S. HRG. 102-239

WORKERS' FAMILY PROTECTION ACT OF 1991

HEARING

BEFORE THE

SUBCOMMITTEE ON LABOR

OF THE

COMMITTEE ON LABOR AND HUMAN RESOURCES UNITED STATES SENATE

ONE HUNDRED SECOND CONGRESS

FIRST SESSION

ON

S. 353

TO REQUIRE THE DIRECTOR OF THE NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH TO CONDUCT A STUDY OF THE PREVALENCE AND ISSUES RELATED TO CONTAMINATION OF WORKERS' HOMES WITH HAZARDOUS CHEMICALS AND SUBSTANCES TRANSPORTED FROM THEIR WORKPLACE AND TO ISSUE OR REPORT ON REGULATIONS TO PREVENT OR MITIGATE THE FUTURE CONTAMINATION OF WORKERS' HOMES, AND FOR OTHER PURPOSES

JULY 26, 1991

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WORKERS' FAMILY PROTECTION ACT OF 1991

FRIDAY, JULY 26, 1991

U.S. SENATE,
SUBCOMMITTEE ON LABOR, OF THE COMMITTEE ON LABOR AND HUMAN RESOURCES,
Washington, DC.

The subcommittee met, pursuant to notice, at 9:30 a.m., in Room SD-226, Dirksen Senate Office Building, Senator James M. Jeffords, presiding.

Present: Senators Metzenbaum and Jeffords.

Senator JEFFORDS. I will call this hearing to order. Senator Metzenbaum has been delayed. He will be here later. On the other hand, I know we have witnesses that are ready to testify, and thus I believe we ought to proceed.

Without objection, I would like to include Senator Metzenbaum's opening statement in the record.

[The prepared statement of Senator Metzenbaum follows:]

PREPARED STATEMENT OF SENATOR METZENBAUM

Senator METZENBAUM. This morning's hearing of the Labor Subcommittee focuses on S. 353, the Workers' Family Protection Act. I commend Senator Jeffords, the ranking member of this subcommittee for his leadership on this bill, and for his dedication to the cause of protecting workers, their families and the environment. I am pleased and proud to join with my colleague from Vermont in sponsoring this legislation.

In 1970, Congress enacted OSHA to assure safe and healthful working conditions for every working man and woman in this country. Although we have had some success in moving toward this goal, the modern workplace remains full of danger. On an average American workday, 28 workers are killed, and over 4,600 men and women suffer disabling injuries. Unfortunately, there are still some employers who put corporate profits ahead of human life and limb.

OSHA, which has been amended only once in 20 years, is in desperate need of overhaul. I have been working hard with Senator Kennedy to draft a comprehensive OSHA reform bill which would address many of the current problems. We plan to introduce the bill next week.

Safety accidents involving modern machinery and industrial processes are all too common in our factories today. But safety accidents tell only half the story. Workers also face deadly health hazards such as asbestos, mercury and lead, among other, in the workplace each day.

It is bad enough that workers are exposed to these toxic agents. but workers may be unwittingly contaminating their families by bringing these toxic substances home from work. We must do all that we can to protect workers' children and spouses from these deadly hazards.

This bill is a first step to prevent such future contamination. It is a first step to prevent such future contamination. It is designed to increase worker awareness of this problem. It also mandates that the National Institute for Occupational Safety and Health sponsor studies that explain how such deadly contamination has occurred in the past, so that it can be prevented in the future.

I look forward to reviewing the testimony of today's witnesses. I would like to extend a particular welcome to Mr. Gordon Banks, who is here from Akron, OH, on behalf of the American Industrial Hygiene Association.

If there are particular problems with the legislation, I am sure we can make the necessary adjustments. I pledge to work with my colleague, Senator Jeffords, to bring this bill before the Senate.

Opening Statement of Senator Jeffords

Senator Jeffords. I will just make a couple of brief comments before we start. This is a situation that we're looking at today which has not really been looked at before. I know I sat on the committee that negotiated the Clean Air Act, where we investigated very carefully the risks created by air pollution at the perimeters of factories, where we were interested in the kinds of risks that were created to individuals living at the plant perimeters and not in the situations where we were investigating risks of an individual who was there 24-hours a day for a lifetime, practically, and trying to reduce the risk to factors of one-in-10,000 or one-in-a-million.

We also have standards within the plant wherein we do allow the risk to employees at a much greater risk, in the sense of terms of one-in-5,000 or whatever.

But today, we are going to look at a difficult and interesting situation, and yet a much greater risk situation than certainly the first one I mentioned, where we are looking into what happens when people who are exposed to risk within the plant, for whatever reason, then remove that risk-creating element and carry it with them home and expose the members of the family or the worker themselves to risk by virtue of what they have carried from the plant home.

This is an area where we believe there is a need for study, a need to understand as the kind of risks that have been created and are being created in the workforce by the worker coming home and carrying those risks with them.

It is an area where we will have evidence today demonstrating that there is, in many circumstances, a considerable risk created.

I am very pleased to have with us today a former colleague of mine, for whom I have great respect for, who served with me on the Education and Labor Committee in the House of Representatives and has been a leader in this particular issue as well as others to try and ensure that we as a society do all we can to

reduce unnecessary risks, not only to workers, but also to the family of workers.

So I am very pleased to welcome to this committee Representative Cass Ballenger. It is a pleasure to hear from you, and I look forward to your testimony.

Please proceed.

STATEMENTS OF HON. CASS BALLENGER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NORTH CAROLINA; AND DR. MARC GUERRA, LENOIR, NC

Mr. BALLENGER. Thank you, Senator. It is quite a pleasure to be with you again on issues that involve us both. I have some news articles that I would like entered in the record.

Senator JEFFORDS. Yes, without objection. Obviously if I don't object, nobody will this morning, so we will put it in. [Laughter.]

Mr. BALLENGER. Then I have a very short statement, if I may. Let me thank you for providing me the opportunity to appear before this subcommittee. As the House sponsor for this legislation, I am pleased to see action on this important issue. After hearing the testimony, I feel sure that the House Education and Labor Committee will want to take a closer look at my bill.

Also, Mr. Chairman, following my testimony, the subcommittee will be hearing from Dr. Marc Guerra, a physician from Lenoir, NC. Dr. Guerra has a number of patients who have become ill from contaminated work clothing entering the home.

I have worked with Dr. Guerra on a case in my Congressional district, and strongly believe the subcommittee will benefit from his insight and experience in this area.

I became interested in the issue of workers carrying contaminants home on their clothing or footwear because of reports of a home contamination at Caldwell Systems, Incorporated, CSI, a hazardous waste incinerator in Hudson, NC.

CSI opened in 1977 and burned waste through 1988. Initially, processing local industrial chemicals, the plant began to burn more toxic waste including Navy torpedo fuel called Otto Fuel II. CSI employed 80 workers, and the employees received little or no training about the toxic nature of the materials they handled. After years of complaints from the Caldwell residents and plant workers, the facility was closed.

Although the CSI incinerator was said to be in substantial compliance with the environmental laws, damage to vegetation and livestock surrounding the plant showed otherwise. Even worse, employees at the plant suffered severe health problems.

The Environmental Protection Agency and the Agency for Toxic Substance and Disease Registry found that the plant was a significant health threat for the workers, their families, and nearby residents. Several workers now suffer severe brain damage as a result of working at the plant.

As a study of employees who worked at CSI by the ATSDR found, not only were the employees experiencing adverse health problems, but their families were too. The child of one worker developed asthma, apparently from the work clothes worn home by his father.

Our physician friend suggested that the work clothes should not be worn or laundered at home. Once this change was made, the asthma stopped and the child has remained in good health.

In another case, the wife of a CSI worker had a child with multiple congenital defects, including a club foot. Chromosome studies for the parents were normal, and one doctor believes that the possible exposure of some type of workplace chemical early in the pregnancy may have caused the birth defects.

The contamination of the families of the workers who use hazardous materials is preventable. The bill introduced by Senator Jeffords and my bill in the House are simple steps toward protecting the health and safety of those workers and their families.

The Senate and House bills are identical. The legislation asks for a Federal study to thoroughly review all current laws and regulations regarding workers' home contamination. The study would be made up of case studies, and the case studies would review recent incidents to determine why they happened and the long-term effects. Also, NIOSH and the Secretary of Labor could conduct evaluations of home contamination of workplace chemicals.

It is good legislation and deserves the support of this committee, and I strongly urge its adoption.

I have several news articles that I mentioned that I would like put in the record.

Thank you, Mr. Chairman. I will be happy to answer questions.

[The news articles from Mr. Ballenger follow:]

The Charlotte Observer

Caldwell Systems Inc.'s History

■ **May 1976:** Caldwell County opens the incinerator, responding to requests from local furniture manufacturers and other industries needing a legal way to dispose of chemical wastes.

■ **January 1977:** Saying it was losing money, county commissioners close the incinerator and announce they are looking for a company to operate it. The county had built the facility for $300,000. Annual operating costs were $35,000. First-year revenues: $2,500.

■ **March 1977:** Commissioners vote unanimously to lease the incinerator to Caldwell Systems Inc.

■ **January 1980:** The federal Resource Conservation and Recovery Act, passed in 1978, goes into effect. Hazardous-waste plants already in operation, like CSI, have until 1984 to apply to state environmental agencies for an operating permit.

■ **1984:** CSI submits its permit application to the state. The same year, state botanist Roy Gorman conducts his first study of vegetation near the plant. He finds extensive damage to plants, which he says was caused by incinerator emissions.

■ **January 1986:** Caldwell County commissioners, responding to recurring complaints from residents, appoint a committee to study the incinerator's operations.

■ **February 1986:** CSI's permit application is sent back a sixth time by state environmental officials, who say it still lacks necessary details about the waste being burned. James Scarborough of the EPA's Atlanta regional office writes a letter to N.C. environmental officials, recommending the state consider closing the plant.

■ **September 1987:** The county's incinerator study committee asks Caldwell County Health Director Marjorie Strawn to declare the plant an "imminent health hazard" and order it closed. The committee has studied state and federal regulatory records, heard testimony from employees who say they dumped thousands of barrels of waste in the county landfill and talked to workers and their physicians who say exposure to chemicals at the plant made them sick.

■ **September 1987:** N.C. Health Department officials tell Strawn that if she attempts to close the plant, CSI will likely sue and win. She takes no action.

