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Occupational Safety and Health Administration
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OSHA

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Message: Charles Seftress plans to testify
Tuesday

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2/19/98 (6:44 PM)

STATEMENT OF CHARLES N. JEFFRESS
ASSISTANT SECRETARY FOR OCCUPATIONAL SAFETY & HEALTH
U.S. DEPARTMENT OF LABOR
BEFORE THE SENATE COMMITTEE ON LABOR AND HUMAN RESOURCES
February 24, 1998

Mr. Chairman and members of the committee, I am pleased to have the opportunity to share with you today the views of the Occupational Safety and Health Administration (OSHA) on OSHA's potential role in implementing the proposed tobacco settlement. As you know, OSHA has a statutory responsibility to ensure that America's workers have safe and healthful workplaces. Exposure to environmental tobacco smoke (ETS), or "secondhand smoke," poses a significant health risk to workers, and unlike methylene chloride or ammonia, chemicals for which OSHA has set permissible exposure limits, ETS is not a necessary component of any manufacturing process or job. OSHA supports Congressional efforts to include workplace smoking restrictions in the national settlement with the tobacco industry.

That being said, it is imperative that any smoking restrictions that are enacted be clearly worded, to avoid potential confusion over issues like scope of coverage, jurisdiction, enforcement, and definitions. Legislation must also be complete, to avoid loose ends that must later be resolved through agency regulation or expensive litigation. It should be noted that if legislation is enacted that requires OSHA to issue implementing regulations or a final rule on indoor air quality within a short span of time, existing statutory processes and criteria would make it very difficult for OSHA to meet that deadline.

OSHA has carefully reviewed the bills currently under consideration which have

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provisions on involuntary exposure to tobacco smoke or OSHA rulemaking, and has identified several areas of concern, which I will discuss in particular later on. In general, however, OSHA feels that involuntary exposure to ETS is a public health and social issue of such broad impact that it is appropriate for Congress to address it legislatively, in the context of the tobacco settlement. There is no doubt that legislation would be the fastest way to achieve the goal of reducing exposure, as publication of a final OSHA rule will take a good deal of time. In addition, Congress could protect more people, since an OSHA standard would only cover workers. Congress has the ability, through specifically-worded legislation, to ensure that children and adults are protected from adverse health effects from breathing ETS.

The Hazard of Environmental Tobacco Smoke

The hazards of exposure to ETS are well-documented and quantifiable. ETS contains over 4,000 chemical compounds, including such poisons and irritants as carbon monoxide, formaldehyde, ammonia, nitrogen oxides, and hydrogen cyanide. It contains at least 43 known or suspected carcinogens, including benzene, nickel, 2-naphthylamine, and polonium-210. According to reports published by the Environmental Protection Agency, the National Institute for Occupational Safety and Health, the National Research Council, and the Department of Health and Human Services, many of the damaging elements in tobacco smoke are even more concentrated in sidestream smoke than in the smoke which enters smokers' lungs.

Exposure to ETS has been associated with many adverse health effects in nonsmokers, including lung cancer, heart disease, asthma, reproductive effects, and mucous membrane

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irritation. Of the more than 70 million employees working indoors, OSHA estimates that 21 million are exposed to ETS. Among nonsmoking American workers exposed to ETS, OSHA estimates that there will be up to 700 cases of lung cancer per year and between 2,000 - 13,000 deaths from heart disease per year.

Clearly, the risk of exposure to ETS is significant and must be addressed. OSHA reviewed available data and decided that this risk could be effectively addressed through rulemaking.

History and Status of OSHA's Indoor Air Quality Rulemaking

Following petitions from public interest groups requesting an Emergency Temporary Standard prohibiting smoking in indoor workplaces, OSHA published a Request for Information (RFI) on indoor air quality problems on September 20, 1991. OSHA sought information necessary to determine whether it would be appropriate and feasible to pursue regulatory action concerning Indoor Air Quality (IAQ). Issues on which comments were requested in the RFI included health effects attributable to poor IAQ, ventilation systems performance, exposure assessment, and abatement methods.

In response to the RFI, over 1,200 comments were submitted by interested persons, groups, unions, and industries. Although there was some opposition to the proposed rule, many other commenters felt that regulation was necessary to eliminate exposures to ETS in the workplace. Those commenters urged the Agency to either ban smoking completely from the workplace or allow smoking only in separately ventilated, designated smoking areas that were

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separate from work areas.

The Agency's risk assessment and preliminary economic analysis concluded that there was sufficient scientific information to support proposing a regulation on IAQ, including exposure to ETS. Therefore, OSHA published a proposed rule on April 5, 1994. The proposal requires employers to restrict smoking to designated smoking areas that are separate, enclosed rooms exhausted directly to the outside of the building. The public comment period ended August 13, 1994, and was followed by public hearings from September, 1994, through March, 1995. The post-hearing comment period ended February 9, 1996.

Since then, the Agency has been reviewing and analyzing the more than 110,000 comments received, identifying and addressing issues that need to be resolved before a final rule can be promulgated. Because of the complexity of indoor air quality issues and the unprecedented size of the rulemaking docket, this is no small task. Many steps remain before a final standard could be published.

OSHA is considering reopening the record to obtain additional information on the risk assessment, which would add many months to the process. Even if the record is not reopened, OSHA still has to complete the preamble to the final rule and the final economic impact analysis, respond to comments in the IAQ record, prepare compliance assistance materials, obtain legal and policy review within the Department, work with the Small Business Administration to minimize any potentially significant small business impacts identified, and obtain OMB review. Throughout these reviews, suggested changes will have to be evaluated, decided upon, and incorporated. Some reviews, such as OMB's, may take 90 days or longer. In addition, OSHA must ensure that it has complied with all applicable laws related to the rulemaking process, such as the Paperwork

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Reduction Act, the Regulatory Flexibility Act, and the Administrative Procedure Act. OSHA's current regulatory agenda does not establish a date by which we could promulgate a final IAQ standard.

Congressional Action to Address ETS

So far, proposed legislation to implement the tobacco settlement has contained two approaches to reducing involuntary exposure to ETS that involve OSHA. The first, and more common approach, has been to declare, in the law, that public facilities must have, and post, smoke-free environment policies. Most of these bills place the burden of enforcing their requirements on OSHA. The Agency favors this approach, because we believe that OSHA should have jurisdiction for enforcing smoking restrictions in workplaces, most of which would be considered "public facilities" as defined in these bills.

The pending bills may differ in their specifics, but they share the same goal of protecting people from adverse health effects of ETS. However, there are certainly some elements which, if included in the final law, would help OSHA better protect workers.

First, Congress could make a finding, in whatever legislation is passed, that exposure to ETS causes health consequences that impose a substantial burden upon interstate commerce in terms of lost production, lost wages, medical expenses and disability compensation payments.

Second, Congress could link the smoking policy requirements of any legislation to the enforcement mechanisms in Sections 8 - 15 and 17 of the Occupational Safety and Health Act (OSH Act). Congress could further specify that enforcement of the provisions in the legislation

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are a required area of coverage for OSHA State Plans, because it would be administratively infeasible for federal OSHA to enforce smoking restrictions in State Plan states. And, since OSHA's enforcement authority would be broadened by the legislation to cover building owners and lessees who are not necessarily employers, and members of the public who are not necessarily employees, coverage of the OSH Act would have to be expanded for enforcement of smoking restrictions.

Third, the legislation could clearly state that it does not preempt any existing or future federal, State or local ordinance or regulation that is more protective.

Fourth, a provision could be included that states that OSHA's jurisdiction to enforce the legislation is not preempted by Section 4(b)(1) of the OSH Act unless the other agencies' smoking regulations are at least as protective as those in the legislation. Bills which envision OSHA enforcement of smoke-free policies in schools and on public transportation may find their intent frustrated by Section 4(b)(1) of the OSH Act, which states that OSHA does not have jurisdiction over workplace conditions where another federal agency has exercised its statutory authority to prescribe or enforce regulations (as the Department of Transportation has done with respect to smoking on aircraft). Where Congress wants OSHA to enforce in areas beyond its current jurisdiction, it must specify such coverage.

Fifth, Congress could clearly define, with a high degree of specificity, what facilities are covered. For example, Congress could completely define "fast-food restaurant," which facilities are considered "primarily maintained for children," and which conveyances of public transportation (in addition to bus, rail, aircraft, and boat) will be covered. Congress could also define technical terms such as "direct exhaust ventilation" and "negative pressure." Clear

definitions in the legislation will prevent confusion and delay of OSHA enforcement.

The main advantage to Congress passing legislation that regulates ETS, and is not dependent upon further OSHA notice and comment rulemaking, is that the legislation can be implemented expeditiously and enforced by OSHA. If OSHA regulates ETS, the Agency must meet the requirements of the OSH Act and complete the IAQ rulemaking, with its many steps.

The second type of proposed legislation would simply direct OSHA to issue a final rule on indoor air quality and would impose a deadline for action. OSHA has already proposed a standard on IAQ and is in the process of developing a final rule; however, it is unrealistic to expect that a final rule can be published within one year. The rulemaking record for the IAQ proposal is enormous, containing over 110,000 comments. There are also new studies and information that must be considered. Analyzing a record such as this one takes a great deal of time. OSHA still has to complete the preamble to the final rule and the final economic impact analysis, prepare compliance assistance materials, obtain legal and policy review within the Department, work with the Small Business Administration, and obtain OMB review.

Second, the Agency must meet the requirements of the Regulatory Flexibility Act, the Paperwork Reduction Act, and the Administrative Procedure Act (APA). OSHA would have difficulty complying with all of these obligations if held to a short timeframe for promulgation. In the past, in two instances, Congress has legislated that OSHA did not have to meet certain requirements. For example, several years ago, Congress passed legislation requiring OSHA to issue a lead in construction standard within six months. In that bill, Congress specified that neither the procedural requirements of Section 6 of the OSH Act nor the notice and comment provisions of the APA would apply. Another example was when Congress directed OSHA to

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promulgate a standard on Hazardous Waste and Emergency Response Operations. However, none of the currently pending bills on ETS includes such provisions, therefore, OSHA would be required to comply with all procedural statutes.

Additional Considerations

Resources

The resource implications for OSHA of Congressional action will depend on the final wording of enacted legislation. However, if Congress requires the Agency to publish a final rule on IAQ in 12 months, it would create a serious disruption of Agency priorities and would almost certainly require OSHA to divert resources from other important health and safety initiatives.

Enforcement

Where enforcement is required, there is the issue of penalties for violations of smoking restrictions. If the existing OSHA enforcement mechanism is used, penalties could range from zero dollars for a first-time, other-than-serious violation, to thousands of dollars for a serious, willful or repeat violation. For example, if OSHA responded to a complaint of exposure to ETS, and discovered that the facility owner or lessee did in fact have a smoke-free environment policy in place, and the necessary signs posted, but some individual had made an independent decision to violate the policy, then OSHA would likely classify that violation as "other-than-serious" and issue no monetary penalty. On the other hand, if OSHA found a facility where there was no policy about smoking, and individuals were being exposed to ETS involuntarily, or where

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*Add discussion
of ETS EO.*

Mr. Chairman and members of the committee, thank you for inviting me to share the views of the Occupational Safety and Health Administration (OSHA) on OSHA's potential role in furthering the President's goal of reducing involuntary exposure to environmental tobacco smoke. As you know, OSHA has a statutory responsibility to ensure that America's workers have safe and healthful workplaces. Exposure to environmental tobacco smoke (ETS), or "secondhand smoke," can pose a serious health risk to workers, and unlike methylene chloride or ammonia, chemicals for which OSHA has set permissible exposure limits, ETS is not a necessary component of any manufacturing process or job.

