacity to spur technological change is as well-documented as OSHA's. Especially in the agency's early years, OSHA's promulgation of occupational safety and health standards -- through the use of traditional rulemaking procedures -- has produced technological improvements within regulated industries that have markedly improved the health and safety of U.S. workers.[81] The four negotiated rulemaking studied here indicate that, at least to date, negotiated rulemaking has not been an improvement on the traditional rulemaking process. Indeed, they suggest that OSHA has been too willing to abdicate its stewardship role under the law in favor forging a politically expedient "consensus" among affected parties.

The formaldehyde and butadiene negotiations are noteworthy for their lack of involvement by OSHA. In both cases, interested parties began the negotiations *on their own volition*, sometime *after* the agency had promulgated a proposed standard. That the parties chose to take these matters into their own hands should not be particularly surprising. In contrast to the environmental arena, the key players in the OSHA negotiated rulemakings -- industry and organized labor -- have a long history of resolving disputes through negotiation. In a very real sense, negotiation is an important part of their "culture". Moreover, beginning with the installation of an anti-regulatory administration in Washington after the election of President Reagan in 1980, OSHA has generally been less aggressive in promoting the cause of worker

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[79] According to comments submitted to OSHA by the synthetic rubber industry, the exposures for which respirators are allowed "are caused by process equipment leaks, sampling, and maintenance activities that are extremely difficult to anticipate or prevent through traditional engineering controls or work practices." *Supplemental Comments for the Reopened Record Submitted by the International Institute for Synthetic Rubber Producers, Inc.*, OSHA Docket No. HS-041, April 26, 1996, at 2.

[80] *Id.* at 5. The IISRP comments also characterized the respirator provisions as "[c]rucial to the feasibility of the very low [exposure limits]" and "essential to a workable standard." *Id.*

[81] *E.g.,* Congress of the United States, Office of Technology Assessment, *Gauging Control Technology and Regulatory Impacts in Occupational Safety and Health -- An Appraisal of OSHA's Analytic Approach*, OTA-ENV-635 (Washington, D.C.: U.S. Government Printing Office, Sept. 1995).

health and safety than it was during the first decade of its existence. In the absence of an aggressive regulatory body, the unions have turned to both negotiation and litigation in an attempt to prod the regulatory process forward.

Although the formaldehyde and (to a lesser extent) butadiene negotiations can be seen as having secured improvements in worker protection, neither case supports the proposition that private negotiations are more likely to protect worker health than is traditional rulemaking. Rather, the relative success of these negotiations illustrates that private negotiations can produce results *when conditions are right*, especially when the regulatory agency fails to seize the opportunities before it.

This is nothing new. In 1983, several years before the formaldehyde negotiations, labor and industry representatives met informally to resolve outstanding issues regarding OSHA's cotton dust standard. As with the formaldehyde and butadiene standards, the negations began -- at the instigation of the parties themselves, and without the involvement of OSHA -- after OSHA had issued a proposed standard. Further, as with the formaldehyde standard, the negotiations began after a court ruling on the OSHA standard. The agency's exposure limit for cotton dust had been upheld by the Supreme Court, leaving only certain ancillary issues for resolution.[82] Before it sat down to negotiate with labor, then, the industry knew that a standard incorporating a particular exposure level *would be implemented*, and it thus was highly motivated to negotiate the process of that implementation. As noted by commentator Henry Perritt, the fact that the parties were able to reach an agreement on these issues that was adopted by the agency "illustrates the possibility of negotiated agreement on controversial rules, without agency participation, when the incentives of the private parties are strong."[83]

As the benzene negotiations suggest, however, meaningful results are much less likely when the incentives are not strong. In contrast to the formaldehyde, butadiene, and cotton dust negotiations, the benzene negotiations came -- at the invitation of OSHA -- after industry had mounted a successful court challenge to the exposure level originally set by OSHA. The pressure on industry to agree on a protective standard, then, was far from pressing, and negotiations eventually stalled. Indeed, it ultimately took the rigors of the rulemaking process, prompted into action by a public interest group lawsuit, to successfully re-impose the 1.0 ppm standard.