■ **November 1987:** A waste-storage tank at the plant explodes. Investigators say the explosion may have been caused by lightning and that no hazardous chemicals were released. Caldwell County commissioners decide to sue to evict CSI from the county-owned land.

■ **February 1988:** In an out-of-court settlement of the eviction suit, CSI agrees to convert the plant to a hazardous-waste storage and treatment plant in July.

■ **September 1989:** A fire starts in a waste bin and fumes drive 250 nearby residents from their homes. More than 50 are hospitalized.

■ **November 1989:** Strawn declares the plant an imminent health threat and obtains a court order to close it. The last load of waste is shipped out Dec. 2.

EPA probes CSI site

LENOIR NEWS-TOPIC / TUESDAY, MAY 22, 1990

By BRENT CHILDERS
Staff Writer

HUDSON — A team of Environmental Protection Agency officials ascended Lick Mountain Monday to investigate potential health threats from contamination at the defunct Caldwell Systems Inc. toxic waste treatment facility.

The EPA began Monday morning conducting extensive tests to gather additional information. The results will be used to determine whether the site will be placed on the EPA's National Priorities List of hazardous waste sites.

Previous testing during a two-year EPA criminal investigation of CSI showed hazardous waste contamination on- and off-site at the facility in the soil, soil gas and groundwater.

The tests that began Monday will determine the severity of contamination, said Susan Deihl, chief of the EPA's Assessment Unit in the federal agency's Atlanta, Ga., offices.

In addition, Deihl said workers with the national Agency for Toxic Substances and Disease Registry in Atlanta will be on-site today to begin evaluating any immediate health or environmental risks, which may be posed by the contaminated site.

Deihl said the investigation was begun after the EPA recently received "new information and new allegations" concerning the contamination at the site.

She said the investigation is also a result of U.S. Rep. Cass Ballenger's request for additional inquiry into CSI.

Ballenger objected to the EPA's decision last December to close the criminal investigation into CSI. The EPA at that time ruled to close the two-year investigation, saying it did not have adequate evidence to seek prosecution in the case.

Ballenger and local residents met in Hickory with EPA offi-

cials and doctors from the national registry last month to discuss their concerns over the potential health threat associated with the contamination.

Deihl said the investigation that began Monday is not to be considered a reopening of the previous EPA criminal investigation.

She said the investigation this week will pick up where that investigation left off but that it is concerned primarily with what contamination exists at the facility — not how it got there.

The county's landfill is part of this investigation because of past allegations that CSI shipped half-emptied barrels to the landfill and because it's located on the same property as the CSI facility, Deihl said.

The former EPA criminal investigation uncovered several partially filled barrels of hazardous waste in the landfill but has not linked any of those barrels to CSI.

Deihl said another aspect of this week's investigation relates to the EPA's administrative order sent to the county and CSI last month.

The EPA at that time issued an administrative order that called for the county, as owner of the property, and CSI, as operator of the facility, to begin cleaning up.

Caldwell Systems Inc., owned by Charles Foushee of Lenoir, burned as much as 18 million pounds of toxic waste a year at the site from 1977 to 1988. The incinerator was shut down amid fierce protests from residents in May 1988.

The facility, which Foushee leases from the county, was then converted to a toxic waste storage plant. But it, too, was closed last December after a September chemical fire sent 250 residents fleeing from their homes.

The facility is located on top of Lick Mountain near Hudson. It is adjacent the county landfill.

The Mount Herman community, with more than 100 homes, lies at the foot of the mountain — less than a half-mile from the facility.

Deihl said the administrative order mandates that the county and CSI must take steps to clean up the contamination once its extent has been determined.

It will be either up to the county or CSI, or both, to perform their own tests to determine the extent of the contamination and studies to determine how best to clean it up.

Deihl said the EPA's work this week will be separate from any tests or studies the county or CSI will have to perform. She said the investigation this week will be used to certify those tests or studies performed by the county or CSI.

County officials are still concerned about what role the county will have to play in the cleanup.

They argue CSI should be solely responsible — the same position the state's Solid and Hazardous Waste Division has taken under its closure process.

The closure process, governed by the state, began when the company closed. It calls for much of the same cleanup procedures dictated in the EPA administrative order, but is a separate process from the EPA action.

Mike Lane, the county's hazardous waste inspector, gave a report on this week's investigations to county commissioners at their meeting Monday.

If the EPA determines that the contamination poses an immediate threat to residents or the environment, Lane said the county or CSI, or both, could be ordered to begin immediate cleanup procedures.

Ballenger says GAO investigates handling of Caldwell waste site

HUDSON (AP) – The U.S. General Accounting Office has begun an investigation into the Caldwell Systems Inc. hazardous waste facility ordeal, said Congressman Cass Ballenger.

The GAO told Ballenger that it has started a study that will in part review the adequacy of current laws regulating the nation's hazardous waste facilities, according to a statement released by Ballenger Thursday.

"Mr. Ballenger would also like to see the study review whether the Environmental Protection Agency or state health officials should have stepped in to close the CSI facility," the statement reads.

The GAO has assigned two full-time investigators to the case, according to the release.

In 1990, the U.S. Environmental Protection Agency and federal Center For Disease Control announced site and health investigations at the defunct Lick Mountain facility near Hudson.

The report on May samplings at the site was released in November of 1990, showing "significant" soil contamination and groundwater contamination at the site.

EPA officials said they believe, based on the findings, that the contamination on site does not pose an immediate threat to Mount Herman community residents, who live about a ¼-mile below the facility.

Associated Press

Cass Ballenger

The report recommended that the site be included on the federal Superfund cleanup program's National Priority List.

CSI, owned by Charles Foushee of Lenoir, leased the county-owned facility from 1977 to 1988 as the state's only commercially operated toxic waste incinerator. It closed in May 1988 after years of protest from residents.

It was converted into a toxic waste treatment facility. But that operation was shut down under court order in September 1989 following a chemical fire that sent residents fleeing from their homes.

EPA calls CSI waste plant a health threat

Staff and wire reports

CHARLOTTE – The state's health director acknowledged that "inaction" in regulating a Caldwell County chemical waste incinerator threatened the health of workers and nearby residents.

At a news conference in Charlotte on Wednesday, the federal Environmental Protection Agency and Centers for Disease Control announced a "health advisory" saying they want to examine all former Caldwell Systems Inc. plant workers, their families and residents who lived near the plant atop Lick Mountain in Hudson.

The announcement comes as the state struggles to locate a new hazardous waste incinerator to handle waste from five Southeastern states, and to reassure the public it will properly regulate the new plant.

The CSI incinerator burned waste from 1977 until 1988. During that time, state environmental officials maintained the plant was "in substantial compliance" with environmental laws and it posed no threat to human health.

North Carolina Health Director Dr. Ronald Levine said Wednesday the state's inaction was "regrettable."

"I and all of us are really very disappointed, retrospectively."

See THREAT on page 6A

Federal health officials on Wednesday said that CSI posed a serious health threat to its former workers.

Threat

—Continued from page one

that the various agencies, including our own, were unable to prevent significant, physical, adverse health effects to our citizens," Levine said.

"We believe we understand many of the deficiencies at the time in both the regulatory apparatus and a number of other things that we believe have been corrected and others will be corrected."

Physicians with the federal Agency for Toxic Substances and Disease Registry are now examining former CSI employees. So far, they've concluded that five of the approximately 80 CSI workers "have medically documented health problems that may have been caused by exposure to wastes handled at CSI."

The workers suffer from toxic encephalopathy, said Dr. Michael Straight, the ATSDR physician who examined them. Symptoms include tremors and balance difficulty, short-term memory loss, behavioral changes, headaches and autonomic dysfunction (sweating and swings in blood pressure, temperature and heart rate).

In addition, a 2-year-old child of one of the workers suffered asthma symptoms, Straight said. He attributed those symptoms to the child's exposure to the father's work clothes. When he began leaving his work clothes at CSI, the child's condition improved, Straight said.

Lenoir physician Marc Guerra diagnosed the five workers more than two years ago and has treated them since then. They are Gordon Shatley, Keith Killian, Kenneth Byers, Herbert Bryant and Danny Hall.

Shatley, who worked at CSI from October 1984 until June 1987, filed a workers' compensation claim, which was denied last month by the N.C. Industrial Commission, which concluded Shatley didn't get any diseases from exposure to chemicals.

Hall didn't work at the incinerator. He worked at Caldwell Industrial Systems, a transport facility owned by the same company.

Company owner Charles Foushee today released a a statement in which he says "there is no reason to believe the medical history of CSI employees is any different from other area companies."

"CSI fully expects any study to be done by the EPA to confirm this." Foushee said in the release.

Health registry officials said Wednesday they plan to continue their examinations of CSI workers and their families, nearby residents and former workers of Mitchell Systems Inc., in Spruce Pine. That incinerator, owned and operated by the same company that ran CSI, closed in 1987.

The situation at Caldwell prompted the EPA to create a nationwide "strike force" to determine whether similar health risks exist at other hazardous-waste incinerators, officials announced.

"They'll be looking at every commercial hazardous-waste incinerator in the country," said Patrick Tobin, director of hazardous-waste management at the EPA's regional office in Atlanta. "I think that our findings here (at Caldwell) sparked that, and got that going."

Foushee in his press release quoted a portion of the health advisory which stated the EPA and ATSDR are unaware of any health problems in the population surrounding the facility.

But the health advisory also goes on to say that EPA officials don't have sufficient data yet to determine the extent of the threat posed by contamination of soil or ground water near the plant.

They plan to continue testing private wells and extensive soil and water studies conducted in May will be completed in August, officials said in the health advisory.

And Straight did say Wednesday during the press conference that nearby residents are suffering from respiratory ailments caused by incinerator emissions.

Caldwell Systems operated an incinerator and handled waste solvents, sludges, furniture industry waste and other materials.

During CSI's 12 years of operation, residents frequently complained to North Carolina environmental officials about the plant's emissions. Caldwell County leased the plant to CSI to operate and, in 1987, the county set up a committee to study its operation.

That committee interviewed dozens of CSI workers, who said they'd been given little or no safety training. Many also said they'd been told to dump barrels of hazardous waste in the Caldwell County landfill, which is adjacent to the plant.