Involuntary exposure to ETS is a public health issue that merits Congressional action. Legislation could protect a broader spectrum of the population than an OSHA regulation, since OSHA's mandate covers only workers. *The Administration* OSHA supports Congressional efforts to include *comprehensive tobacco legislation.* workplace smoking restrictions in ~~the national settlement with the tobacco industry.~~

*Add lang
on E.O.*

To be most effective, any smoking restrictions enacted by Congress should be clear with respect to the scope of coverage, jurisdiction, enforcement, and definitions. Legislation must also be complete, to avoid costly and time-consuming litigation and agency rulemaking efforts. ~~If Congress desires quick action by OSHA to issue regulations restricting smoking or a final standard on indoor air quality, I urge you to provide a statutory framework that helps OSHA~~

As you know, the ~~Clinton~~ administration has taken a number of important steps to address this health hazard. For example, in August 1997, the President issued an Executive Order directing that employees and visitors at Federal buildings not be exposed to secondhand smoke. But Congress can and should do more.

~~move expeditiously. My testimony will describe how Congress can best help OSHA implement~~
~~and the Administration's belief that tobacco legislation~~
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present
should include provisions to restrict smoking in workplaces
and other public facilities.

The Hazard of Environmental Tobacco Smoke

The hazards of exposure to ETS are well-documented and quantifiable. ETS contains over 4,000 chemical compounds, including such poisons and irritants as carbon monoxide, formaldehyde, ammonia, nitrogen oxides, and hydrogen cyanide. It contains at least 43 known or suspected carcinogens, including benzene, nickel, 2-naphthylamine, and polonium-210. According to reports published by the Environmental Protection Agency, the National Institute for Occupational Safety and Health, the National Research Council, and the Department of Health and Human Services, many of the damaging elements in tobacco smoke are even more concentrated in sidestream smoke than in the smoke which enters smokers' lungs.

Exposure to ETS has been associated with many adverse health effects in nonsmokers, including lung cancer, heart disease, asthma, reproductive effects, and mucous membrane irritation. Of the more than 70 million employees working indoors, OSHA estimates that 21 million are exposed to ETS at work. Among nonsmoking American workers exposed to ETS, OSHA's preliminary estimate is that there will be up to 700 cases of lung cancer per year and between 2,000 - 13,000 deaths from heart disease per year.

The significant health risks of exposure to ETS led OSHA to commence rulemaking efforts.

History and Status of OSHA's Indoor Air Quality Rulemaking

Following petitions from public interest groups requesting an Emergency Temporary Standard prohibiting smoking in indoor workplaces, OSHA published a Request for Information (RFI) on indoor air quality problems on September 20, 1991. OSHA sought information necessary to determine whether it would be appropriate and feasible to pursue regulatory action concerning Indoor Air Quality (IAQ). Issues on which the RFI requested comments included health effects attributable to indoor pollution, ventilation systems performance, exposure assessment, and abatement methods.

In response to the RFI, interested persons, groups, unions, and industries submitted over 1,200 comments. Commenters both supported and opposed regulating ETS in the workplace. Many urged the Agency either to ban smoking in the workplace or to allow it only in separately ventilated, designated, isolated areas.

The Agency's risk assessment and preliminary economic analysis found sufficient scientific information to support proposing a regulation on IAQ, including exposure to ETS. Therefore, on April 5, 1994, OSHA published a proposal to require employers to restrict smoking to designated smoking areas that are either outdoors or in separate, enclosed rooms that are exhausted directly to the outside of the building. The public comment period ended August 13, 1994, and was followed by public hearings from September, 1994, through March, 1995. The post-hearing comment period ended February 9, 1996.

Since then, the Agency has been reviewing and analyzing the more than 115,000 comments received, identifying and addressing issues that need to be resolved before a final rule

can be promulgated. The IAQ rulemaking record is the largest ever in the Agency's history. No other issue has generated such an overwhelming response. ~~Because of the complexity of indoor air quality issues and the unprecedented size of the rulemaking docket, organizing and responding to the comments in the record is a lengthy process.~~ ✓

Several

Many steps remain before a final IAQ standard could be published. OSHA must complete the preamble to the final rule, finish the final economic impact analysis, respond to comments in the record, prepare compliance assistance materials, obtain legal and policy review within the Department, work with the Small Business Administration to minimize any potentially significant small business impacts identified, and obtain OMB review. Modifications will occur throughout these reviews. Some reviews, such as OMB's, may be quite lengthy. Also, OSHA is considering reopening the IAQ rulemaking record, which would add months to the process. Moreover, OSHA must ensure that it has complied with all applicable laws related to the rulemaking process, such as the Paperwork Reduction Act, the Regulatory Flexibility Act, and the Administrative Procedure Act. ~~OSHA's current regulatory agenda does not anticipate the Agency promulgating a final standard in the near future, and any final rule would be subject to judicial challenge.~~ ✓

It should be noted that ETS is only one part of OSHA's IAQ proposal. OSHA intends to continue promulgation of a standard to address the broader issue of indoor air quality even if Congress chooses to address ETS by law. There are many other pollutants in indoor work environments that must be controlled in order to provide safe and healthful workplaces.

The Need for Comprehensive Tobacco Legislation ~~Congressional Action to Address ETS~~

The President has called on Congress to enact comprehensive tobacco legislation. On Sept. 17, the President announced five key elements that must be at the heart of national tobacco legislation.
«List 5 & highlight POTUS stmt on ETS»

tobacco

Proposed legislation to implement the tobacco settlement takes two distinct approaches that involve OSHA in reducing involuntary exposure to ETS. The first, and more common approach, has been to declare, in the law, that public facilities must have and implement smoke-free environment policies. ~~Examples of this type of bill include "The Healthy Kids Act" (S.1638), "The PROTECT Act" (S. 1530), and "The Universal Tobacco Settlement Act" (S.1415).~~ Most of these bills call on OSHA to enforce their requirements. The Agency favors this approach, because we believe that OSHA should have jurisdiction to enforce smoking restrictions in workplaces, most of which would be considered "public facilities" as defined in these bills. Each of these bills would be more effective and more readily implemented if the following provisions were included:

First, a Congressional finding that exposure to ETS causes health consequences that impose a substantial burden upon interstate commerce in terms of lost production, lost wages, medical expenses and disability compensation payments;

Second, clarification that the enforcement mechanisms in Sections 8 - 15 and 17 of the Occupational Safety and Health Act (OSH Act) will apply to all smoking restrictions. OSHA would expect its State Plan partners to enforce smoking restrictions equivalent in scope and content to those in Congressional legislation. Congressional direction to this effect would allow the states who operate their own occupational safety and health programs to expedite their assumption of this responsibility. And, since OSHA's enforcement authority would be broadened by the legislation to cover building owners and lessees who are not necessarily employers, and building entrants who are not necessarily employees, Congress should clarify OSHA's enforcement authority for smoking restrictions.

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Third, a clear statement that any legislation does not preempt any existing or future federal, State or local ordinance or regulation that is more protective. In this area with broad public as well as workplace implications, it is necessary and appropriate to specify that OSHA coverage does not preempt overlapping state and local regulation where another entity's smoking regulations are at least as protective as those in the legislation.

Fourth, clarification as to whether OSHA's jurisdiction to enforce the legislation is preempted by Section 4(b)(1) of the OSH Act. The intent of Congress to have OSHA enforce smoke-free policies on public transportation could be frustrated by Section 4(b)(1) of the OSH Act, which preempts OSHA jurisdiction over workplace conditions where another federal agency has exercised its statutory authority to prescribe or enforce regulations (as the Department of Transportation has done with respect to smoking on aircraft). Where Congress wants OSHA to enforce in areas beyond its current jurisdiction, it must specify such coverage.

Fifth, a clear and specific designation of covered facilities. S. 1638 and S. 1530, for example, do not clearly define "fast-food restaurant" and do not specify which facilities are considered "primarily maintained for children."

The main advantage of legislation that regulates ETS directly, and is not dependent upon further OSHA rulemaking, is that the requirements can be implemented expeditiously and enforced by OSHA. ~~OSHA regulation of ETS, in contrast, would require the Agency to meet the many time-consuming requirements of the OSH Act, the Paperwork Reduction Act, the Regulatory Flexibility Act, and the Administrative Procedure Act.~~

The Chairman's proposal, "The Preventing Addiction to Smoking among Teens Act" (S. 1648), directs OSHA to issue a final rule on indoor air quality within one year. Although OSHA

has already proposed a standard on IAQ and is in the process of developing a final rule, it is unrealistic to expect that a final rule can be published within one year, for two reasons. First, the rulemaking record for the IAQ proposal is enormous, containing over 115,000 comments. There are also new studies and information that must be considered. Analyzing a record of this size takes a great deal of time. And as I stated earlier, OSHA still has to complete the preamble to the final rule and the final economic impact analysis, prepare compliance assistance materials, obtain legal and policy review within the Department, work with the Small Business Administration, and obtain OMB review.

Second, the Agency must meet the requirements of the Regulatory Flexibility Act, the Paperwork Reduction Act, and the Administrative Procedure Act (APA). The burdens imposed by these laws on the regulatory process require extensive effort. OSHA would have difficulty complying with all of these obligations if held to a short timeframe for promulgation.

In addition, as I noted earlier, any OSHA rule is subject to pre-enforcement challenge on the basis that one or more of these many requirements have not been satisfied. Congress has recognized this difficulty in the past, and, in at least two instances, has waived certain procedural requirements. For example, in 1992, Congress passed legislation ("The Housing and Community Development Act", Pub. L. 102-550) requiring OSHA to issue a lead in construction standard within six months. In that bill, Congress specified that neither the procedural requirements of Section 6 of the OSH Act nor the notice-and-comment provisions of the APA would apply. In another instance, Congress waived notice-and-comment provisions when it directed OSHA to promulgate an interim standard on Hazardous Waste and Emergency Response Operations within 60 days ("Superfund Amendments and Reauthorization Act of 1986", Pub. L. 99-499). However,

~~none of the current pending bills on ETS includes such provisions.~~

Additional Considerations

Resources

The resource impact on OSHA of ETS legislation will depend on several factors, including the scope and timeframe of required OSHA regulatory action. A Congressional mandate for the Agency to publish a final rule on IAQ in 12 months would seriously disrupt Agency priorities and would almost certainly require OSHA to divert resources from other important health and safety initiatives. However, by limiting OSHA's required tasks during this timeframe, Congress could reduce the additional resources necessary to carry out the tasks. ✓

Enforcement

Where enforcement is required, Congress should consider the resulting penalties for violations of smoking restrictions. If the existing OSHA enforcement mechanism is used, penalties could range from zero dollars for a first-time, other-than-serious violation, to thousands of dollars for a serious, willful or repeat violation. For example, if OSHA responded to a complaint that an employee was violating the no-smoking policy of a workplace that was otherwise in compliance, then OSHA would likely classify that violation as "other-than-serious" and issue no monetary penalty. On the other hand, if OSHA found a facility without a no-smoking policy, where individuals were being exposed to ETS involuntarily, or where contaminated air from specially designated smoking areas was recirculated into the rest of the

building, then OSHA could classify that as a serious violation, and propose a penalty of up to \$7,000. In a case where a facility owner had repeatedly or willfully violated the law, OSHA could propose a fine of up to \$70,000.