The MDA negotiations, which were initiated by OSHA and which featured OSHA as a key participant, did produce a final rule, even though there was no strong incentive driving the parties to reach agreement. The key here, however, appears to have been the fact that -- because relatively few employees were involved, and because the cost of compliance was low -- the stakes for industry were not high.

NEGOTIATED IMPLEMENTATION AND OSHA

[82] *See American Textile Manufacturers Institute v. Donovan*, 452 U.S. 490 (1980).

[83] Perritt, *supra* note 15, at 1683.

The OSHAct does give OSHA a certain amount of discretion as to the manner in which it implements an occupational safety and health standard once the standard has been promulgated. Under specified circumstances, OSHA is authorized to grant either a temporary or permanent *variance* from the standard.[84] Requests for variances -- which are to be submitted, and evaluated, on an employer-by-employer basis -- necessarily provide an opportunity for negotiations between the agency and individual employers. Although the statute specifies certain conditions that must be satisfied before a variance may be issued, OSHA nonetheless retains discretion in determining whether a particular request should be granted. Negotiations, then, may cover the length, extent, and conditions of the variance.

Of particular interest is OSHA's authority under section 6 of the OSHAct to grant variances that are determined to be "necessary to permit an employer to participate in an experiment approved by [OSHA] . . . designed to demonstrate or validate new and improved techniques to improve the health or safety of workers."[85] This broadly-worded provision would appear to give the agency considerable discretion to give extended compliance time to employers who are endeavoring in good faith to perfect promising innovative technologies. Properly utilized and promoted by OSHA, this "experimental" variance provision could be a means of encouraging employers to commit resources to the development of cleaner, safer, and cost-effective workplace technology. It could also be used to promote industry-labor cooperation on technological change in the workplace. To date, however, the agency has largely ignored the opportunities that this provision of the act affords.

NEGOTIATIED COMPLIANCE AND OSHA

Unlike the U.S. Environmental Protection Agency, which has long used the settlement of enforcement actions as a means of securing pollution prevention or other "extra" environmental gains in appropriate cases in its Supplemental Environmental Projects (SEP) program,[86] OSHA has not taken creative advantage of the opportunities for negotiation that naturally occur in enforcement situations. As with negotiated implementation, there is much that could be done in this area. For example, rather than simply issuing a citation and imposing a fine for a violation, OSHA could create incentives for employers to design and implement "inherent safety" programs to reduce the potential for chemical accidents.[87] While the development of any such

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[84] *See* 29 U.S.C. section 655(b)(6)(A) (temporary variance because of short-term unavailability of personnel or technology necessary to comply with standard), section 655(b)(6)(C) (variance to allow use of new and improved techniques, known as an "experimental" variance), and section 655(d) (permanent variance to allow use of alternative means that "will provide employment and places of employment . . . which are as safe and healthful as those which would prevail" if the employer complied with the standard).

[85] 29 U.S.C. section 655(b)(6)(C).

[86] *See* Caldart and Ashford, *supra* note 8, at 27-30.

[87] *E.g.,* N. Ashford, J. Gobbel, J. Lachman, M. Matthiesen, A. Minzer, and R. Stone, *The*

initiative by OSHA would need to take care to ensure that the disincentive to violate is maintained, there is no reason why flexibility in enforcement need be incompatible with the integrity of enforcement. Moreover, OSHA could draw from, and perhaps improve on, EPA's extensive experience with its SEP policy.

CONCLUSION

Negotiation should hardly be viewed as a panacea for the various difficulties that typically confront the environmental policy-maker. Used in the right context, however, negotiation can be a useful tool in the establishment and implementation of occupational safety and health policy. Negotiation can facilitate a better understanding of issues, concerns, facts, and positions among adversaries. It can also promote the sharing of relevant information, and can provide an opportunity for creative problem-solving. Whether negotiation will be better than other, generally more adversarial mechanisms as a means of fostering improved occupational safety and health outcomes, or of stimulating meaningful technological change, will depend on the situation in which it is used. In general, negotiation would appear to work best a means of securing these goals in situations in which the necessary regulatory signals for improvement and innovation are already in place.