An August, 1987 inspection of the plant by the North Carolina Department of Human Resources criticized CSI's safety training and equipment.

That inspection was one of dozens to cite various problems at CSI.

But the plant continued to operate until 1988, when CSI agreed to cease incineration and converted the business to a treatment and storage plant. After a fire last year, the county forced the business to close as a health hazard.

Caldwell County officials say the government is reacting fine now, but it should have acted sooner.

"I think it's strong enough (the EPA report)," said Caldwell County Manager Bill Forbes. "I personally would have liked to have seen it at an earlier time in the process."

John Thuss, a member of the Caldwell County Commission said "we were the guinea pigs and we're going to be the guinea pigs from now on. ...these people will probably be followed for a long time," meaning the EPA will watch the health of former employees for long time.

Federal health officials planned a meeting tonight at 7 p.m. with neighborhood residents at West Caldwell High School to discuss plans for a health study.

HICKORY DAILY RECORD — Wed., September 12, 1990

Agency: Fuel Dumped At CSI Is Dangerous

HUDSON (AP) — Health problems among former employees of two Caldwell County companies indicate that a torpedo fuel could be far more dangerous than the Navy has acknowledged, a federal health agency says.

Despite the agency's warnings about the fuel, the Navy has continued to ship it from installations all over the world for disposal and has not changed procedures for handling it.

The warnings came last winter from the National Institute for Occupational Safety and Health. The institute has been looking into respiratory, neurological and other health problems suffered by workers at Caldwell Systems Inc., which operated an incinerator for hazardous waste near Lenoir, and a sister shipping company, Caldwell Industrial Services.

Until county officials closed Caldwell Systems' incinerator two years ago, it was one of the nation's major handlers of the fuel, receiving millions of pounds from naval bases on both U.S. coasts and in the Pacific. Caldwell Industrial Services continued to transport the fuel across the country until July.

In a related matter, the FBI may have reopened its criminal investigation of the CSI facility, although bureau officials will not comment on the matter.

An official with NIOSH, in a letter on March 6 to Ron Levine, the state health director, said he was worried that Caldwell workers might have been exposed to the torpedo fuel waste, called Otto Fuel II, at levels considerably higher than humans had experienced in naval and other studies.

Exposure to propylene glycol dinitrate, the major component of Otto Fuel II, has not been previously shown to cause chronic health effects, wrote Lawrence Fine, director of institute's division of surveillance, hazard evaluations and field studies.

"However, the acute effects of overexposure to propylene glycol dinitrate, throbbing headaches, dizziness, nausea and dysequilibrium, ... are remarkably similar to some of the chronic effects reported in the former Caldwell employees."

The workers experienced "memory impairment, personality changes, dizziness, tremor and other chronic health effects after working at Caldwell Systems for periods ranging from six to 18 months," Fine wrote. "They showed signs of significant and disabling neurological impairment."

He also wrote that the Navy had been informed of the institute's concerns.

But Sue Fill, a Navy spokesman, told reporters that the service had not changed its procedures for handling the fuel and considered the procedures safe.

She and other Navy officials declined to address the specific concerns raised by the institute, citing damage claims filed by former Caldwell workers. The Navy officials also declined to give details about the production, use, storage and shipping of the fuel, saying they needed several more weeks to determine whether the information was classified.

An official from the health institute said the Navy's response had been that it was not studying possible chronic health effects of the fuel.

"They basically replied that they weren't doing anything," said Theodore M. Katz, a program analyst involved in the Caldwell investigation.

Katz said the evidence gathered in Caldwell provided a strong link between health problems and Otto fuel, but he cautioned that the investigation was incomplete. The results could have implications for workers who handle the Navy fuel and similar hazardous wastes anywhere, he said.

Fuel from naval bases in the East, as well as from installations in California, Ohio, Washington state and Yokosuka, Japan, is shipped to an incinerator in Cincinnati or to Winona, Texas, where workers inject it into abandoned oil wells, according to records from the U.S. Environmental Protection Agency.

The yellowish, liquid fuel is used to power the Navy's ASROC and SUBROC torpedoes, some of which carry nuclear depth charges as payloads. Waste shipments consist of contaminated or unused fuel, much of which must be disposed of, because the EPA prohibits storage of hazardous wastes for more than 90 days.

Meanwhile, the FBI refused a request to see the file of its CSI investigation.

The FBI's file on the previously closed CSI investigation had been sought through the Freedom of Information Act. But the FBI denied the request last week, saying in a letter that releasing the material "could reasonably be expected to interfere with enforcement proceedings."

Tom Burleson, a Charlotte-based FBI agent involved with the previously closed CSI investigation, said Monday that the file is back in his hands.

Burleson, however, would not say whether the investigation has been reopened.

"We can neither confirm nor deny it," Burleson said.

Katherine White, an attorney with the N.C. Press Association, said last week that the FBI could use the reason it stated only if there is an investigation under way.

Linda Poll of the FBI's Freedom of Information office said she couldn't see how the release would interfere with enforcement proceedings if the investigation had not been reopened.

The State Bureau of Investigation began the original probe in the summer of 1987. The Environmental Protection Agency later took charge of the investigation with the assistance of the FBI.

In November — after CSI's Lick Mountain hazardous waste facility was permanently closed under a court order — the EPA announced that the criminal investigation was also closed.

The EPA at that time said investigators did not have enough evidence to prosecute the company or its owner, Charles Foushee of Lenoir.

New allegations have surfaced since that time, primarily from more former CSI employees who have come forward since a federal health agency in July announced an extensive health study of former workers. The health probe will include CSI, its closed sister facility in Mitchell County and Caldwell Industrial Services.

HICKORY DAILY RECORD — Wed., September 12, 1990

Family Protection

The Environmental Protection Agency is again studying the former hazardous waste incinerator site in Hudson, but U.S. Rep. Cass Ballenger isn't waiting on the results to press his Workers' Family Protection Act.

Ballenger introduced his bill earlier this month. Its aim is to protect the families of workers who may be exposed to contaminates on the job. In proposing the act, Ballenger cited the former incinerator site and charges that Caldwell Systems Inc. did not operate the facility safely.

CSI leased the Caldwell County-owed incinerator for more than a decade.

Hickory Daily Record
2/20/91
P. 4

BALLENGER'S BILL, and his justification, deserve comprehensive consideration. According to the Congressional Record, Ballenger said "Recent history has shown that chemicals found on work clothes are frequently brought into the family home. This poses a health risk to workers' families, particularly their children.

"Additional study is needed to determine the extent of the problem and if federal regulations are needed."

Ballenger said a number of former CSI employees unknowingly came into contact with many hazardous chemicals and experienced health problems. "Another unfortunate result has been that the families of these workers are also affected ... because of chemicals brought home on their parents' clothing.

"The CSI workers need protection, but so do their families."

BALLENGER PROPOSES to establish a $1 million investigation of worker home contamination. The bill would fund case studies of recent incidents where home contamination appears evident. The act would require the National Institute for Occupational Safety and the U.S. secretary of Labor to evaluate home contamination by workplace chemicals and make the following determinations.

— Identify industries prone to such contaminants.

— Evaluate current measures used to prevent home contamination.

— Compile data on relevant industrial hygiene research.

— Evaluate regulations designed to prevent home contamination.

— Review indoor air quality issues related to home contamination.

— Determine the means families have to rectify contamination of their homes.

The Labor secretary's study will involve many chemicals and substances, but will pay particular attention to lead, mercury, asbestos, pharmaceuticals and pesticides.

The Institute is to report its results within two years of the bill's enactment. Within three years, the Labor secretary must issue appropriate regulations or tell Congress no action is necessary.

THE CHARLOTTE OBSERVER Friday, July 27, 1990

CSI: The Health Alert

Strike Force Will Make

By JACK HORAN
Staff Writer

A hastily assembled strike force of federal inspectors will blitz the nation's chemical-waste incinerators as a result of the findings of health damage to workers at the Caldwell Systems Inc. incinerator.

The inspections of the nation's 26 incinerators — including two in South Carolina — will begin in the next two to three weeks, the Environmental Protection Agency said Thursday.

They will center on compliance with required safety measures and training aimed at minimizing the exposure of workers to hazardous chemicals.

"Let's make sure we don't have a similar problem elsewhere," said Mary Cade, an EPA official in Washington.

Cade said the agency decided to take the unusual, though not unprecedented, step after learning last week that the Atlanta regional office was planning to issue a health advisory concerning CSI that was prepared by the Agency for Toxic Substances and Disease Registry.

Cade said she had no evidence that similar exposure problems exist at other incinerators, including ThermalKEM Inc. at Rock Hill and Thermal Oxidation Corp. near Spartanburg. North Carolina has no operating hazardous-waste incinerator.

"We thought and we hope this was a unique situation and Caldwell Systems was the proverbial bad apple," she said.

ThermalKEM's manager, Mark Taylor, said he welcomed the federal strike force. "We don't think there's a problem at ThermalKEM," he said.

In 1985, a similar strike force fanned out to inspect 58 chemical-waste landfills to assess the monitoring for contaminants in groundwater.

Nationwide Check

Cade, a deputy assistant administrator of the Office of Solid Waste and Emergency Response, said the comprehensive inspections will begin within three weeks.

The strike force will not inspect industrial plants that burn hazardous chemicals as a fuel. One such plant is Carolina Solite in Stanly County, where some residents have raised health concerns.

An aide to Cade said later that the EPA plans to begin inspections of industrial plants that burn wastes beginning in the 1991 fiscal year, which starts in October.

The aide said municipal incinerators that burn garbage and other solid waste won't be included.

Meanwhile, EPA's Atlanta regional office has begun an investigation of state inspection reports on CSI and its now-closed Mitchell Systems incinerator.

The agency has subpoenaed company operating and waste manifest records.

EPA regional administrator Greer Tidwell said Wednesday that an investigative team will scour the records to see if a public health problem exists at the sites and "will thoroughly investigate potential violations under all federal environmental laws."

The team will look at the records not only to get an understanding of potential sources of pollution but also to find violations of environmental laws.

Any continuing violations, said Joan Safine, chief of the hazardous waste law branch, would be turned over to N.C. state regulators for correction and enforcement or would be handled by EPA itself.

While local citizens have charged the state failed to monitor the CSI plant near Hudson, Safine said the state's enforcement history isn't being audited.