Conclusion

The Administration

~~OSHA~~ is very supportive of Congressional efforts to reduce involuntary exposure to ETS. ✓
The legislation Congress considers can do much to prevent ETS-related heart disease, cancer, asthma, eye, nose and throat irritation, and other conditions. With its experience in protecting workers, OSHA is particularly well situated to assist. If the legislation is clear and specific, it will expedite OSHA's efforts.

Thank you again for the opportunity to present OSHA's views. I would be happy to answer any questions.

Dan Chanok

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can be promulgated. The IAQ rulemaking record is the largest ever in the Agency's history. No other issue has generated such an overwhelming response. ~~Because of the complexity of indoor air quality issues and the unprecedented size of the rulemaking docket, organizing and responding to the comments in the record is a lengthy process.~~ ✓

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Many steps remain before a final IAQ standard could be published. OSHA must complete the preamble to the final rule, finish the final economic impact analysis, respond to comments in the record, prepare compliance assistance materials, obtain legal and policy review within the Department, work with the Small Business Administration to minimize any potentially significant small business impacts identified, and obtain OMB review. Modifications will occur throughout these reviews. ~~Some reviews, such as OMB's, may be quite lengthy. Also, OSHA is considering reopening the IAQ rulemaking record, which would add months to the process.~~ ✓ Moreover, OSHA must ensure that it has complied with all applicable laws related to the rulemaking process, such as the Paperwork Reduction Act, the Regulatory Flexibility Act, and the Administrative Procedure Act. ~~OSHA's current regulatory agenda does not anticipate the Agency promulgating a final standard in the near future, and any final rule would be subject to judicial challenge.~~ ✓

It should be noted that ETS is only one part of OSHA's IAQ proposal. OSHA intends to continue promulgation of a standard to address the broader issue of indoor air quality even if Congress chooses to address ETS by law. There are many other pollutants in indoor work environments that must be controlled in order to provide safe and healthful workplaces.

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Proposed legislation to implement the tobacco settlement takes two distinct approaches that involve OSHA in reducing involuntary exposure to ETS. The first, and more common approach, has been to declare, in the law, that public facilities must have and implement smoke-free environment policies. ~~Examples of this type of bill include "The Healthy Kids Act" (S. 1638), "The PROTECT Act" (S. 1530), and "The Universal Tobacco Settlement Act" (S. 1415).~~ Most of these bills call on OSHA to enforce their requirements. The Agency favors this approach, because we believe that OSHA should have jurisdiction to enforce smoking restrictions in workplaces, most of which would be considered "public facilities" as defined in these bills. Each of these bills would be more effective and more readily implemented if the following provisions were included:

First, a Congressional finding that exposure to ETS causes health consequences that impose a substantial burden upon interstate commerce in terms of lost production, lost wages, medical expenses and disability compensation payments;

Second, clarification that the enforcement mechanisms in Sections 8 - 15 and 17 of the Occupational Safety and Health Act (OSH Act) will apply to all smoking restrictions. OSHA would expect its State Plan partners to enforce smoking restrictions equivalent in scope and content to those in Congressional legislation. Congressional direction to this effect would allow the states who operate their own occupational safety and health programs to expedite their assumption of this responsibility. And, since OSHA's enforcement authority would be broadened by the legislation to cover building owners and lessees who are not necessarily employers, and building entrants who are not necessarily employees, Congress should clarify OSHA's enforcement authority for smoking restrictions.

New
Policy
?

- 10 people in a
public facility

Third, a clear statement that any legislation does not preempt any existing or future federal, State or local ordinance or regulation that is more protective. In this area with broad public as well as workplace implications, it is necessary and appropriate to specify that OSHA coverage does not preempt overlapping state and local regulation where another entity's smoking regulations are at least as protective as those in the legislation.

Fourth, clarification as to whether OSHA's jurisdiction to enforce the legislation is preempted by Section 4(b)(1) of the OSH Act. The intent of Congress to have OSHA enforce smoke-free policies on public transportation could be frustrated by Section 4(b)(1) of the OSH Act, which preempts OSHA jurisdiction over workplace conditions where another federal agency has exercised its statutory authority to prescribe or enforce regulations (as the Department of Transportation has done with respect to smoking on aircraft). Where Congress wants OSHA to enforce in areas beyond its current jurisdiction, it must specify such coverage.

Fifth, a clear and specific designation of covered facilities. S. 1638 and S. 1530, for example, do not clearly define "fast-food restaurant" and do not specify which facilities are considered "primarily maintained for children."

The main advantage of legislation that regulates ETS directly, and is not dependent upon further OSHA rulemaking, is that the requirements can be implemented expeditiously and enforced by OSHA. ~~OSHA regulation of ETS, in contrast, would require the Agency to meet the many time-consuming requirements of the OSH Act, the Paperwork Reduction Act, the Regulatory Flexibility Act, and the Administrative Procedure Act.~~

The Chairman's proposal, "The Preventing Addiction to Smoking among Teens Act" (S. 1648), directs OSHA to issue a final rule on indoor air quality within one year. Although OSHA

has already proposed a standard on IAQ and is in the process of developing a final rule, it is unrealistic to expect that a final rule can be published within one year, for two reasons. First, the rulemaking record for the IAQ proposal is enormous, containing over 115,000 comments. There are also new studies and information that must be considered. Analyzing a record of this size takes a great deal of time. And as I stated earlier, OSHA still has to complete the preamble to the final rule and the final economic impact analysis, prepare compliance assistance materials, obtain legal and policy review within the Department, work with the Small Business Administration, and obtain OMB review.

Second, the Agency must meet the requirements of the Regulatory Flexibility Act, the Paperwork Reduction Act, and the Administrative Procedure Act (APA). The burdens imposed by these laws on the regulatory process require extensive effort. OSHA would have difficulty complying with all of these obligations if held to a short timeframe for promulgation.

In addition, as I noted earlier, any OSHA rule is subject to pre-enforcement challenge on the basis that one or more of these many requirements have not been satisfied. Congress has recognized this difficulty in the past, and, in at least two instances, has waived certain procedural requirements. For example, in 1992, Congress passed legislation ("The Housing and Community Development Act", Pub. L. 102-550) requiring OSHA to issue a lead in construction standard within six months. In that bill, Congress specified that neither the procedural requirements of Section 6 of the OSH Act nor the notice-and-comment provisions of the APA would apply. In another instance, Congress waived notice-and-comment provisions when it directed OSHA to promulgate an interim standard on Hazardous Waste and Emergency Response Operations within 60 days ("Superfund Amendments and Reauthorization Act of 1986", Pub. L. 99-499). However,

~~none of the current pending bills on ETS includes such provisions.~~

Additional Considerations

Resources

The resource impact on OSHA of ETS legislation will depend on several factors, including the scope and timeframe of required OSHA regulatory action. A Congressional mandate for the Agency to publish a final rule on IAQ in 12 months would seriously disrupt Agency priorities and would almost certainly require OSHA to divert resources from other important health and safety initiatives. However, by limiting OSHA's required tasks during this timeframe, Congress could reduce the additional resources necessary to carry out the tasks. ✓

Enforcement

Where enforcement is required, Congress should consider the resulting penalties for violations of smoking restrictions. If the existing OSHA enforcement mechanism is used, penalties could range from zero dollars for a first-time, other-than-serious violation, to thousands of dollars for a serious, willful or repeat violation. For example, if OSHA responded to a complaint that an employee was violating the no-smoking policy of a workplace that was otherwise in compliance, then OSHA would likely classify that violation as "other-than-serious" and issue no monetary penalty. On the other hand, if OSHA found a facility without a no-smoking policy, where individuals were being exposed to ETS involuntarily, or where contaminated air from specially designated smoking areas was recirculated into the rest of the

building, then OSHA could classify that as a serious violation, and propose a penalty of up to \$7,000. In a case where a facility owner had repeatedly or willfully violated the law, OSHA could propose a fine of up to \$70,000.

Conclusion

The Administration

~~OSHA~~ is very supportive of Congressional efforts to reduce involuntary exposure to ETS. The legislation Congress considers can do much to prevent ETS-related heart disease, cancer, asthma, eye, nose and throat irritation, and other conditions. With its experience in protecting workers, OSHA is particularly well situated to assist. If the legislation is clear and specific, it will expedite OSHA's efforts. ✓

Thank you again for the opportunity to present OSHA's views. I would be happy to answer any questions.

OSHA

F4E
Money

OSHA Aims To Boost Safety Of Store Clerks

By GLENN BURKINS

Staff Reporter of THE WALL STREET JOURNAL
WASHINGTON — The Occupational Safety and Health Administration released a set of voluntary guidelines aimed at reducing murders and injuries of clerks at convenience stores.

OSHA recommended that retailers install bullet-resistant glass, maintain video surveillance, install safes that employees can't access, and hire more workers during high-risk hours.

Although workplace homicides have decreased overall in recent years, those in the retail industry continue to rise and accounted for 48% of the 912 workplace murders in 1996.

Labor Secretary Alexis Herman called the guidelines a "common-sense approach" to reducing the hazards associated with keeping stores open late at night. "The statistics are shocking," she said. "Homicide is the No. 1 killer of women in the workplace and the second leading cause for all American workers. The risk is apparently greater for those who work at night in convenience stores, liquor stores and gasoline stations."

OSHA had been working to develop the guidelines for nearly two years. Some of the agency's specific recommendations are opposed by the National Association of Convenience Stores, whose spokeswoman, Lindsay Hutter, said there hasn't been enough research to determine if installing bullet-resistant glass and hiring two clerks during high-risk hours would reduce violence.

During a robbery, she said, two clerks might be more inclined to resist than a lone worker, increasing the likelihood of death or injury. And while bullet-resistant glass might protect a cashier, she said, it could force a desperate robber to seize a customer as hostage.

"A lot of people want to say this is about money," she said. "This is not about money. It gives us huge heartburn that the federal government is prepared to issue recommendations without the support of science."

As proof that its guidelines would work, OSHA officials in the past have pointed to Florida, which in 1992 passed a law requiring some late-night retailers to institute similar safeguards. The Florida statute applies only to stores that have had at least one violent incident.

According to the Florida Department of Law Enforcement, violent incidents at state convenience stores dropped to 3,345 in 1995 from just more than 5,000 in 1991. The state has since stopped keeping those statistics.

THE WALL STREET JOURNAL
WEDNESDAY, APRIL 29, 1998

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WHITE HOUSE STAFFING MEMORANDUM

Date: 6/3/98

ACTION / CONCURRENCE / COMMENT DUE BY:

Memorandum for the President from Secretary Shalala Regarding the
 Subject: Fiscal Year '96 Annual Report on Occupational Safety and Health

	ACTION	FYI		ACTION	FYI
VICE PRESIDENT	☐	☐	McCURRY	☐	☐
BOWLES	☐	☐	McGINTY	☐	☐
McLARTY	☐	☐	NASH	☐	☐
PODESTA	☐	☐	REED	☒	☐
MATHEWS	☐	☐	RUFF	☐	☐
RAINES	☐	☐	SMITH	☐	☐
BEGALA	☐	☐	SOSNIK	☐	☐
BERGER	☐	☐	SPERLING	☐	☐
BLUMENTHAL	☐	☐	STEIN	☐	☐
ECHAVESTE	☐	☐	STERN	☐	☐
EMANUEL	☐	☐	STREETT	☐	☐
GIBBONS	☐	☐	VERVEER	☐	☐
IBARRA	☐	☐	WALDMAN	☐	☐
KLAIN	☐	☐	YELLEN	☐	☐
LEWIS	☐	☐	_____	☐	☐
LINDSEY	☐	☐	_____	☐	☐
MARSHALL	☐	☐	_____	☐	☐
			_____	☐	☐

REMARKS: Please return report to the Staff Secretary's Office after review. If you would like a copy of this report to keep, contact this office. Thank you.