This is one of the reasons that EPA's use of *negotiated compliance*, as embodied in its Supplemental Enforcement Project (SEP) policy, has been as successful as it has been. To the firm that is the target of the enforcement action, the "stakes" are clear: so long as it believes it faces higher costs (in the form of a larger fine and/or higher transaction costs) if it does not identify and execute a SEP that is acceptable to EPA, the firm has a meaningful incentive to participate in good faith in the SEP process. And, because the agency has structured the program to give maximum credit for pollution prevention projects, pollution prevention often becomes the focus, *and the goal*, of the negotiations. Thus, especially because negotiation is the traditional means of resolving enforcement disputes, even outside of the SEP process, it appears to work well in this context. OSHA would be well-advised to design a policy of its own to take advantage of the opportunities for positive technological changes that arise in appropriate enforcement situations.

One would also expect negotiation to work well in those *negotiated implementation* situations that have a clear, formal focus on technological change. The "experimental" variance authorized by the OSHAct would appear to create such an opportunity. The chief signal to innovate -- the new regulatory standard -- is already in place (or clearly on the horizon) before negotiation over such a variance begins, and the statute authorizes OSHA to provide an extended period of time for the firm to develop and test the proposed innovation. Thus, so long as the new standard is stringent enough to command the firm's attention, firms should have a meaningful

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Encouragement of Technological Change for Preventing Chemical Accidents: Moving Firms from Secondary Prevention and Mitigation to Primary Prevention, A Report to the U.S. Environmental Protection Agency, Center for Technology, Policy and Industrial Development, Massachusetts Institute of Technology, Cambridge, Massachusetts, July, 1993.

incentive to negotiate time to pursue an innovative compliance alternative. Although OSHA has not made significant use of its experimental variance authority in the past, there is good reason to believe that this provision could be a force for technological change. OSHA should develop a set of criteria to help define those situations in which a variance of this nature could be used productively, and should publicize the availability of this option when it promulgates a standard. The agency should then work with employers to help them identify opportunities for innovative technological responses.

In contrast to negotiated compliance and negotiated implementation, *negotiated rulemaking* generally occurs when the chief regulatory signal for occupational safety and health improvement and innovation is *not* already established, at least not in full. Rather, one of the functions of negotiation in this context is to *establish*, either in part or in full, the stringency of the regulatory standard. If the goal is innovation, this may well be problematic. If the nature of the regulated industry is such that it will require a dramatic impetus -- such as the promulgation of an unexpectedly stringent standard, or the fear that such a standard will be promulgated -- before it will be motivated to innovate, negotiated rulemaking may well be inadvisable. Since negotiated rulemaking seeks consensus, and since such an industry is unlikely to agree to a standard that it views as having a "dramatic" impact, negotiated rulemaking is unlikely to produce a standard of this nature. In such situations, negotiated rulemaking can effectively *remove* the potential to spur innovation.

In situations in which the desired technological change is likely to come more easily, negotiated rulemaking should be expected to have a better chance of success. Here, the advantages of negotiation, such as information-sharing and creative problem-solving, may work to encourage productive technological change. The key to the willingness of industry representatives to explore the technological options in good faith is likely to be tied to what they perceive the likely "default" standard to be. If they believe that, in the absence of a negotiated rule, the agency will promulgate a stringent rule on its own, their willingness to focus on creative technological solutions is likely to be higher. The agency can facilitate this process by making clear at the outset that promoting technological change will be a focus of the regulation.

However, when OSHA abdicates its policy-making responsibility, and makes clear to industry and labor that it will accept a negotiated settlement as the basis for safety and health standards, the chances that negotiation will produce meaningful safety and health gains are reduced considerably. When this happens, the relative success of the negotiations likely will depend on whether some *other* factor -- such as a court ruling or a scientific study -- can produce the kind of incentives that create an appropriate environment for technological change.

In the last analysis, it must be recognized that negotiation is a process that facilitates *market solutions* to questions regarding the appropriate ends or means of compliance. Thus, the relative bargaining power of the stakeholders largely determines the outcome, unless it is checked at the end of the process by a government agency with a strong sense of trusteeship for the environment. To the extent that OSHA sees itself as a mediator of negotiations between labor and industry, rather than as a trustee for occupational safety and health, it helps to promote a market-like result through the operation of the consensus process. If a superior result is to be achieved, it likely will require OSHA to take a strong position in support of occupational safety

and health, and in support of the development of new technologies.

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