HICKORY DAILY RECORD—Thurs., July 26, 1990

CSI Worker Risk Noted

By ERIC BEAM
Record Staff Writer

CHARLOTTE — Officials with the U.S. Environmental Protection Agency and the federal Agency for Toxic Substances and Disease Registry said Wednesday that ATSDR has issued a health advisory for former workers of the now defunct Caldwell Systems Inc. hazardous waste facility.

Robert Safay, an environmental health specialist with Atlanta based ATSDR which has been assisting the EPA with its investigation of CSI, said at a press conference in Charlotte, "There is a significant health threat among former workers at the site, and in this instance, we are going to issue a health advisory."

"The health advisory," he continued, "is to inform the Public Health Service, the state of North Carolina and the public that there is a significant health threat associated with former workers and possibly families of workers at the CSI site."

Although much of the information revealed by federal

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CSI Worker Risks Are Noted

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officials on contamination and health problems only supports earlier independent and government findings. Wednesday's announcement by the EPA, which has investigated CSI off and on since 1987, marks a renewed effort to find answers to the problem.

In its preliminary findings, officials with ATSDR, which was recruited by the EPA to conduct a health consultation of all former CSI workers, found "there is a threat to human health for some former employees of CSI because of past workplace conditions" and that their "family members may also have been placed at risk."

The announcement comes just three weeks after a report, submitted to the N.C. Hazardous Waste Management Commission by the state's Division of Epidemiology, downplayed possible health threats from the incinerator site.

It also comes in the wake of compensation denials by the state Industrial Commission for two former CSI workers suffering from health problems.

Michael Straight, a physician with ATSDR, said several former CSI workers suffer from respiratory difficulties while others suffer from more extreme problems such as neural damage accompanied with "Parkinson disease type" symptoms — tremors and difficulties with balance and coordination.

He said most of the cases began in the mid-1980s from employees working at the plant for six months or more.

"These symptoms are causing them severe difficulty in their daily living," he said.

Wednesday's health advisory came despite the fact that test results from EPA soil and water sampling of the CSI site, the county landfill and the former Haas dairy farm adjacent to the waste site have not been completed.

Those results, expected Aug. 2, could provide conclusive evidence to link possible contamination on and near the incinerator site with health problems of former workers, their families and residents living near the facility.

As far as determining if CSI is still an imminent threat, Safay said: "We're not going to make any statement on that until we have some kind of sampling results."

Safay did say that initial EPA test results from a handful of an estimated 80 private wells near CSI proved negative. "The initial results show no contamination of private wells," Safay said. But further test results, he said, are pending.

If contamination is found, EPA officials say bringing in municipal water supplies or relocating residents is a possibility.

Besides an advisory, ATSDR has also recommended:

— That the EPA restrict access to the CSI site and the adjacent dairy farm property and that the EPA regularly monitor private wells of residents near the site. In its preliminary studies, ATSDR has determined that "exposure to contaminants on-site may pose a health threat."

— That the EPA consider the site for its National Priorities List under the Superfund program designed to clean up the nation's worst hazardous waste sites.

— That its agency, in association with the National Institute for Occupational Safety, identify all former workers, their family members and residents living near CSI "who may have come in contact or were formerly in contact with" hazardous waste material.

— That the state of North Carolina provide health education materials and assistance to local health care providers and county health officials.

According to Robert Barker, counsel for the EPA Region IV handling the legal aspects of the EPA's investigation of CSI, the agency has issued a supoena demanding the company records of CSI and two other facilities run by the same company — Mitchell Systems Inc. and Caldwell Industrial Systems — which are also under investigation.

The EPA, he said, has also supoenaed the testimony of Charles Foushee, the owner of the facility, and sent to Caldwell County a formal information request concerning the landfill adjacent to the CSI facility.

Barker said: "Our enforcement effort is designed to assure that those responsible for any environmental or public health threat represented by these sites, either performs or pays to perform the necessary steps to remove that threat."

That apparently does not include the state.

Evident at Wednesday's news conference was the EPA's reluctance to criticize the state's handling of the matter. The agency recently issued an order to the county and CSI, not state regulatory agencies, to share the costs for cleaning up the site and reiterated that stance Wednesday.

The county is currently suing two state departments claiming negligence in monitoring the hazardous waste facility.

In fact, Patrick Tobin, director of the waste management division at EPA Region IV, said the state has done a "good job" in regulating hazardous waste.

While he said the state was the "primary agency as far as preventive enforcement of hazardous waste facilities in the state," Topin said the state lacked the "regulatory tools and structure" to address problems at CSI.

He said the incinerator was operated under a less stringent "interim status" permit under the state's Resource Conservation and Recovery Act until it closed in December 1988. New federal regulations, he said, require such a facility to have a hazardous waste permit before construction of an incinerator can begin.

State Health Director Ron Levine added to Topin's comments saying: "As a physician, I and all of us are really disappointed, retrospectively, that the various agencies including our own were unable to prevent significant physical adverse health effects to our citizens."

Levine also emphasized that he has seen "no evidence" that politics, and not regulatory defficiencies, allowed problems at CSI to go unaddressed. The state is currently facing opposition from residents in three counties proposed for a regional hazardous waste incinerator, and many critics have charged the state with attempting to cover up problems at CSI.

Caldwell County officials who attended Wednesday's news conference were quick to respond to the advisory announcement by expressing hope and concern.

"I'm pleased with the response," said John Thuss, the chairman of the county board of commissioners.

But Thuss and fellow Commissioner Carroll Tuttle were both perplexed at why the advisory announcement came before more conclusive evidence was found. "I still haven't quite figured out what they're saying in all this because they are saying here they didn't find any specific health problems, they didn't find any specific contamination, they find any contamination of the water supply," Tuttle said.

County Manager Bill Forbes was also happy with the EPA's announcement saying: "It's refreshing to know that a thorough investigation is going to be done, and that all points of concern are, hopefully, going to be addressed."

However, he expressed concern about the lack of blame assigned to the state. "It seems to me that they are going to lean on the interim status (of the facility) and the lack of regulation," he said. "I personally feel that's not enough. There were opportunities to make improvements in the operation."

On the interim status issue, John Lank, an official with RCRA, said "most of the things" monitored under interim status were "related to procedural matters" such as record keeping and drum labeling. He said nothing in interim status "affects what's going out of the stack or how it's being burned."

That would be handled by a separate state and federal agencies, he said.

Both state and federal officials said CSI was occasionally found to be in violation of air and procedural standards before it ceased operations.

L.C. Coonse, a local resident and leading critic of CSI who viewed the news by television, said he was thankful for EPA involvement.

He said residents "will cooperate with the study in every way possible and we hope the truth can be found. I don't think the state has been trying to find the truth. I think that state officials have been trying to cover it up."

The CSI incinerator opened in 1977 after receiving a permit from the county. A court order shut the facility down in late 1988. The site was then converted to a hazardous waste storage facility which closed in September 1989 following a chemical fire which forced the evacuation of nearby residents.

Officials from the EPA and the ATSDR will be in Caldwell County today and Friday to assist in addressing health concerns of local residents.

A public meeting will be held at 7:30 p.m. tonight at West Caldwell High School.

-THE SHELBY STAR Tuesday, September 25, 1990

Waste incinerator linked to respiratory illnesses

HUDSON (AP) – Most of nearly 100 people who suffered health problems linked to a hazardous waste incinerator indicate symptoms of respiratory illness, officials say.

Michael Straight, a physician with the federal Agency for Toxic Substances and Disease Registry, said the agency soon would begin a door-to-door survey of medical problems among residents in the area of Caldwell Systems Inc.'s defunct hazardous-waste incinerator.

So far, discussions with about 100 people have indicated most health problems could be symptoms of respiratory disease, he said.

In July, two years after Caldwell County officials closed the incinerator, federal health officials issued an unusual "health advisory. Since then, they have been trying to contact people who worked or lived near the plant.

The agency will compare those findings with those from another group of county residents who lived farther away, Straight told about 50 former Caldwell Systems workers and their families Monday night.

But as Straight and other federal officials laid out further plans for soil samples, door-to-door health questionnaires and other tests that will take months to complete, frustrations rose among the gathering at South Caldwell High School.

Several people demanded to know whether the federal government planned to file criminal charges against Charles B. Foushee Jr., The News and Observer of Raleigh reported.

Foushee owned Caldwell Systems and continues to operate a hazardous-waste shipping company in Hudson and another incinerator in Mitchell County.

"That man has contaminated this county, Mitchell County – how many other counties is he going to contaminate?" asked Greg Bentley, who lives near the contaminated incinerator site. "The EPA knows he messed up these counties, but what can you do?"

Residents' anger has focused on Foushee, who has not been charged, and on state health and labor officials, who have been criticized for failing to react to reports of former Caldwell Systems workers' illnesses.

Michael Arnett, a spokesman for the Environmental Protection Agency , said he could not comment on any enforcement actions.

The EPA has found contaminated areas near the incinerator, but has not found toxic substances at what it considers harmful levels on nearby property. But the agency plans more soil and water samples before cleaning up the site.

Shelby STAR Thursday, July 26, 1990

EPA: Waste plant poses health threat

CHARLOTTE (AP) – The state's health director acknowledged that "inaction" in regulating a Caldwell County chemical waste incinerator threatened the health of workers and nearby residents.

At a news conference in Charlotte on Wednesday, the federal Environmental Protection Agency and Centers for Disease Control announced a "health advisory" saying they want to examine all former Caldwell Systems Inc. plant workers, their families and residents who lived near the plant atop Lick Mountain in Hudson.

The announcement comes as the state struggles to locate a new hazardous waste incinerator to handle waste from five Southeastern states, and to reassure the public it will properly regulate the new plant.

The CSI incinerator burned waste from 1977 until 1988. During that time, state environmental officials maintained the plant was "in substantial compliance" with environmental laws and it posed no threat to human health.

North Carolina Health Director Dr. Ronald Levine said Wednesday the state's inaction was "regrettable."

"I and all of us are really very disappointed, retrospectively, that the various agencies, including our own, were unable to prevent significant, physical, adverse health effects to our citizens," Levine said.

"We believe we understand many of the deficiencies at the time in both the regulatory apparatus and a number of other things that we believe have been corrected and others will be corrected."