RESPONSE:

THE WHITE HOUSE
CORRESPONDENCE TRACKING WORKSHEET

INCOMING

DATE RECEIVED: APRIL 27, 1998

NAME OF CORRESPONDENT: MS. MARY BETH DONAHUE

98 MAY 21 AM 11:21

SUBJECT: SUBMITS MEMORANDUM FOR THE PRESIDENT FROM
SECRETARY SHALALA REGARDING THE FISCAL YEAR
'96 ANNUAL REPORT ON OCCUPATIONAL SAFETY
AND HEALTH

ROUTE TO: OFFICE/AGENCY	(STAFF NAME)	ACTION		DISPOSITION	
		ACT CODE	DATE YY/MM/DD	TYPE RESP	C COMPLETED D YY/MM/DD
TIM SAUNDERS		ORG	98/04/27		C 98/04/30
Phil Caplan	REFERRAL NOTE:	A	98/04/27		1/1
	REFERRAL NOTE:				
	REFERRAL NOTE:				
	REFERRAL NOTE:				
	REFERRAL NOTE:				

COMMENTS: ENCLOSURE

ADDITIONAL CORRESPONDENTS: MEDIA:L INDIVIDUAL CODES: _____

MI MAIL USER CODES: (A) _____ (B) _____ (C) _____

*ACTION CODES:	*DISPOSITION	*OUTGOING	*
*	*	*CORRESPONDENCE:	*
*A-APPROPRIATE ACTION	*A-ANSWERED	*TYPE RESP=INITIALS	*
*C-COMMENT/RECOM	*B-NON-SPEC-REFERRAL	*OF SIGNER	*
*D-DRAFT RESPONSE	*C-COMPLETED	*CODE = A	*
*F-FURNISH FACT SHEET	*S-SUSPENDED	*COMPLETED = DATE OF	*
I-INFO COPY/NO ACT NEC		*OUTGOING	*
*R-DIRECT REPLY W/COPY *			*
*S-FOR-SIGNATURE *			*
*X-INTERIM REPLY *			*

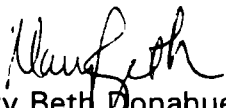
REFER QUESTIONS AND ROUTING UPDATES TO CENTRAL REFERENCE
(ROOM 75, OEOB) EXT-2590
KEEP THIS WORKSHEET ATTACHED TO THE ORIGINAL INCOMING
LETTER AT ALL TIMES AND SEND COMPLETED RECORD TO RECORDS
MANAGEMENT.



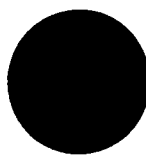
April 20, 1998

MEMORANDUM FOR ANNE MCGUIRE

Attached is a memorandum for the President from Secretary Shalala regarding the FY96 Annual Report on Occupational Safety and Health.


Mary Beth Donahue

Attachment

#26139/b 
APR 24 1998
Santors



THE SECRETARY OF HEALTH AND HUMAN SERVICES
WASHINGTON, D.C. 20201

APR 20 1998

The President
The White House
Washington, D.C. 20500

Dear Mr. President:

In accordance with Sections 22(f) and 26 of the Occupational Safety and Health Act of 1970 (Public Law 91-596), enclosed is the fiscal year (FY) 1996 annual report on occupational safety and health, prepared by the National Institute for Occupational Safety and Health (NIOSH), Centers for Disease Control and Prevention (CDC), Department of Health and Human Services.

As an organizational component of CDC, the Nation's prevention agency, NIOSH is responsible for ensuring the safety and health of American workers through research; investigation of health hazards; dissemination of findings; design, demonstration, and promotion of intervention strategies; recommendation of safety and health standards to the Department of Labor; and creation and maintenance of training programs.

Although the Nation has made substantial progress since the passage of the Occupational Safety and Health Act, worker safety and health remain serious public health problems in the United States, with thousands of workers suffering from occupational injury, disease, and death annually. In addition, a significant proportion of annual U.S. health care costs result from occupationally induced conditions.

The report describes NIOSH activities for FY 1996. Highlights include:

- Development of a National Occupational Research Agenda, with 21 priorities for occupational research in the next decade, in conjunction with more than 500 partners in industry, labor, academia, and government.
- Sponsorship of an Institute of Medicine study to synthesize available knowledge on health and safety implications of youth employment and provide a set of recommendations. Partners include the Robert Wood Johnson Foundation, the Environmental Protection Agency, the Occupational Safety and Health Administration and Employment Standards Administration of the

Department of Labor, and the School to Work Office, which is jointly administered by the Departments of Labor and Education.

- Targeting of actions to prevent silicosis in surface miners in conjunction with the Mine Safety and Health Administration, the State of Pennsylvania, and other partners.
- Announcement of two research grant Requests for Applications in the areas of nuclear-worker and construction-worker safety and health. NIOSH funded three grants totaling \$547,000 to investigate hazards at Department of Energy sites, as well as five grants totaling \$837,000 to study the effectiveness of intervention approaches in the construction industry.
- Addition of an eighth Center for Agricultural Disease and Injury Research, Education, and Prevention. The new Pacific Northwest Agricultural Safety and Health Center at the University of Washington will serve the Northwest region, serving workers in natural resource production.
- Funding of 14 educational resource centers at universities in 14 States. The programs provide multidisciplinary graduate and continuing education programs in occupational medicine, occupational health nursing, industrial hygiene, occupational safety/ergonomics, and research training. In addition, 37 single discipline training project grants received NIOSH support.

I appreciate Congress's continued interest in and support of occupational safety and health programs, and I hope the information contained in this report is helpful.

Sincerely,

A handwritten signature in black ink, appearing to read 'Donna E. Shalala', written over a horizontal line.

Donna E. Shalala

Enclosure

**REPORT ON
OCCUPATIONAL SAFETY AND HEALTH
FOR FISCAL YEAR 1996**

**PREPARED BY THE
NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH
CENTERS FOR DISEASE CONTROL AND PREVENTION
DEPARTMENT OF HEALTH AND HUMAN SERVICES**

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EXECUTIVE SUMMARY

The National Institute for Occupational Safety and Health (NIOSH) is an organizational component of the Centers for Disease Control and Prevention (CDC) within the Department of Health and Human Services. NIOSH has contributed research findings and recommendations for some of the Nation's most effective safety and health standards. In addition, NIOSH's recommendations are widely used by industries to voluntarily achieve safe and healthy workplaces. CDC is the only Federal agency responsible for research and prevention of workplace hazards.

Over the next ten years, the United States workforce is expected to grow from 125 million people to 145 million, become older, more racially diverse, and include a higher percentage (48 percent) of women. In general, workers in 1996 had a safer, more healthful working environment than their predecessors. Rates for fatal injuries dropped from seven per 100,000 workers in 1985 to 5.1 in 1995. During this period, there was a slight increase in the rate of nonfatal injuries from 7.9 per 100 full-time workers to 8.1 cases per 100 full-time workers.

While public health research has improved worker protection against lung disease from cotton dust, cancer from vinyl chloride, and reproductive disorders from glycol ethers, other health and safety problems persist. Since the mid-1980s, workers at risk for noise-induced hearing loss have seen little progress. Reducing exposure to lead and silica--two long-recognized occupational hazards--is a major challenge. At the same time, new hazards are emerging. The public is now aware of the threat of violence in the workplace. Deaths from homicide are the second leading cause of fatal injury on the job and the leading cause of work-related fatality for women. Another widely reported problem is repetitive strain injuries, which have tripled since the mid-1980s.

These occupational illnesses and injuries place an enormous burden on workers, their families, and the economy. The National Safety Council estimated that work injuries cost \$119 billion in medical costs and lost wages in 1995. Another recent study estimated total costs of work injuries and illnesses in 1992 to be \$174 billion (3 percent of the Gross Domestic Product).

NIOSH has reduced work-related injuries and illnesses by conducting research, publishing recommendations, and training professionals in occupational safety and health. During fiscal year 1996, NIOSH accomplished the following:

- Development of a National Occupational Research Agenda, with 21 priorities for occupational research in the next decade, in conjunction with more than 500 partners in industry, labor, academia, and government.
- Sponsorship of an Institute of Medicine study to synthesize available knowledge on health and safety implications of youth employment and provide a set of recommendations. Partners include the Robert Wood Johnson Foundation, the

Environmental Protection Agency, the Occupational Safety and Health Administration and the Employment Standards Administration of the Department of Labor, and the School to Work Office, which is jointly administered by the Departments of Labor and Education.

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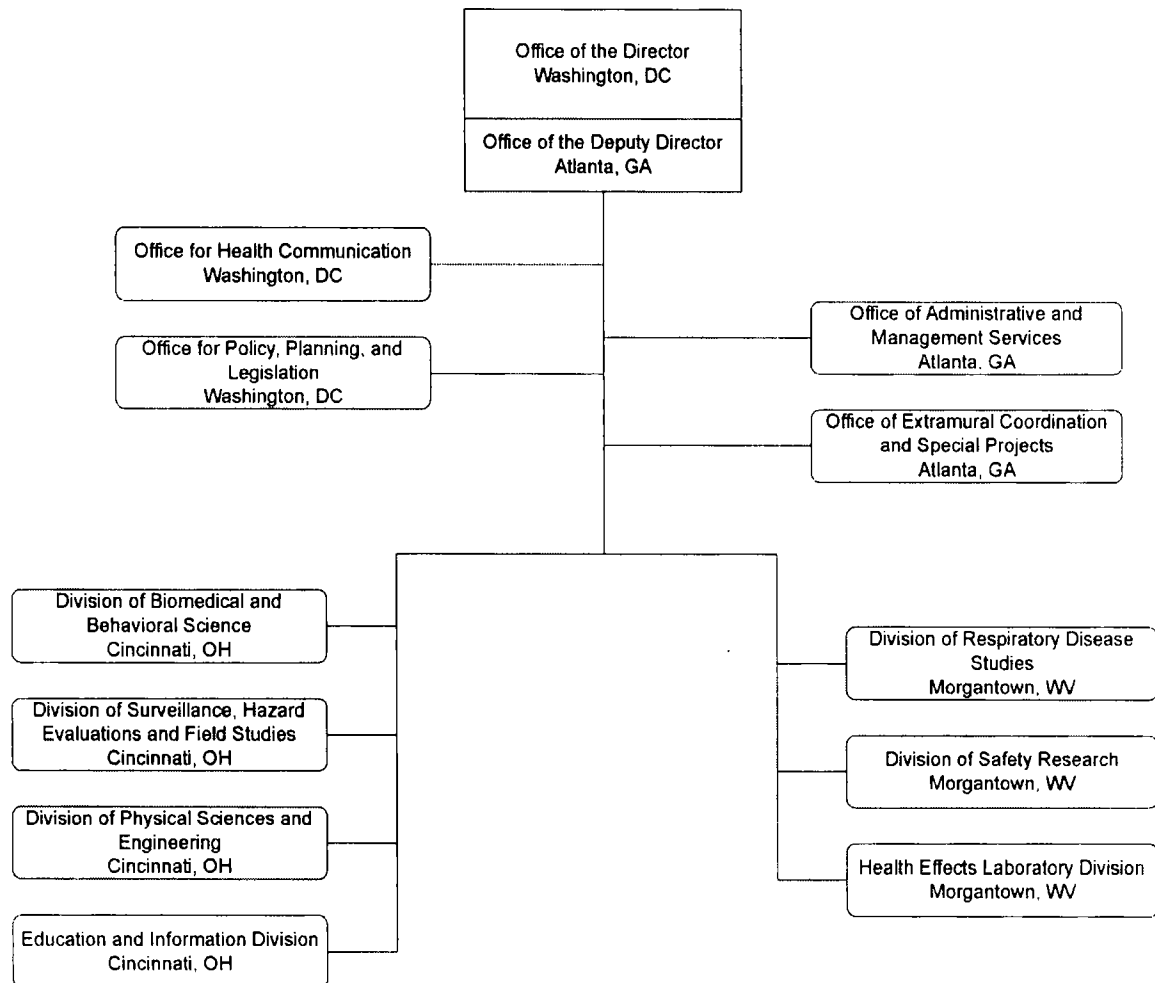
INTRODUCTION

The workplace environment profoundly affects workers' health. Each day, 137 individuals die from work-related diseases and 16 workers die from injuries on the job. Every five seconds a worker is injured. Every ten seconds a worker is temporarily or permanently disabled. In 1995, occupational injuries cost \$119 billion in lost wages, productivity, and health care costs. The same year, employers reported 6.6 million nonfatal injuries and illnesses.

Congress enacted the Occupational Safety and Health Act "to assure so far as possible every working man and woman in the Nation safe and healthful working conditions and to preserve our human resources." This Act established NIOSH to conduct health research and make recommendations for preventing occupational illness and injury and requires the Occupational Safety and Health Administration (OSHA), Department of Labor, to promulgate regulations and enforce health and safety standards in the workplace. In FY 1996, NIOSH's budget was \$129 million and NIOSH staff numbered 958.

NIOSH Organization Chart FY96

National Institute for Occupational Safety and Health



NIOSH MAJOR ACCOMPLISHMENTS IN FY 1996

RESEARCH

Identifying Problems in the Workplace

Fatal Injuries. NIOSH conducts Fatality Assessment and Control Evaluation (FACE) investigations to understand factors that contribute to or cause deaths from work injuries. Recommendations developed from FACE investigations alert employers, workers, safety and health professionals, and other government agencies of potentially hazardous situations that could lead to fatal injury. NIOSH supports fatality investigations in 20 State health departments. In FY 1996, NIOSH investigators conducted 135 investigations of work-related fatalities. Lessons learned from these investigations led to prevention efforts in the areas of falls from heights, machine-related incidents, and logging-related fatalities. Fatality investigations have been useful in examining firefighters killed on the job. In FY 1996, NIOSH initiated investigations of the circumstances in which firefighters were killed and injured in California, Colorado, New Jersey, and Wisconsin. NIOSH distributed to fire departments and local governments an Alert on protecting firefighters from fatal injury and respirator failure.

Nonfatal Injuries. NIOSH studies nonfatal injuries--those resulting in medical treatment in an emergency department--through a cooperative agreement with the Consumer Product Safety Commission. NIOSH estimated that 3.4 million workers in the U.S. were treated in hospital emergency departments for occupational injuries during 1996. In FY 1996, NIOSH researchers worked with States to develop software to standardize occupation and industry information and make it easier to compare data and observe trends.

Updating Mortality Data with Work-Related Lung Diseases. NIOSH published the 1996 Work-Related Lung Disease (WoRLD) report that summarizes occupational respiratory disease mortality data for pneumoconioses (occupational lung diseases from inhalation of dust including asbestosis, coal workers' pneumoconiosis, silicosis, byssinosis, and unspecified/other pneumoconioses). This is the first lung disease report that provides comprehensive State and county data.

The report covers mortality during the 25-year period between 1968 and 1992. Based on an analysis of death certificates, at least 100,890 persons died as a result of pneumoconiosis (or pneumoconiosis contributed to the death). This figure does not represent all work-related lung diseases because these diseases are frequently misdiagnosed or not recognized as the underlying cause of death. Pneumoconiosis mortality in the U.S. has declined gradually over the past two decades due to a number of factors, including the regulation of dust exposures, implementation of engineering controls, and improved health care. However, work-related lung disease continues to be an entirely preventable problem. Highlights of this report include the following:

Coal workers' pneumoconiosis (CWP) deaths outnumber all types of pneumoconiosis, representing nearly 60 percent of the deaths over the 25-year period. Nearly all CWP deaths were associated with employment in the coal mining industry and were concentrated in coal-producing States. About two-thirds of all U.S. CWP deaths occurred among Pennsylvania mining residents.

Silicosis deaths represent nearly 15 percent of all pneumoconiosis deaths in the United States. Unlike CWP and asbestosis, silicosis deaths are not concentrated by geographic region or by industry.

Asbestosis deaths represent 10 percent of pneumoconiosis deaths during the 25-year period and have increased from fewer than 100 to nearly 1,000 annually. During the past three years, they appear to have leveled off. Asbestosis deaths are concentrated in coastal areas and may be associated with shipbuilding. Nearly one-fourth of all U.S. asbestosis deaths occur among California and New Jersey mining residents.

Byssinosis deaths, compared to other pneumoconioses, remain very few in number--less than 20 annually. Byssinosis mortality is concentrated in the textile producing States of North and South Carolina.

State-Based Surveillance of Work-Related Injuries and Illnesses. NIOSH supports surveillance activities in 14 States addressing 12 occupational conditions, diseases, and injuries. State health department staff conduct in-depth investigations of injuries and illness problems, and recommendations from these investigations are widely publicized. For example, during FY 1996, after receiving reports of carbon monoxide poisoning resulting from indoor use of gasoline-powered engines, NIOSH published information to warn about this potential hazard. NIOSH is developing control devices that can be installed on small engines to prevent carbon monoxide emissions.

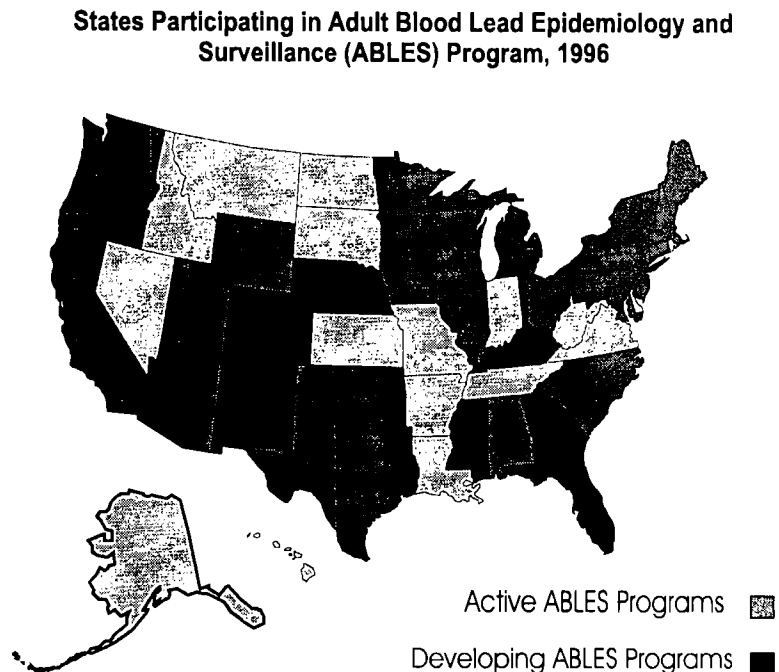
The following table summarizes the participating States and respective reported conditions:

State	Type of Surveillance Program
California	Tuberculosis, occupational asthma
Colorado	Carbon monoxide, work-related burns
Illinois	Silicosis
Massachusetts	Carpal tunnel syndrome, childhood injuries, occupational asthma
Michigan	Noise-induced hearing loss, occupational asthma, silicosis
Minnesota	Amputations
New Jersey	Cadmium overexposure, tuberculosis, occupational asthma, silicosis
New York	Pesticide health effects, tuberculosis
North Carolina	Silicosis
Ohio	Dermatitis, silicosis
Oregon	Dermatitis, pesticide health effects, work-related burns
Texas	Pesticide health effects, silicosis
Washington	Dermatitis
Wisconsin	Carpal tunnel syndrome, silicosis

Surveillance of Department of Energy (DOE) Workers. NIOSH supports research grants (\$1.6 million in FY 1996) to develop models for conducting hazard and medical surveillance of workers exposed to radiation and other hazardous agents at defense, nuclear, and other energy-related facilities. These models provide state-of-the-art approaches to hazard and medical surveillance for workers at these facilities and may be adaptable to other workplaces. Scientists at the Universities of Washington, Cincinnati, Colorado, California, and Oak Ridge Associated Universities in Tennessee are conducting this research.

Surveillance of Lead Exposures. Lead exposure has been recognized as an occupational problem since ancient times. Today it continues to be a significant problem for workers, as exposures may result in anemia, nervous system, gastrointestinal, and reproductive disorders.

To identify cases of elevated blood lead levels (above 25 $\mu\text{g/dL}$), the level at which such health effects can occur, NIOSH operates a surveillance program in 27 States. Seven additional states (Colorado, Florida, Georgia, Kentucky, Mississippi, Nebraska, and New Mexico) are developing reporting capacity and will participate in the future. Based on 1996 data, NIOSH estimates that nationally, more than 18,000 adults had blood lead levels equal to or greater than 25 $\mu\text{g/dL}$. More than five percent had blood lead levels above 50 $\mu\text{g/dL}$, the level at which OSHA requires medical removal until the worker's blood lead levels are reduced. This surveillance information is being used to target control technology and education interventions.



Worksite Safety and Health Research

NIOSH conducts research among workers to understand the causes and factors associated with illnesses and injuries. Research is conducted in partnership with workers, employers, academia, and other government agencies. Because workers are often exposed to higher hazardous levels of substances for longer periods of time, what is learned in occupational health research can be invaluable for understanding larger-scale environmental health problems.

Blood Cell Suppression in Benzene-Exposed Workers. Benzene has long been recognized as a cause of certain blood disorders, including leukemia. NIOSH researchers analyzed blood tests taken over a 35-year period from 657 benzene-exposed workers and found that benzene exposure was strongly related to a low white blood cell count, and to a lesser extent, related to a low red blood cell count. The results of this study support the current OSHA standard requiring companies to monitor blood levels for benzene-exposed workers.

Musculoskeletal Injuries in Health Care Facilities. Health care work is one of the five most hazardous occupations, with rates for injuries (mostly musculoskeletal) approaching 10 per 100 full-time employees. Researchers from NIOSH, the Washington University School of Medicine, and the University of Wisconsin-Milwaukee assisted two nursing homes in establishing employee-management teams that developed safety interventions. These interventions resulted

in a 70 percent decrease in lost or restricted workdays, with a savings of nearly \$70,000 in annual workers' compensation costs. NIOSH is continuing to study the use of employee-management teams in the health care industry because of their potential for preventing illnesses and injuries and the associated costs.

Characteristics of Healthy Work Organizations. NIOSH and Corning Incorporated are examining workplace factors that can improve employee morale and productivity. Employees who participated in stress management classes developed by NIOSH and Corning reported fewer stress symptoms, increased coping ability, and fewer work/family problems. Climate surveys from over 1,500 Corning employees indicated that management practices, culture, and corporate values were linked to worker well-being and performance. These results will form the basis of recommendations for creating a healthy workplace.

Workplace Immune Responses. NIOSH researchers conducted medical tests among workers at a Georgia egg-processing plant to study immune system changes among workers exposed to egg proteins, a common allergen. While none of the nonexposed workers were allergic, more than one-third of the exposed workers developed allergies. NIOSH recommended that the plant improve its ventilation systems and change work practices to prevent further exposures. Information from this study will be used to prevent adverse health effects in workers who use powdered eggs in bakeries, restaurants, and food processing facilities.