Physicians with the federal Agency for Toxic Substances and Disease Registry are now examining former CSI employees. So far, they've concluded that five of the approximately 80 CSI workers "have medically documented health problems that may have been caused by exposure to wastes handled at CSI."

The workers suffer from toxic encephalopathy, said Dr. Michael Straight, the ATSDR physician who examined them. Symptoms include tremors and balance difficulty, short term memory loss, behavioral changes, headaches and autonomic dysfunction (sweating and swings in blood pressure, temperature and heart rate).

In addition, a 2 year old child of one of the workers suffered asthma symptoms, Straight said. He attributed those symptoms to the child's exposure to the father's work clothes. When he began leaving his work clothes at CSI, the child's condition improved, Straight said.

Lenoir physician Marc Guerra diagnosed the five workers more than two years ago and has treated them since then. They are: Gordon Shatley, Keith Killian, Kenneth Byers, Herbert Bryant and Danny Hall.

Shatley, who worked at CSI from October 1984 until June 1987, filed a workers compensation claim, which was denied last month by the N.C. Industrial Commission, which concluded Shatley didn't get any diseases

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Threat

☆ From page 1B

from exposure to chemicals.

Hall didn't work at the incinerator. He worked at Caldwell Industrial Systems, a transport facility owned by the same company.

Health registry officials said Wednesday they plan to continue their examinations of CSI workers and their families, nearby residents and former workers of Mitchell Systems Inc., in Spruce Pine. That incinerator, owned and operated by the same company that ran CSI, closed in 1987.

The situation at Caldwell prompted the EPA to create a nationwide "strike force" to determine whether similar health risks exist at other hazardous waste incinerators, officials announced.

"They'll be looking at every commercial hazardous waste incinerator in the country," said Patrick Tobin, director of hazardous waste management at the EPA's regional office in Atlanta. "I think that our findings here (at Caldwell) sparked that and got that going."

EPA officials also said Wednesday that they have found no contamination of soil or ground water near the plant, but they plan to continue testing private wells. Their studies of soil and ground water will be completed in August, they said.

But Straight said nearby residents are suffering from respiratory ailments caused by incinerator emissions.

Caldwell Systems operated an incinerator and handled waste solvents, sludges, furniture industry waste and other materials.

An August, 1987 inspection of the plant by the North Carolina Department of Human Resources criticized CSI's safety training.

That inspection was one of dozens to cite various problems at CSI.

Caldwell County officials say the government is reacting fine now, but it should have acted sooner.

Senator JEFFORDS. Certainly. You have a unique position, I think, of having been on the business side and involved in business and also having seen the problems in your district of home contamination.

Why do you feel it is necessary for this legislation? What has not occurred that you believe should have occurred that makes it appropriate for us to pass this legislation?

Mr. BALLENGER. Well, I think you may remember, I am a fairly conservative businessman. When we worked together on the Education and Labor Committee in the House, I said that business should be responsible in every way possible to take care of their employees and the atmosphere around it.

You may find this surprising, but I was president of the Western Piedmont Council of Governments, and when we built this incinerator, we built this incinerator to burn furniture finishes like those used on the walls here and most other furniture, and in my particular situation, my company shipped alcohol which was a solvent we used in printing to the incinerator. In the early years, the incinerator burned these byproducts and everything was OK.

Caldwell County took over in 1976 and tried to run it. They couldn't make money out of it, so they leased it to this man in 1977, and he decided to make a whole bunch of money. I think he was unethical. I have said over and over again that I know he got rich handling this material, and all of his employees with brain damage I think are going to get nothing but Workman's Comp.

I think business basically, at least as far as my part of it is concerned, is responsible and if given the opportunity and the understanding from a government study of what they should do and what they can do to protect the employees and the employees' families, I think they will do it.

I hope that this study will come forward with information along those lines because, like I say, I am still printing at home and I still have hazardous waste. It is alcohol, and most people don't think that is a hazardous chemical, but it is listed that way.

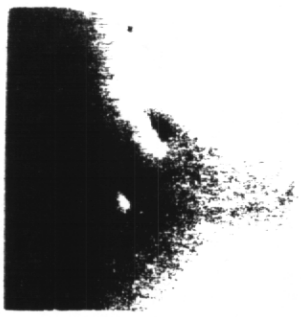
I would like to be, as a business person—and I think most people would like to have instructions as to what is the best way to protect your employees and their families.

Senator JEFFORDS. Thank you. Can you tell me what kind of problems your constituents ran into in trying to get corrective action taken or to be recompensed for the damage created?

Mr. BALLENGER. Well, again, I received several phone calls from my constituents. CSI Hudson, where the incinerator is located is about 20 miles from my office, and I got complaints from several people about how bad it was up there.

One day, Dr. Guerra called me and asked if he could come see me. When he came and explained to me the situation that he found up there—because he was treating these people—he persuaded me to go visit.

And that is when we started seeing the vegetation around the area—not only were we talking about employees, but people that lived in the area had terrible situations. I mean, the stories that I can tell you. The worms coming out of the ground that were dying because of the fumes coming off this incinerator—it is just almost unbelievable that it occurred.



I immediately tried to get EPA, and OSHA, and others to do something about CSI, because I knew something bad was occurring. Sadly, the housing area there was a nice little development for workers. The houses were comparatively new. The value, obviously, once this news got out, the prices just dropped, and these people couldn't afford to move away from there.

One family did move, as I remember, but they could afford it. But others were trapped. Not only were the workers and their families trapped, but the people that lived in the surrounding area were trapped.

I took almost 2 years to get EPA and OSHA and others involved. Because these agencies kept saying over and over again that the law grandfathered this plant in, and they didn't have the legal right to step into it.

Over and over again, I called the Federal government, the State government, and everybody and I had no effect until finally the ATSDR came up and did an examination, and that was almost two-and-a-half years after I first tried to get these people to stop the operation of that plant.

Senator JEFFORDS. Thank you.

I know that this whole area of conflicting jurisdictions is a very difficult one, as we have found as we go into other areas, whether it is EPA or OSHA or who it is that should or does have the responsibility in these particular situations, which are very difficult when you try to figure out who it is that is responsible. So that is certainly an area that we ought to look at.

Again, I want to commend you for your very, very helpful testimony.

Doctor Guerra.

Dr. GUERRA. On behalf of my patients, I appreciate the opportunity to share my insight and experiences.

Too often the message in the workplace is, don't worry, there is nothing here that can hurt you. Unfortunately, this message translates into don't worry, there is nothing here that will hurt you, your pregnant wife, or your children when you carry these toxins home with you.

Unfortunately, workplace exposures to carcinogens, mutagens, teratogens, and neurotoxins does take place, and ultimately can result in passive contamination of the homeplace.

Ironically, the moment that I was keyed into these workers' illnesses began when a wife proclaimed that she was getting sick from her husband's clothing and the fumes off of his body when he returned from work.

When Naval torpedo fuel is handled in Naval yards, workers are required to wear space suits, self-enclosed air tanks, gloves, and boots. Unfortunately, when Naval torpedo fuel was transported to Caldwell County, NC, from all over the world, workers handled it in short-sleeved shirts, short pants, and without adequate respiratory protection. This resulted in gross exposures via the dermal and inhalation routes, as well as contamination of clothing.

Contaminated workers and clothing passively contaminated their homeplaces. Workers routinely complained of unbearable headaches, nausea, irritability, balance disturbances, fatigue, and memory disturbances.

Ironically, wives and mothers experiencing passive exposures by their husbands' skin, breath, and clothing complained of similar type headaches and nausea during this period of time.

I would like to briefly discuss four cases, and I have provided a video tape for your or any of your friends that would like to take a peek at that.

Keith is 28 years old. He presented to me 4 years ago with a rash head to foot, looking like a leper after having seen five or six other physicians. He suffered from daily contact from multiple toxins, including Otto fuel, via the dermal and inhalation routes. Keith is now totally and permanently disabled and struggles with simple activities of daily living.

His diagnoses include dementia with a severe short-term memory disturbance; cerebellar taxia, or a balance disturbance; central vestibular nerve damage, with resulting dizziness and balance problems; severe unrelenting headaches, migrainous in nature; autonomic nervous system damage with widely fluctuating blood pressures, bizarre sweating spells, nausea, and diarrhea; Parkinsonism, exhibited by severe resting tremor and muscle rigidity, and an organic mood disorder, with explosive mood swings.

At times, Keith is dangerous to himself and others. He has become recluse, and at times is extremely paranoid. Keith's emotional and physical condition has deteriorated to the point that simple activities of daily living such as eating, dressing, and social interactions have become major challenges. He is unable to function as a father or a husband.

His two-year-old son Jeremy had severe unrelenting asthma, requiring corticosteroids and multiple medications, with frequent hospitalizations during his employment.

Simultaneously, Keith was bringing home chemically-laden clothing from the workplace. Soon after removing his clothing from the workplace, Jeremy's asthma cleared and medication requirements minimized.

Case number two is Gordon. He is a 38-year-old, having suffered daily exposures via the dermal and inhalation routes to multiple toxins, including Otto fuel. Gordon brought home chemically-laden clothing on a daily basis.

His present diagnoses include an exposure-induced toxic encephalopathy, secondary to solvent exposures and Otto fuel exposures with dementia, severe short-term memory deficits, resting tremors, unrelenting headaches, ataxia, or a balance disturbance, and an organic mood disorder with paranoid states. He also has dizziness and central vestibular nerve damage.

Gordon is totally cared for by his wife Gail. He collects Social Security Disability, and is totally and permanently disabled as a result of his workplace exposures.

Unfortunately, Gordon brought his exposures home, and during his employment, his daughter Tabby suffered from intractable asthma, requiring multiple medications, including corticosteroids, as well as frequent emergency room and office visits.

Coincidentally, with removing the chemically-laden clothing from the workplace, Tabby's asthma symptomatically resolved.

Gordon's wife Gail complained that the clothing that she was handling and washing as well as the fumes emanating from Gor-

don's body were so pungent that they induced headaches, nausea, and dizzy spells. Her symptoms also resolved decontamination of the homeplace. However, she subsequently has been diagnosed as having systemic lupus erythematosus.

Both Keith and Gordon have won out-of-court settlements with Workman's Comp. However, they, as well as other workers, are suing the United States Navy.