Reproductive Changes in Military Intelligence Radar Operators. In an ongoing response to an Army request, NIOSH researchers are studying soldiers in various military jobs to determine whether certain work exposures can affect soldiers' ability to have children. NIOSH found that soldiers who operated military intelligence radar systems had lower sperm counts than other men on the same military base. Last year, a similar study found no reproductive effects among soldiers who used traditional communications radar. Information from both studies has been shared with the Army, which is evaluating Army work practices to prevent reproductive problems.

Laboratory Research

NIOSH conducts laboratory research to evaluate hazards under controlled conditions, develops technology and information for worksite research, and develops and evaluates protective measures. Much of what is known about the causes and mechanisms of work-related disease has been learned through laboratory research. By examining the effects of toxins and hazards on cellular, biological, physical, and mental functions in the laboratory, researchers are able to design appropriate health studies and prevention measures.

Exposure to Antimony. NIOSH estimates that 250,000 workers (about 25 percent of whom are women) may be exposed to antimony in the manufacture of paints, glass, fire retardants, and semiconductors. Epidemiologic studies show an association between exposure to antimony and

cardiovascular disease. To find out how this health effect occurs, NIOSH researchers examined heart cells exposed to antimony compounds and discovered that antimony can block entry of calcium into cells, inhibiting contraction. Results were published in the scientific literature.

A Model for Studying Reproductive Toxicants. Although field studies show that some workplace exposures can cause reproductive disorders, information is not always available for predicting how much damage will result from a given exposure level. In FY 1996, NIOSH researchers developed a laboratory model that enables researchers to determine how much male fertility damage (i.e., sperm count decreases) will result at certain blood lead levels. This new model is available for research on other suspected reproductive toxicants.

New Technology

NIOSH conducts worksite and laboratory research to develop procedures and equipment for controlling and measuring occupational safety and health hazards. NIOSH assists employers and small businesses in designing safe workplaces to reduce exposure to hazards. NIOSH develops, identifies, and evaluates effective engineering controls and work practices used in a variety of processes and industries. In addition, NIOSH laboratory researchers develop and improve methods to analyze airborne toxic substances found in the workplace.

Electronic Processing for Respirator and Coal Mine Dust Personal Sampler. NIOSH has developed an electronic system to manage the respirator certification process. This system enables manufacturers to submit applications electronically, reduces the number of records and drawings required for certification, and provides NIOSH with quick access to approval information when responding to public information requests or worksite problems.

New Standards for Assessing Hearing Protector Effectiveness. NIOSH estimates that over 30 million American workers are exposed to damaging noise levels. Most of these workers rely on hearing protection devices to prevent hearing loss. NIOSH researchers developed a new method for testing hearing devices that more accurately measures a device's ability to reduce worksite noise. The new method was published in the American National Standards Institute's consumer guidelines for selecting hearing protection.

Measuring Exposures During Lead Paint Abatement. Portable monitoring methods for measuring workers' exposures in the field greatly improve researchers' and employers' ability to identify hazardous exposure levels since they provide instant feedback. They are less expensive than measuring methods that require laboratory analysis. NIOSH developed three field methods for analyzing lead samples. These have been approved by the American Society for Testing and Materials (ASTM) Subcommittee on Abatement of Lead Hazards, established at the request of the Department of Housing and Urban Development to develop national consensus standards for measuring lead levels among abatement workers.

Intervention and Control Technology Research

NIOSH conducts research to evaluate the effectiveness of existing approaches to reduce or eliminate hazards that cause injury or illness in workers. These prevention measures may involve a technological solution, such as finding a safe substitute for a more hazardous substance, or changing the workplace process or design. A special program was established to assist small businesses, which often lack in-house safety and health professionals.

Automatic Roll-Over Protection Devices for Tractors. Tractor-related injuries are the leading cause of agricultural machinery-related fatalities. NIOSH researchers developed a new protection system that automatically deploys in the event of a roll-over. The new device will be effective in low-clearance areas, such as orchards or animal confinement buildings where traditional designs are too tall. It can also be retrofitted to older equipment. NIOSH researchers have applied for a patent for this device.

Ergonomic Interventions Soft Drink Delivery Workers. According to the Bureau of Labor Statistics, workers who deliver beverages have more than twice as many lost workdays than workers in general manufacturing jobs (18.5 per 100 workers in 1992). NIOSH researchers devised engineering controls that reduced biomechanical stressors and decreased heart rates among workers who used them over a period of time. In FY 1996, NIOSH published a report, *Ergonomic Interventions for the Soft Drink Beverage Delivery Industry*, that describes study findings and provides photographs and illustrations of the alternative designs.

New Device for Evaluating Protective Clothing. NIOSH researchers invented a quick, effective technique for assessing protection levels for fabric used in chemical protective clothing. The method, which measures cloth thickness, will be useful at the worksite for determining whether worn chemical protective clothing is still protective. This technique can be used by manufacturers during quality assurance processes. NIOSH researchers have applied for a patent for this measuring technique.

Extramural Research Grants and Cooperative Agreements

NIOSH sponsors innovative extramural research that complements its intramural research program. NIOSH makes grant awards that are judged to be scientifically sound, related to program priorities, and that will ultimately be of practical value in solving workplace problems.

Research Grants FY96



Total of 81 Research Grants in 26 States for \$13,536,910

Research Grants. In FY 96, NIOSH supported an extramural grants program of approximately \$13.5 million. With these funds, NIOSH supported 81 grants that involved laboratory and field studies. NIOSH receives and reviews research grant applications through a NIOSH study section at the National Institutes of Health.

Special Emphasis--Health Services Research. NIOSH expanded funding to a major new extramural research program in health services research. Health services research provides information on costs, outcomes, accessibility, and other factors associated with health services. This information helps policymakers identify effective health services and prevention programs. In FY 1996, two new grants were awarded to the New England Medical Center and the University of Pittsburgh. The total research effort in FY 1996 was \$2.1 million.

Cooperative Agreements. Cooperative agreements permit NIOSH to arrange collaborative surveillance and research opportunities with State health departments, universities, labor unions, and nonprofit organizations. In FY 1996, NIOSH awarded \$27.3 million to 126 cooperative agreements in 34 States and four countries. These funds supported research efforts primarily in agriculture, construction, fatal and nonfatal occupational injury, and occupationally-related tuberculosis.

State and Health of Youth at Work

Prevention of Injuries Among Working Youths. NIOSH research has found that workers 18 years of age and younger are at higher risk for severe injury than adult workers. Each year, about 70 youths are killed at work and 64,000 are injured or develop a work-related illness. The occupational injury rate for youths 15 to 17 years of age is estimated at 5.8 per 100 full-time workers. Research has shown that parents, youth, and employers are unaware of the hazards faced by working youths and of the hour and job restrictions on youth employed in their State.

To address health and safety hazards among working youths, NIOSH awarded a total of \$458,000 to the University of California at Berkeley, the Massachusetts Health Research Institute, Inc., and the University of California at Los Angeles to promote awareness of occupational safety and health hazards affecting adolescent workers. Local advisory boards consisting of school officials, teachers, students, parents, and employers were formed in each of the three participating communities to identify information needs and develop communication programs. A compendium of curriculum materials developed by these groups was published in FY 1997.

National Committee for Childhood Agricultural Injury Prevention. A partnership comprised of representatives from the Health Resources and Services Administration, the Maternal and Child Health Bureau, the National Farm Medicine Center, and agribusinesses, universities, and farm households, published a report outlining a national action plan for reducing illnesses and injuries among farm children. Every year, an estimated 100,000 children working on or visiting farms are injured. Children on farms are also exposed to pesticides, chemicals, airborne irritants, noise, vibration, infectious diseases, and stress. In FY 1997, NIOSH initiated a program that responds to the Committee's recommendations.

Agriculture

The agriculture industry in the United States employs approximately 3.4 million full-time workers; including part-time employees, about 7.7 million persons work in agriculture. Workers are exposed to a wide variety of chemical, biological, and physical hazards each day. Agricultural workers have the fourth highest fatal injury rate (18.3 deaths per 100,000 workers for 1980-89) and the third highest nonfatal injury rate (10.2 injuries per 100 full-time workers).

Farmers are at high risk for fatal and nonfatal injuries, work-related lung diseases, noise-induced hearing loss, skin diseases, and certain cancers associated with chemical use and prolonged sun exposure. Farmers also experience chronic diseases such as cardiovascular disease, hypertension, hearing loss, and asthma. Every day, approximately 500 agricultural workers suffer disabling injuries, about half resulting in permanent impairment. Farming is one of the few industries in which the families (who often share the work and live on the premises) are also

at risk for injuries, illness, and death. Each year nearly 300 children are killed in agriculture-related activities, and approximately 23,000 children and adolescents are injured. To address these problems, NIOSH funds research, training, and outreach programs in agricultural communities in 20 States. The following five programs make up NIOSH's extramural agricultural safety and health program:

Agricultural Safety Promotion System. This intervention program, funded at just under \$1.2 million in FY 1996, is designed to reduce agricultural injury. Projects target 195,483 farmers, agricultural employees, and schoolchildren in rural areas. Programs have addressed musculoskeletal problems among tree nursery workers in California, educated children about agricultural safety in Missouri, designed incentive-based hazard abatement and worker training programs in New York, created surveillance systems and developed targeted training materials in Ohio, and promoted engineering interventions for dairy farms in Wisconsin.

Agricultural Research and Training Centers. The Centers, funded at \$4.6 million in FY 1996, provide a multidisciplinary approach to agricultural safety and health through a network of regional centers throughout the United States. In FY 1996, NIOSH established the eighth center in this network in the Pacific Northwest to address regional agricultural health and safety concerns, including those from fishing and logging activities. This Center is located at the University of Washington, Department of Environmental Health, in Spokane. The other Agricultural Research and Training Centers are located in California, Colorado, Texas, Iowa, Wisconsin, Kentucky, and New York.

Community Partners for Healthy Farming. In FY 1996, NIOSH awarded \$1.8 million dollars to 15 institutions in 13 States to conduct community-based health and safety surveillance and to evaluate pilot interventions designed to prevent work-related injuries and illnesses in farm workers and their families. Interventions targeted in this initiative include tractor-related injuries and fatalities, musculoskeletal disorders among farm and migrant workers, and childhood safety.

Cancer Control in Farmers. NIOSH provided \$250,000 in FY 1996 to provide cancer screening and education and other prevention activities among farmers in nine States (Georgia, Nebraska, Delaware, Maryland, North Carolina, West Virginia, Minnesota, California, and Virginia). Another three States (Michigan, Wisconsin, and Iowa) are concluding research funded in FY 1995. Articles focusing on cancer control activities were published in a Supplemental 1996 issue of the Journal of Rural Health (Vol. 12, No. 4).

Farm Family Health Hazard Survey. NIOSH is funding health surveys in six States (California, Colorado, Iowa, Kentucky, New York, and Ohio) at just under \$2 million in FY 1996. Preliminary data from Ohio and New York show inadequate use of shields on tractor power take-off shafts, a high prevalence of tractors lacking roll-over protection, inadequate security locking of chemical storage areas, and unsafe placement of fuel storage. Only one-fifth of farmers surveyed report ever receiving any prevention training. Few farmers receive onsite occupational health and safety consultations. Final reports from these surveys were published in FY 1997.

Construction

There are more than 7 million construction workers in the U.S., of whom 1.5 million are self-employed. Ninety percent of the 636,000 construction companies employ fewer than 50 workers. One thousand construction workers are killed on the job every year--more than in any other industry. Construction injuries are responsible for 15 percent of all workers' compensation costs. Few construction companies have formal health and safety programs. Construction workers are also at risk for exposure to hazards such as lead, asbestos, and silica. NIOSH and the construction industry are collaborating on new strategies to reduce worker injuries and illnesses.

Reducing Exposure to Silica. As part of an ongoing partnership with the Mining Safety and Health Administration (MSHA) to reduce exposure to silica, NIOSH researchers tested employees at a ground silica plant in Arkansas and found that almost 40 percent of the workers had evidence of silicosis. MSHA staff assessed environmental dust levels and work practices at the plant. Both agencies provided recommendations, which included establishing a medical monitoring program and specific measures for controlling dusts, to the company, workers' representatives, the Arkansas Department of Health, and the National Industrial Sand Association.

Preventing Exposures Among Road Workers. NIOSH researchers developed ventilation systems in a project funded by the Federal Highway Administration and carried out in cooperation with equipment manufacturers. The new ventilation measures will help prevent exposure to asphalt fumes, which can cause irritation and potentially more serious health effects such as cancer. NIOSH published *Engineering Control Guidelines for Hot Mix Asphalt Pavers*, a brief, illustrated handbook describing the new ventilation system.

Preventing Falls and Overexertion in Scaffold Use. Residential and commercial construction workers who use scaffolds are exposed to an increased risk of falls and overexertion. The fatality rate for scaffold workers (33 deaths per 100,000 workers) is much higher than the construction industry average. NIOSH researchers are studying engineering solutions that make scaffolds easier to use.

Small Business

Small businesses, those with fewer than 50 employees, frequently lack access to occupational safety and health information. Furthermore, small businesses often lack the financial and technical resources to develop prevention programs. Since 1986, NIOSH has conducted engineering studies to assist small businesses. To reach owners and workers in these businesses, NIOSH and its partners conduct worksite and intervention research.

Reducing Carcinogen Exposures in the Dry-Cleaning Industry. The dry-cleaning industry has more than 30,000 establishments in the United States, mostly small businesses. About 90 percent of U.S. dry-cleaners use perchloroethylene, a solvent associated with elevated rates for

cancers of the urinary tract, bladder, esophagus, pancreas, and colon. During FY 1996, NIOSH compared the effectiveness of engineering controls and interventions designed to change employee work practices at plants in Kentucky and Ohio. Findings to reduce cancer risk will be shared with dry-cleaning workers, owners, and managers.

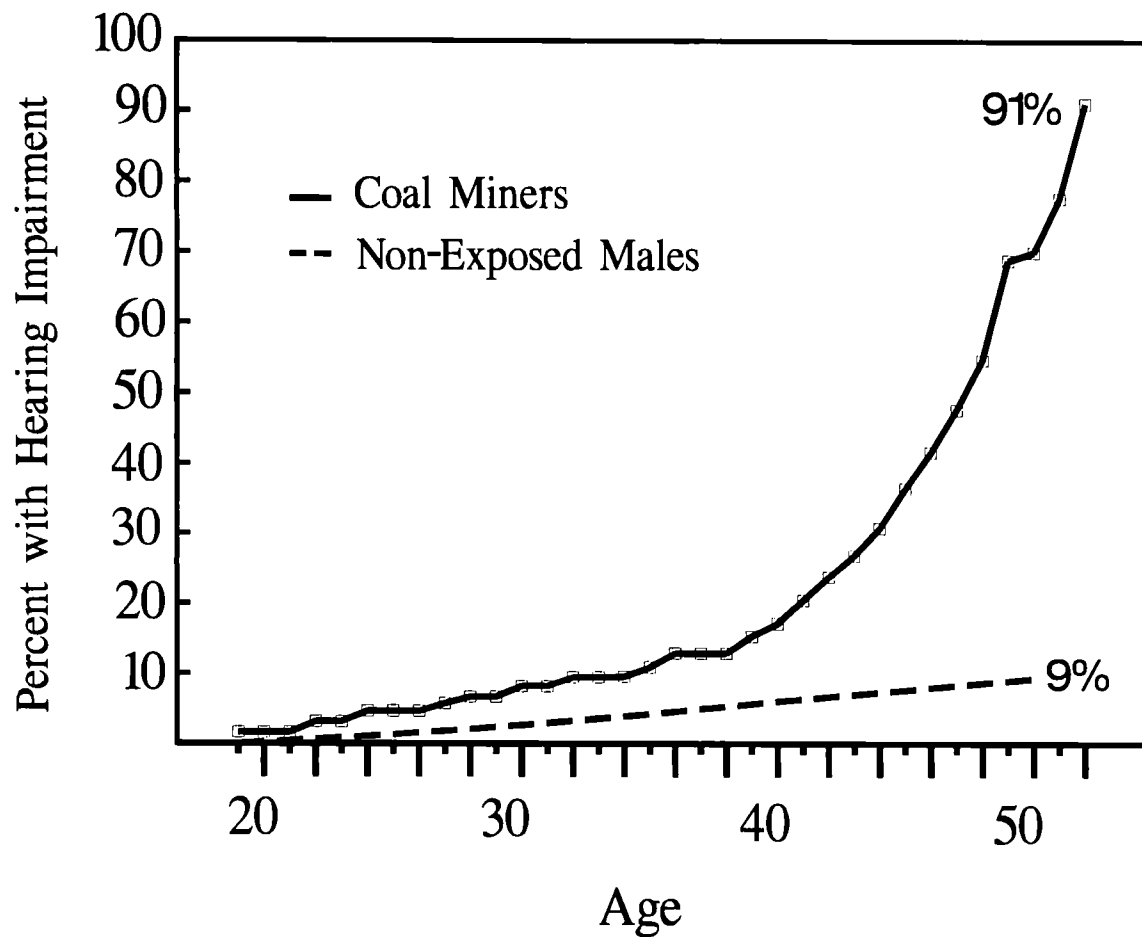
Controlling Airborne Emissions in Commercial Printing Operations. About 1.3 million workers are employed in print shops having fewer than 20 employees. To address concerns about excessive exposures to solvents used for cleaning printing equipment, NIOSH engineers designed a system that reduces vapors and dusts by about 80 percent. Exposure to these solvents can cause neurotoxic effects, cardiovascular disease, and reproductive disorders. This information is being published in the scientific literature, trade journals, and printing industry newsletters. NIOSH researchers are also providing technical assistance to print shops during installation of this control technology.

Mining

Approximately 400,000 miners are employed in more than 11,000 surface and underground mines in the U.S. Each year, an estimated 2,000 miners die from lung diseases caused by exposure to coal mine dust. The Federal Black Lung Program paid over \$18 billion to beneficiaries in the 1980s. Miners are at risk for fatal and nonfatal injuries and have the highest rate of fatal injuries of all U.S. industries.

Preventing Silicosis. Pennsylvania ranks first among States in mortality and potential years of life lost from silicosis. To address the ongoing need to eradicate this preventable disease, NIOSH, the Pennsylvania Department of Health, Pennsylvania State University College of Medicine, and Altoona Hospital (a Pennsylvania Chronic Respiratory Disease Center) tested 667 surface miners and found that about nine percent showed early signs of silicosis. A greater percentage of the miners had other lung impairment. Pennsylvania is funding follow-up medical care to miners with early signs of the disease. Plans are underway to expand similar intergovernmental and joint community efforts to prevent silicosis.

Protecting Miners' Hearing. NIOSH researchers, in collaboration with the Mine Safety and Health Administration, analyzed more than 20,000 hearing tests from 4,000 miners. The study showed that coal miners have hearing loss levels that are between 2.5 and 3 times greater than those for the control population. Coal miners had hearing loss within the first few years of exposure to mine noise, and by age 50 more than 90 percent of coal miners had hearing impairment that affected daily communication. This information is being used to alert miners, mine safety professionals, and the mining industry of the severe consequences of noise exposure in mines and of the need for more diligent efforts to minimize exposures.



Comparison of percent of males with hearing impairment: male coal miners vs. general population of non-noise exposed males

Energy-Related Health Research

In FY 1996, NIOSH received approximately \$5 million to conduct research among workers employed in energy-producing industries. Under a Memorandum of Understanding with the Department of Energy, NIOSH oversees contract studies that evaluate health risks to energy workers. In addition, NIOSH funds cooperative agreements and grants that examine the relationship between agents used in energy production (beryllium, plutonium, asbestos, chemical exposures, electric and magnetic fields, heat) and health outcomes, including cancers and respiratory disease.

Identifying Cancers Among Uranium Workers. Under a NIOSH contract, researchers found that workers exposed to ionizing radiation had an increased risk of dying of lung cancer at two DOE facilities. NIOSH held public meetings at both sites to notify workers, management, and DOE of these findings. NIOSH is planning further research to understand the association between lung cancer and exposure to ionizing radiation and chemicals.

Surveillance of DOE Workers. NIOSH funded the second year of a five-year, \$1.6 million research grant program to develop models for conducting hazard and medical surveillance among workers exposed to radiation and other hazardous agents at nuclear facilities and other energy-related industries. Grant recipients are the University of Washington, the University of Cincinnati, the University of Colorado, Oak Ridge Associated Universities, and the University of California.

Negative Findings Among Uranium Enrichment Workers. Researchers evaluating worker exposures to ionizing radiation, uranium, fluoride, nickel, and magnetic fields found no increases in overall or specific causes of death compared to the U.S. population. These findings were also reported to the workers, plant management, and DOE. Additional analyses of specific cancers were done during FY 1997.

Radiation Research Methods Conference. In FY 1996, NIOSH, the National Center for Environmental Health, and the Department of Energy cosponsored the American Statistical Association's Conference on Radiation and Health. Presentations at the meeting addressed radiation risk assessment, statistical methodology, and mechanisms research. This conference is part of an ongoing partnership with NIEHS to conduct laboratory research to understand the health effects associated with electric and magnetic fields.

New Partnerships

Surveillance of Acute Pesticide Poisonings. NIOSH is collaborating with the Council of State and Territorial Epidemiologists, the EPA, CDC's National Center for Environmental Health, and six States with pesticide poisoning surveillance programs (Arizona, California, New York, Oregon, Texas, and Washington) to promote standard methods for States to identify and

investigate acute pesticide poisoning incidents. In FY 1996, NIOSH researchers investigated an outbreak of acute poisonings that was ultimately determined to be the result of mislabeling. NIOSH notified EPA of the problem, and the labels have been corrected.

United States Fire Administration. NIOSH has an interagency agreement with the United States Fire Administration to investigate fatal and nonfatal injuries to firefighters and emergency responders using the Fatality Assessment and Control Evaluation (FACE) model. The investigations will identify work situations that can result in death or injury to responders and will be used to formulate and publish prevention strategies. Investigations will be conducted in California, Colorado, New Jersey, and Wisconsin.

National Restaurant Association. The food service industry employs approximately 9.4 million workers in the United States. Food service workers are at risk for slips and falls, cuts, burns, and lifting injuries. To prevent these injuries, the largest trade association in the industry, the National Restaurant Association and its affiliated Educational Foundation, are conducting on-the-job safety and health training for about 2,000 restaurant workers. NIOSH is assisting in evaluating the effectiveness of the training to demonstrate health and cost benefits for restaurants.

Vocational Schools. During FY 1996, NIOSH increased its involvement in promoting occupational safety and health practices in vocational and technical school curricula. The program is designed to help vocational, technical, and post-secondary industrial school teachers and administrators transfer occupational safety and health information, hazard recognition, and control strategies to their students through standard curricula.