Danny is a 42-year-old with exposures to multiple toxins including Otto fuel via the dermal and inhalation routes. His present diagnoses include toxic encephalopathy with an organic mood disorder, unrelenting headaches, tremor, ataxia, and recent development of bowel and bladder incontinence.

Danny, too, brought chemically-laden clothing home, precipitating similar symptoms in his wife Amy. These symptoms resolved with cessation of homeplace exposures, and during a recent office visit, his wife Amy expressed to me, and I quote, "I don't know how much more of this suffering I can watch."

Unfortunately, Amy went home and shot herself, leaving Danny with a 4-year-old and a 2-year-old, whom he is physically and emotionally incapable of caring for. That is the situation that we are dealing with right now.

Denver, a 38-year-old supervisor at a local chemical company, presented to me weeks ago with daily dermal and inhalation exposures to multiple solvents. He, too, brought his exposures home on his clothing and on his body, precipitating homeplace exposures.

His wife complained that she frequently became sick with headaches and nausea, which she related to handling Denver's chemically-related clothing.

His present diagnoses include organic brain syndrome, central vestibular nerve damage with dizziness and balance problems, unrelenting headaches vascular in nature, short-term memory loss, cerebellar ataxia, autonomic nervous system instability, and an acute psychosis.

This 38-year-old supervisor is now speaking in one and two word sentences, and is unable to take care of himself or his family. He is in the midst of an in-patient workup.

Of the 25—and I repeat that—of the 25 workers with encephalopathies related to workplace exposures evaluated at Duke, Wake Forest, and UCAL-San Francisco—and I can't go without thanking folks like Dr. Don Schmeckle at Duke, Dr. May and Dr. McGwirt at Wake Forest, as well as Dr. Jim Cohen at UCAL-San Francisco, Dr. Phil Schmidt and Diane Sanford in Hickory, NC—over half of these men are disabled and collecting Social Security Disability benefits.

These gentlemen are having a great deal of difficulty coping with life at home, and their homes are having tremendous difficulty coping with them. Most of them have young children, and they cannot tolerate the day-to-day stresses that young children inherently create.

They are constantly at odds with their wives and children because of their memory lapses, irritability, clumsiness, and explosive behavioral episodes. Some marriages have broken up, and others are at significant risks. It is not unusual for me to get a call at two or three o'clock in the morning suggesting that one of these work-

ers has beaten his wife. Some of these young men are already total care cases to their family.

I would like to quote from the New England Journal of Medicine, April 23, 1987. The two articles in this issue of the Journal relating occupational exposure to benzene and prenatal exposure to lead confirm the suspicion that very low levels of toxins are capable of causing serious health effects.

These impressive studies should quiet the insistence that governmental efforts to control these hazards are excessive and irrational responses to chemophobic social forces. Unfortunately, the investigation should make us appreciate the difficulty of reconstructing past exposures to suspect agents in retrospective studies, and the value, however burdensome, of prospective studies. Science is a hard taskmaster, and in light of mounting evidence, suggestions of toxicity are for the most part confirmed by painstaking scientific inquiry.

Perhaps it is time to re-examine whether scientific standards of proof of causality and waiting for the bodies to fall ought not give way to more preventative health policies that are satisfied by more realistic interventions and that lead to action sooner.

The intent of S. 353 is to increase the awareness of workplace exposures among workers and their families and to look at methods of preventing further contamination. Your vigorous support of this bill is needed to prevent similar occupational catastrophes, and will help to protect our children and our children's children.

Thank you, and that is the end of my statement.

Senator JEFFORDS. I want to thank you for your very excellent testimony. I do have a few additional questions I would like to ask.

I might say that we considered asking some of the victims to come here. However, many of course are in litigation, and others were embarrassed about their problems that had been created, and thus we felt it better for you to come and basically give the information for them.

I deeply appreciate that, and I understand that you are here at your own expense, which certainly indicates your dedication. We do deeply appreciate that.

During your work with these individuals, did it come to your attention—or maybe Representative Ballenger can answer this too—whether or not the Navy and the people that were involved at the site there wore different types of clothing or protective gear than the plant workers?

Dr. GUERRA. Ironically, the person that was responsible for writing the how-to book of handling Otto fuel in the United States Navy lived in Hickory, NC, and by some blessed event, we came to meet each other. He went through with me the specifics on how they handled Otto fuel in the Navy.

And in fact, when he got out of the Navy, since he knew he was sending this back to near his home town, that he would try to look for a job there. When he walked into the sight and saw these men handling Otto fuel in short-sleeve shirts, short pants, and without adequate respiratory preventative measures, he left and did not take the job.

So it came right from the horse's mouth.

Senator JEFFORDS. Thank you. I appreciate that. I think that is important. This is, of course, where we have to question as to what OSHA has been or should be doing in these particular areas.

Also, this is a very gross situation, obviously, that we have had here. From your information and your expertise as a doctor, do you have an opinion as to whether or not situations could arise where a health risk is created in much less gross situations, where it would appear that perhaps some semblance of precaution had been taken, but you could still expose members of the family?

Dr. GUERRA. Certainly. As I mentioned, homeplace exposures can take place not only via clothing, but also by dermal contacts and having to shower at home, as well as passage of solvents through breath contact.

As you know, the TLVs for many of these chemicals are going down on a yearly basis, because as we learn their chronic and long-term effects, we realize that we need to be more stringent in protecting from this type of exposures.

The article that I quoted from the New England Journal strongly suggests that even small doses of toxins, such as lead, benzene, and others, can result in severe health effects, especially in children and the unborn.

Senator JEFFORDS. In your work with the victims here, did you come to information which gave you any opinions or ideas as to the OSHA or EPA oversight of this facility?

Dr. GUERRA. Let me preface my answer by saying this. Keith, 24 years old at the time, was sent home for a week on medical leave in expectance of an OSHA or EPA inspection. Workers routinely were sent home in advance of surprise inspections, so that they could clean up the facility, so that they could wear more protective clothing.

And in fact, Keith was sent home because he was grossly sick and was not allowed to come back until after the inspection was done.

Senator JEFFORDS. You said surprise inspections. I wondered——

Dr. GUERRA. Quote, surprise.

Mr. BALLENGER. Senator, if I may——

Senator JEFFORDS. Yes, Cass, go ahead.

Mr. BALLENGER. I am not naive enough to think that something was completely wrong in this particular case, because what he is mentioning there was fairly obvious to all of us.

As an example, I decided to ask EPA for a special inspection and took the news media with me after I had requested this inspection. I took the news media, the TV people up there with me to this incinerator. I had yet to receive the EPA report, but I had requested it.

We arrived there with the TV cameras going, and I said, let me be honest with you. I have asked for an EPA inspection, and the man that owned CSI, the owner that was making all this money off of it, turned to me and said yes, they had their inspection. Here is the report.

In other words, the inspection that I requested, they gave him the report, and he said it right there in front of TV, God, and everybody, and it was completely clear. I have no problems. Everything is fine.

I don't want to say that money changed hands, but something was terribly wrong about the way that whole place operated.

Dr. GUERRA. We need to get back to the basics. I think what Mr. Ballenger is saying is absolutely true. What I have asked State and Federal folks to do since 1987 is just to sit down and talk with the workers. They are the key. They knew what was going on in that place. They knew how exposures were taking place to the workers, their families, residents in the areas, okay? They knew that there was a pathologic relationship between the company and the State regulatory agencies and the Federal regulatory agencies.

It wasn't until Mr. Ballenger became involved that we got anything done. It taught me a lesson. It refreshed a memory of a lesson my dad taught me. He said Marc, what is the difference between a blind man and a man that purposely closes his eyes? I said Dad, there is really no difference. Functionally, neither can see. He said Marc, no, there is a difference. The difference is that you can trust the blind man, but you can't trust the man that purposely closed his eyes.

And my relationship with State and Federal agencies are these folks purposely closed their eyes. And that is why workers, residents, myself, and anybody that has been involved in this case don't trust them.

Mr. BALLENGER. If I may, one more thing.

Senator JEFFORDS. Yes.

Mr. BALLENGER. There was no place else in the world that was willing to get rid of the Navy Otto fuel, the torpedo juice, but it appeared to me that nobody wanted to close CSI, because it was the only place that would dispose of the Otto fuel.

And so the Federal Government, the State government—I don't know who it was involved—but just the bureaucracy itself stood in the way of closing the place, as far as I was concerned. That is the reason I kept bugging everybody as long as I could.

Senator JEFFORDS. Well, I just want to commend you on the action you took, Cass. You certainly need to be commended for that, and you also Doctor.

I notice you noted a number of the problems that were created were psychological and related to the effects of the exposure. Is that something that should also be looked at in a study, to determine the full impact?

Dr. GUERRA. Certainly. I may answer that in two parts. We, through the Piedmont Treatment Center in Hickory, Dr. Phil Schmidt and Diane Sanford have formed a worker and family support group, trying to support them and psychologically treat them through many of their problems.

It is interesting. If you look at the psychological effects that these workers and families are going through right now—I am involved with hospice in our community, and much of the counseling that we do is through death and dying. Many of these workers and their families seem to be going through death and dying stages.

Physically, many of these guys are there. But emotionally and mentally, they are not. Many of these guys are deteriorating, and their long-term prognosis is very questionable.

The second part of their psychological problems, and in particular family members, you can see a mixed bag of emotions—anger,

frustration, distrust, feelings of guilt, much like you would see in a rape victim.

Many of these young women that have stood by their husbands look at the situation and feel as though they have been raped. Their husbands have been taken away from them. Financially, they are burdened. Emotionally, they are torn up. Physically, very frequently they are battered by their husbands. Some of the wives have left, some of the wives have stayed.

Many of these guys—I don't know how long they will be able to be taken care of in the house.

Senator JEFFORDS. Thank you. Let me ask you this question, to give us a little bit of guidance here. From your own understanding of what happened there, and especially in understanding the difference in the way Naval personnel handle these kinds of things versus the plant, do you believe that reasonable actions taken either by regulatory actions or by the plant could have prevented these situations?

And if so, how would you have recommended that the plant handle these situations?

Dr. GUERRA. Certainly, many of these situations could have been prevented had they paid attention to proper handling of the materials. I think that if you are thinking about a situation like this, there needs to be honesty and communication between the company, worker, company physician, and the community.

If we know what we are handling, if we know how we are handling it, then we can take measures to prevent occupational exposures and environmental exposures.