International Health Projects

Training Physicians in Occupational Respiratory Disease. NIOSH worked with the International Labour Office (ILO) to develop an international program for training physicians in the developing world in the prevention and recognition of dust-induced occupational lung diseases. This program emphasizes primary prevention, medical screening, and surveillance, and was conducted in the Czech Republic, Mexico, Brazil, Russia, Ukraine, Turkey, Africa, Vietnam, Peru, Venezuela, Thailand, and Chile.

Bilateral Agreements. Agreements between occupational safety and health research agencies around the world enable researchers to share information and recommendations for preventing worker illness and injury. During FY 1996, NIOSH initiated bilateral agreements with the South African National Centre for Occupational Health and the Health Council of the Netherlands. NIOSH renewed the existing bilateral agreement with the National Institute for Working Life in Sweden.

SERVICES AND RECOMMENDATIONS

Health Hazard Evaluations. During FY 1996, NIOSH responded to 285 requests from employers, employees, and Federal, State, and local agencies to examine potential hazards in the workplace. Because each worksite is unique, NIOSH assembles multidisciplinary teams that include physicians, industrial hygienists, engineers, and other safety and health professionals to conduct the evaluations. Findings and recommendations, which are nonregulatory in nature, are provided to management, labor, and other interested parties (such as State or local health and safety agencies). Health hazard evaluations also enable NIOSH to offer recommendations to prevent exposures to newly discovered hazards for which regulations may not yet exist to establish research priorities, and to examine trends in potential hazards.

Special focuses of the health hazard evaluation program in FY 1996 included studies of pesticide exposures among workers at a crop dusting company in Grady, Arkansas; risk of tuberculosis transmission at a hospital in Miami, Florida; allergies and flu-like symptoms among workers at a livestock show in Denver, Colorado; pesticide poisoning among Fish and Wildlife inspectors handling preserved animal hunting trophies; and lead exposures during firearms training at the FBI Academy in Quantico, Virginia.

NIOSH 1-800 Number. In FY 1996, NIOSH received 83,700 calls on its toll-free information number. States with the greatest number of callers were California, Ohio, New York, Texas, Pennsylvania, Florida, and Illinois. The information requested most frequently was related to chemicals and solvents, respirators and respiratory effects, analytical sampling methods, safety and injuries, violence and homicides, NIOSH databases, and OSHA, MSHA, and EPA regulations.

Publications. NIOSH authors published 183 peer-reviewed journal articles, 68 health hazard evaluation reports, and 126 technical reports during FY 1996. The NIOSH publications clearinghouse sent out nearly 400,000 copies of occupational safety and health publications. The most popular publication, as in other years, was the NIOSH Pocket Guide to Chemical Hazards. Over 40,000 copies of the Pocket Guide were distributed.

Databases. NIOSH maintains several databases on occupational safety and health research, including a literature database (NIOSHTIC) and the Registry of Toxic Effects of Chemical Substances (RTECS). NIOSH Alerts and State Profiles are available on the World Wide Web. NIOSH publications are available on the Internet (pubstaft@niosdt1.em.cdc.gov).

Reducing Asthma from Chemical Exposures. About 280,000 U.S. workers are exposed to diisocyanates in the manufacture of foams, fibers, coatings such as paints and varnishes, elastomers, and building insulation. The NIOSH ALERT, *Request for Assistance in Preventing Asthma and Death from Diisocyanate Exposures*, describes cases of asthma, other respiratory diseases, and deaths resulting from occupational exposure to diisocyanates and recommends product substitution and engineering controls for preventing exposure.

Preventing Silicosis and Deaths in Construction Workers. NIOSH published the Alert, *Request for Assistance in Preventing Deaths from Silicosis in Construction Work*, that describes the risks of silicosis--a serious and sometimes fatal occupational respiratory disease--from poorly controlled exposure to respirable crystalline silica in construction settings. The Alert includes examples of hazardous exposures in drilling, blasting, sawing, chipping, hammering, and other construction tasks.

Reducing Exposure to Metalworking Fluids. NIOSH released the draft, *Criteria for a Recommended Standard: Occupational Exposures to Metalworking Fluids*, for comments from industry, organized labor, public interest groups, health professionals, and other government agencies. Based on research showing that metalworking fluids are associated with asthma, cancers, and dermatological disorders, NIOSH is proposing a new recommended exposure limit that is ten times lower than the current OSHA standard. NIOSH is soliciting written and oral comments on the health effects of metalworking fluids and the technical feasibility of the proposed recommendation before forwarding it to the Department of Labor.

Preventing Carbon Monoxide Poisoning. NIOSH published the Alert, *Preventing Carbon Monoxide Poisoning from Small Gasoline-Powered Engines and Tools*, to raise awareness about the risks for carbon monoxide poisonings resulting from widespread use of small gasoline-powered engines and tools in enclosed or confined spaces. This Alert is the joint product of NIOSH, the Colorado Department of Public Health and Environment, the U.S. Consumer Product Safety Commission, OSHA, and EPA.

Violence Current Intelligence Bulletin. NIOSH released a Current Intelligence Bulletin that describes findings on workplace violence. NIOSH found that the number of workplace homicides rose during the 1990s to become the second leading cause of occupational injury death after motor vehicle accidents. Risk factors include routine contact with the public or exchange of money, working alone or in small numbers, working late or very early hours, and working in high crime areas. The taxicab industry has the highest risk of workplace homicides, nearly 60 times the national average rate. Health care, community service, and retail workers are at risk for nonfatal assaults. The report recommends strategies for reducing risks associated with handling money and working closely with customers in a variety of settings.

EMFs in the Workplace Fact Sheet. NIOSH published a four-page summary to inform workers about the health effects of occupational exposure to electric and magnetic fields (EMFs). While some studies have suggested a potential link between EMF exposure and adverse health risks, more research in this area is needed. DOE, NIOSH, and NIEHS are collaborating under the Research and Public Information Dissemination (RAPID) Program to conduct research and publish findings that will answer questions about EMF exposures.

Comments and Testimony. NIOSH provides comments to Federal agencies on proposed regulations based on its research findings. During FY 1996, NIOSH provided comments to the Department of Labor regarding occupational injury and illness recording and reporting requirements, occupational exposure to 1,3-butadiene, indoor air quality, powered industrial truck operator training, respiratory protection, voluntary guidelines for employers and workers in

night retail establishments, and occupational exposure to methylene chloride. NIOSH also provided comments and testimony to EPA, DOE, HUD, FDA, the California Department of Health Services, and the Federal Communications Commission.

TRAINING AND EDUCATION

The Occupational Safety and Health Act requires NIOSH to ensure that an adequate supply of well-trained professionals are available to carry out the purposes of the Act. Since 1971, NIOSH training programs have provided support for the majority of occupational safety and health professionals trained.

Educational Resource Centers (ERCs) & Training Project Grants (TPGs).

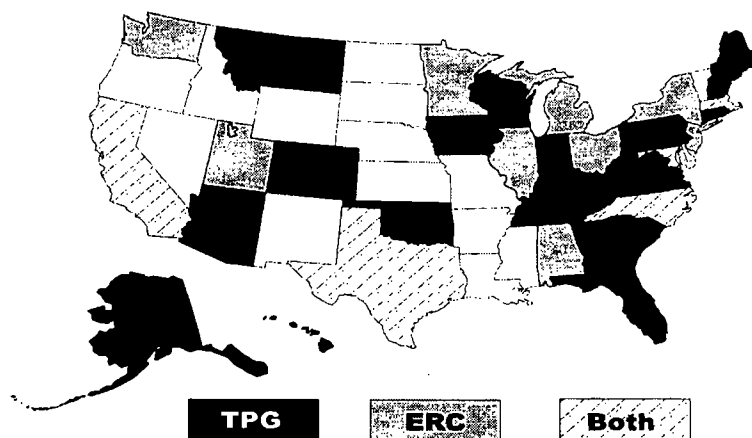
ERCs meet national and regional needs for trained occupational safety and health professionals and serve as regional resources for professionals in industry, labor, government, and academia. In FY 1996, NIOSH awarded \$9,152,000 to 14

universities that provide multidisciplinary graduate and continuing education programs in occupational medicine, occupational health nursing, occupational safety/ergonomics, and industrial hygiene. In addition, NIOSH provided \$2,343,000 to 37 single-discipline TPGs that provide training in these fields, as well as in marine safety, construction safety, physician assistance, health promotion, and ergonomics. In the academic year 1994-95, the latest year for which data were available, NIOSH-supported programs graduated 769 occupational safety and health professionals.

Educating Physicians in Occupational Health and the Environment (EPOCH-Env). The goal of this program is to promote and integrate occupational medicine into medical education. NIOSH funded six workshops for primary care training faculties. Fifty-one physicians responsible for training residents attended the workshops.

Project Minerva. Through Project Minerva, NIOSH works with business schools and companies to educate future owners and managers about the importance of occupational safety and health. Educational materials are available through Minerva's home page on the Internet (<http://www.minerva.org>).

Training Project Grants and Educational Resource Centers FY96



Safety and Health Awareness for Preventive Engineering Project (Project SHAPE).

Project SHAPE is a collaboration among NIOSH, engineering professional societies, and schools to enhance the education of engineers in occupational safety and health. With the expert assistance of engineering school faculty, NIOSH is developing 3 new instructional modules -- Fire Protection Engineering, Radiation Control, and Risk Assessment and System Safety.

Vocational Schools. NIOSH developed new training modules aimed at high school and vocational school students. Through cooperative agreements with the University of California at Berkeley, UCLA, and the Massachusetts Department of Public Health, NIOSH initiated three pilot community projects involving local high schools, parents, teachers, students, and employers to promote community awareness of safety and health issues for young workers. In collaboration with the American Vocation Association, NIOSH is developing a series of safety and health modules to introduce hazard recognition and control strategies into vocational instruction programs.

Small Businesses. Through a \$75,000 cooperative agreement with the Minority Health Professions Foundation of Morehouse Medical College, NIOSH is designing a series of occupational safety and health courses for small business managers to be offered at historically black colleges. NIOSH and the Minority Health Professions Foundation held a workshop to promote occupational safety and health seminars for small business operators.

International Association of Firefighters. NIOSH provided \$2.1 million to support training for 4,723 firefighters and emergency responders through a cooperative agreement with the International Association of Firefighters. The program trains firefighters and emergency responders in procedures to handle emergencies that involve hazardous materials such as chemical spills.

Hazardous Waste Clean-up Workers. A major concern of the U.S. government during the next decade will be remediation and clean-up of hazardous waste disposal sites, including nuclear power and weapons plants. NIOSH funded \$173,000 in cooperative agreements to the National Environmental Education and Training Center affiliated with Indiana University of Pennsylvania and West Virginia University to train clean-up workers.

Surface Mine Workers. NIOSH investigators found that silica exposure is more widespread than previously thought. To raise awareness of the hazard of silica exposure, NIOSH and MSHA developed a training video and conducted seminars in Pennsylvania for surface miners and operators, mine inspectors, and State health department personnel.

American Psychological Association. The American Psychological Association (APA) and NIOSH expanded a postdoctoral training program in occupational health psychology. This program trains organizational and clinical psychologists to design healthy work environments and provide counseling on occupational stress. NIOSH and APA hosted an international conference that addressed stress and workplace violence.

Lead Paint Abatement. Title X of the Housing and Community Development Act requires that all lead-based paint activities be carried out by individuals who meet minimum training requirements and are certified through an EPA-approved program. NIOSH provided grants totaling \$500,000, which were used to train 650 workers and supervisors in safe procedures for lead paint abatement.