The thing that was so frustrating for us is that everyone was kept in the dark. Initially when I became involved with this, Otto fuel was A-U-T-O fuel, and it can't be all that hazardous if it's fuel from a car. Those are the types of answers that we were given.

Workers were frequently told, there is nothing up here that is any more dangerous than working in the furniture factory. What that did was it created a false sense of trust.

Had workers been trained, educated, and taken through the steps on what they were working with and how they were working with it and protected appropriately, certainly measures could have been taken to prevent this type of situation.

Senator JEFFORDS. From your understanding and knowledge of the ability to detect this kind—not this particular kind, but such things as lead, etc, is it, do you think, a reasonable possibility to find when employees are transmitting these kinds of things home?

Dr. GUERRA. I didn't hear you.

Senator JEFFORDS. I am sorry. What I am trying to say is, I am looking toward the future as to how we can determine and find as to whether or not employees are carrying these things home. Can that be done without huge expense? What kind of procedures would be necessary in a plant in order to detect these and to be able to be assured that we are not bringing these kind of things home?

Dr. GUERRA. It would be nice to have independent industrial hygienists that were not paid by the company that were looking at workers and families, so that they could inspect workplace practices as well as the potential of homeplace contaminations.

And yes, I think that that could be done through proper industrial hygiene and a good person.

Senator JEFFORDS. In other words, especially if you know the plant is using some hazardous substance, that should at least alert you to the possibility of the problem.

Dr. GUERRA. And that again, you are approaching this from a prospective rather than a retrospective study. Certainly, prospectively, if a company were to have industrial hygienists and try to prevent this type of occupational exposure and passive contamination of the homeplace, certainly it could be done.

Senator JEFFORDS. Thank you very much, both of you, for your very, very helpful testimony. I want to commend you both for being here today, and hopefully this will result in action that will prevent such situations as what you related to us today from happening again. Thank you very much.

Dr. GUERRA. Thank you.

Mr. BALLENGER. Thank you.

Senator JEFFORDS. Our next witnesses are from NIOSH and OSHA, and I would like to thank Dr. Millar and Mr. McMillan for appearing here today. We look forward to your testimony.

Dr. Millar, would you identify the gentleman that is with you for the record?

STATEMENTS OF DR. J. DONALD MILLAR, DIRECTOR, NATIONAL INSTITUTE OF OCCUPATIONAL SAFETY AND HEALTH, ATLANTA, GA, ACCOMPANIED BY RICHARD LEMEN, DIRECTOR OF NIOSH, WASHINGTON, DC; AND ALAN C. McMILLAN, DEPUTY ASSISTANT SECRETARY, DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, WASHINGTON, DC

Dr. MILLAR. Yes, Mr. Chairman.

I am Dr. Donald Millar, Director of the National Institute for Occupational Safety and Health of the Centers for Disease Control, Public Health Service. With me today also from the Institute is Mr. Richard Lemen, who is the Director of the NIOSH Washington office. Sitting to my left is Alan McMillan, who is Deputy Administrator of OSHA.

I am very pleased that you gave me the opportunity to come and speak on S. 353 today and also the general problem of take-home toxins, if you will permit that phrase.

As you know, Mr. Chairman, I provided detailed testimony which talks considerably about the issue and also about some of the Department's concerns about the bill. But rather than read all of that here, I would prefer to give a brief synopsis of what I see as the important aspects of this problem instead of reading the testimony.

Senator JEFFORDS. Certainly. Your entire statement will be made a part of the record. Please proceed.

Dr. MILLAR. Thank you. The issue of secondary toxicity of paraoccupational diseases or take-home toxins, all of which terms have been applied to this, is a problem of the risk posed to family members by toxic agents brought home or in some way getting home via a bread winner who is exposed highly in an industry.

This problem has been well known in the infectious disease area. In fact, there is a lot of public awareness of it. For centuries,

people have known that you could start smallpox epidemics from infected clothing, infected blankets, and what have you.

The notion has even gotten a certain amount of public awareness, if you think about carrying a cold in your pocket, as the way we describe contaminated handkerchiefs.

But when you talk about this problem in terms of toxicity arising from the workplace, there is far less public awareness of this problem. And as you and others have said here today, in a sense, this is a problem being newly addressed.

I think it really takes three forms. Families can be exposed in three ways. First of all, they can be exposed from toxins dumped, somehow or other, near the home, and one thinks here of some of the celebrated cases where children have been exposed to asbestos tailings near mines.

A second way is the form that has been talked about so far here, and that is the actual carrying home on clothing or on the skin of a bread winner toxic substances to which the family members are then exposed.

And then there is a third form that I think is increasingly apparent now, and that is that there is actually work being brought into the home which exposes family members. I am thinking about certain cottage industry aspects of the electronics industry, for instance, where there are certain procedures done largely by housewives in their homes over the kitchen stove which produce toxic chemicals that then expose not only them but also the family.

So this problem, I think, is clearly documented. Take-home toxins as a problem have been documented largely by case reports of individuals and by scientific anecdotes, but some of these are very dramatic. There are instances, for instance, where several members of a family have died of mesotheliong as a consequence of the bread winner being heavily exposed to asbestos in industry.

The literature on this subject was reviewed in 1986 by two authors, one of whom was Dr. Ed Baker, who was subsequently the Deputy Director of NIOSH, and they identified seven agents involved in this kind of exposure, and of course investigations in your home State subsequently added mercury to that list of potential agents that could be involved in this kind of thing.

So it is clear that these incidents happen. But unfortunately, there is very little information available on the extent of this problem, so it is impossible for us to assign a meaningful priority to this problem as opposed to other obvious pressing and life-threatening issues in the field of occupational safety and health.

From our surveillance activities, directed principally at exposures to lead, it is clear that lead poses a threat in the homes of many workers unless those workers are subjected to adequate washing up and clothes changing practices before they come home.

In our health hazard evaluation program where we actually go out into workplaces on request and do investigations, we have identified seven such investigations in the last 10 years that at least bear on this issue.

In four of these investigations, there was actually some evidence of absorption or illness among family members in a home where a bread winner was exposed to lead, mercury, asbestos, or a particular growth hormone.

And in the other three, we were dealing with issues in the workplace that involved heavy contamination of skin or clothes so that the potential was there.

So from the literature and from our investigations, it appears to us that the problem of take-home toxins is usually associated with two things: either very high exposures in the workplace—and frequently these are workplaces that are far above—the exposures are far above any existing OSHA standards, and also workplaces in which there are very inadequate practices in terms of clothes changing, washing up before going home.

So as I see it, the solution to this problem is the same solution as that to toxicity to workers in the workplace, and that is namely to reduce the exposures in the workplaces to levels that are safe, so that neither workers nor their families are at risk.

In other words, if the preamble of the Occupational Safety and Health Act, which calls for safe and healthful working conditions for American workers, if that were achieved in this country, I think the problem of take-home toxins would be solved.

In conclusion, we are grateful for the attention Congress is directing to this public health problem. As with all occupational diseases and injuries, the take-home toxin problem is a man-made problem, and therefore at least to a large extent, is preventable.

Thank you. I will try to respond to questions you may have.

[The prepared statement of Dr. Millar follows:]

Prepared Statement of Dr. J. Donald Millar

I am Dr. J. Donald Millar, Director of the National Institute for Occupational Safety and Health (NIOSH) of the Centers for Disease Control (CDC), Public Health Service, Department of Health and Human Services. With me today is Mr. Richard men, Director of the NIOSH Washington Office. I appreciate this opportunity to testify on the exposure to workers' families from hazardous chemicals and substances transported from the workplace, and on S. 353, the "Workers' Family Protection Act of 1991."

In 1986, the American Journal of Industrial Medicine published an article by Dr. Edward Baker—who had recently joined NIOSH as an Assistant Director—and Dr. Barry Knishkowy, a colleague, summarizing reports dating from the 1950's through the 1980's of disease among family members resulting from "second hand," toxic occupational exposures. In the cases reviewed, workers exposed in industries to toxins such as lead, beryllium, arsenic, asbestos, PCB', dioxin, and certain pharmaceuticals, were unknowingly transporting these toxins home on their clothes and persons. In some cases, the wives of these workers were most affected, having been highly exposed to those toxins in washing their husbands' work clothing. In other cases, involving lead and synthetic estrogens, the health effects appeared among the workers' children, who were most sensitive to the toxin. The health effects reported in this review included berylliosis, mesothelioma, chloracne, systemic toxicity, hyperestrogenism, and other clinical and subclinical effects.

At NIOSH, we have addressed the problem of "take-home toxins" in our Health Hazard Evaluation (HHE) program. In the HHE Program, which is a mandated NIOSH program under the "Occupational Safety and Health Act," (P.L 91-596,) we conduct evaluations of workplace safety and health conditions in response to requests for assistance from employers and employee representatives. Over the past lO years, we have addressed the "take-home toxin" problem in evaluations of work exposures to asbestos, mercury, PCB's, and an animal pharmaceutical. In the case of the animal pharmaceutical, a growth promoter with estrogenic effects, some of the male children of the workers were reported to have had gynecomastia—excessive development of the male mammary glands. In the evaluation of workers exposed to mercury, their children showed no observable health effect (e.g.1 tremors) but were found to have significantly higher levels of mercury in their bodies than children without parental occupational exposure. In the other cases, while we had no reports of health effects among family members, workers were being exposed to the take-

home toxins at levels above OSHA or EPA standards and NIOSH Recommended Exposure vels and were leaving the workplace contaminated. We verified the potential for further exposure to families and others by testing the workers' clothing and automobiles for contamination.

In each of the HHE's, NIOSH recommended appropriate decontamination procedures to the employers and employees. These procedures include showering at the workplace, and the use and appropriate disposal or onsite laundering of work clothing. Cardinal among these recommendations is that contaminated work clothing should never leave the workplace.

We have received additional information indicating the potential for a take-home toxin problem through several NIOSH surveillance systems. The NIOSH Sentinel Event Notification System for Occupational Risks (SENSOR) and the National Reporting of Occupational bad programs are systems through which the States report to us cases of workers who have health conditions that have occupational causes. These reports stimulate followup evaluations of the circumstances causing the reported health condition, such as occupational lead poisoning. Follow-up evaluations have documented repeatedly that workers potentially contaminated with lead may not be reguired by their employers to change clothes and shower before leaving the workplace.

In addition to our experience through the HHE program and our surveillance programs, NIOSH is reviewing literature on the effectiveness of chemical protective clothing and decontamination procedures in the asbestos and lead industries to prevent exposure to workers' families. This research, which was reguested by Senators Metzenbaum and Jeffords, should be completed this summer.

We recognize the importance of the issue addressed S. 353, the "Workers' Family Protection Act of 1991." We do not have sufficient information presently to assess the severity or extent of the problem presented by "take-home toxins;" therefore we agree that additional research would be helpful. However, we already have authority to conduct such research under the "Occupational Safety and Health Act" and the "Public Health Service Act." We have, in effect, conducted several case studies through our HHE program and surveillance systems. These revealed actual or probable contamination of the home and exposure of family members without documented severe health effects. However, a review of the research literature conducted by Dr. Knishkowy and Dr. Baker found acute, chronic, and fatal health effects in the past from contamination of homes with asbestos, beryllium, and other toxic substances of occupational origin.

We have several concerns about S. 353. A general problem with passage of such a bill is that it does not allow us to determine a research agenda on a priority basis. If we are reguired by Congress to initiate a new research program in this area, we will have to redirect resources from other pressing occupational safety and health research needs.

We also have concerns related to specific provisions of the bill. These provisions could provide useful information about the potential for home contamination, family exposures, and health effects resulting from exposures in these cases, but it is unlikely they will provide us with sufficient information on seriousness and prevalence of the problem to make appropriate recommendations. For this information, thorough epidemiologic studies would be needed in those industries that the case studies and data reviews reveal to be of highest potential risk. These studies would evaluate the nature, extent, and range of severity of the "take-home toxin" problem in representative operations.

Another concern is that the bill would reguire NIOSH to evaluate economic effects on workers and their communities from home contamination. NIOSH has no expertise for conducting or overseeing economic studies.

In addition, we are concerned about the reguirement that NIOSH assess house cleaning, laundry procedures, and other measures for remediation of a contaminated home. This reguirement probably exceeds our mission to conduct a program of research and other activities to address the safety and health of workers.

The administrative provisions for the proposed case studies, if enacted, are restrictive. We are not certain that all of these studies should be conducted extramurally. Moreover, extramural funding mechanisms other than grants, such as cooperative agreements, may be more appropriate. In addition, under the current provisions, grant applications would not be permitted to exceed $100,000. This limit would prohibit many potentially of useful studies involving evaluation of home contamination, psychological stress among workers and their families, and other scientific issues. We also do not believe that NIOSH should be required to issue new grant regulations because NIOSH extramural research is already covered under HHS regulations.

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Finally, we have concerns about the bill's proposed reporting reguirements. NIOSH would be reguired to issue an interim report Congress describing the results of these studies within 1 year of enactment of the bill, and a final report within 2 years. Given the time required to solicit research proposals, there probably would be no meaningful results available within 1 year. Moreover, some case studies, particularly those addressing psychological stress, would take 2 to 3 years to complete.

Because of these concerns, we do not support enactment of S. 353.

CONCLUSION

In conclusion, we are grateful for the attention Congress is directing toward this public health problem. The extent of occupational disease among American workers is, in itself, disturbing. The Bureau of Labor Statistics recorded over 280,000 cases of occupational disease in 1989, and this figure omits the toll of work-related cancer and many other occupational diseases of long latency whose connection with toxic work exposures usually goes unrecognized. We do not know the extent to which "transmission" of occupational diseases into the home and community adds to this toll, but any such transmission is unacceptable. As with all occupational diseases and injuries, disorders related to "take-home toxins" are man-made and thus preventable.

This concludes my prepared testimony. I would be pleased to answer any questions

Senator JEFFORDS. All right. I think I will listen to Mr. McMillan first, and then go to the questions.

Please proceed, Alan.

Mr. MCMILLAN. Good morning, Senator Jeffords.

I am Alan McMillan, the Deputy Assistant Secretary of Labor for the Occupational Safety and Health Administration.

I, like Dr. Millar, have a slightly abbreviated version of my full testimony, which I will ask that you put into the record.

Senator JEFFORDS. Your full statement will be placed in the record.

Mr. MCMILLAN. Thank you for the opportunity to discuss S. 353, the Workers' Family Protection Act of 1991. To place my comments on the bill in perspective, I would first like to discuss OSHA's role in regulating toxic substances.

As you know, Senator Jeffords, the OSHA Act does not provide the agency with direct statutory authority to protect the families of workers in their homes. However, many of the regulatory actions which we take to protect employees in the workplace have the beneficial effect upon their family.

OSHA has a number of regulations in place that address toxic substances in the workplace. The agency has established permissible exposure limits for more than 600 air contaminants, including substances such as ammonia, chlorine, mercury, sulfuric acid, which are all widely used in American industries.

For 25 toxic substances, including some of those mentioned in your bill, OSHA has issued comprehensive substance-specific standards. These standards include a permissible exposure limit, and they also specify protective measures, such as engineering controls, protective personal equipment, work practices, workplace monitoring, medical surveillance, and training.

A number of these comprehensive standards, such as lead and asbestos, contain specific provisions which have a protective effect upon the family of those exposed to the substances.

OSHA's lead standard requires employers to limit worker exposure to airborne lead to 50 micrograms per cubic meter of air over

an eight-hour period. The standard contains requirements for work practices, personal protective equipment, medical surveillance, respirators, training, and education.

The lead standard also contains provisions for proper laundering of protective clothing, as well as changing and showering facilities for workers who are exposed to lead. This is designed to prevent the transporting of work-related contaminants away from the workplace.

OSHA's asbestos standard contains a PEL of 0.2 fibers of asbestos per cubic centimeter of air. The standard provides for engineering controls, work practices, personal protective equipment, communication of hazards to employees, regulated areas, housekeeping procedures, record keeping, and employee training.

Employers are also required to provide protective work clothing, change rooms, and separate lockers for street clothing and work equipment and shower facilities. Additionally, employers must ensure that workers exposed to asbestos above certain levels shower at the end of their work shifts.

In addition to specific standards for toxic substances such as the two I just mentioned, OSHA enforces standards which are applicable to multiple substances.

For example, the agency enforces a sanitation standard for general industry. This regulation provides that whenever employees are required by a particular standard to wear protective clothing because of the possibility of contamination with toxic materials, the employer must provide change rooms with storage facilities for street clothes.

Since most of OSHA's comprehensive health standards contain requirements for protective clothing, workers exposed to these substances must have access to change rooms. Under these conditions, the sanitation standard also mandates that employers provide showers and appropriate cleansing agents for the employees.

OSHA's hazard communication standard requires that employers provide employees with information about the hazards of chemical substances used in their workplaces. It requires that training and education be provided to workers so that they can take precautions to minimize hazards.

The standard applies to all workplaces where employees may be exposed to hazardous chemicals. This rule addresses more than half-a-million hazardous substances used in American workplaces.

Before deciding what regulatory action is needed, we must first determine the extent of the problem. OSHA has no objection to the concept of the study of the issues related to home contamination, as would be required by Section 3 of the bill.

As for the possible regulatory action, we understand that S. 353 would allow OSHA, through procedures established in Section 6B of the OSHA Act, and that OSHA would retain the flexibility to provide under Section 6 of the OSHA Act to determine, one, the circumstances under which it would be necessary to develop a new standard; two, the priority which this rule would be given in relation to all the other hazards that must be addressed by OSHA; three, the time table for a rule; and four, the contents of the regulation.

Now, Section 4A of the proposed bill requires the Secretary of Labor to issue a regulation as appropriate within 3 years of enactment, or to report to Congress on why such a rule is unnecessary. However, as drafted, the bill would create a much shorter time period for the regulation to be issued.

Section 4A requires that the regulation be based upon studies conducted by NIOSH and other agencies that are listed in Section 3A. NIOSH is given up to 2 years from enactment to report its findings to Congress. If NIOSH were to take the full 2 years to complete the study, OSHA would then only have 1 year to issue the regulation, according to the time table that is prescribed in Section 4A.

The rule would presumably be issued under Section 6B of the OSHA Act. OSHA's experience in issuing health standards under Section 6B lead us to believe that a final rule could not be issued in 1 year.

Requirements for the OSHA Act for public participation and the time needed by the agency to review and analyze scientific and medical data associated with such a rule would most likely prevent the agency from completing a standard in 1 year. In such a short time period, it would be much more likely that OSHA could issue a notice of proposed rule making.

This concludes my statement, Senator. OSHA will be happy to work with you, the chairman of the committee, and all other members of the subcommittee in finding the most effective way of dealing with this problem.

[The prepared statement of Mr. McMillan follows:]

Prepared statement of Alan C. McMillan

Mr. Chairman and members of the subcommittee, thank you for this opportunity to discuss S. 353, the "Workers' Family Protection Act of 1991." To place my comments on the bill in perspective, I would first like to discuss the role of the Occupational Safety and Health Administration (OSHA) in regulating toxic substances.

As you know Mr. Chairman, OSHA was established pursuant to the Occupational Safety and Health Act of 1970 (OSH Act) to help assure safe and healthful workplaces throughout the Nation. OSHA is responsible for administering a national program applicable to approximately 85 million workers in some 6.5 million workplaces. The OSH Act does not provide the agency with direct statutory authority to protect the families of workers in the home. However, many of the regulatory actions which we take to protect employees in the workplace have a beneficial effect upon their families.

OSHA STANDARDS FOR TOXIC SUBSTANCES

OSHA has a number of regulations in place that address toxic substances in the workplace. The agency has established Permissible Exposure Limits (PEL) for more than 600 air contaminants, including substances such as ammonia, chlorine, mercury, and sulfuric acid, which are used widely in American industries. OSHA updated the PELs for many of the contaminants in 1989 in order to increase worker protection.

For 25 toxic substances, including some of those mentioned in S. 353, OSHA has also issued comprehensive standards. The standards include a PEL and also specify protective measures such as engineering controls, personal protective equipment, work practices, workplace monitoring, medical surveillance and training. A number of these comprehensive standards contain provisions which have a protective effect upon the families of those exposed to the substance. As examples, I will discuss the standards for lead and asbestos.

Lead exposure is one of the oldest known occupational hazards. Hundreds of years ago it was recognized that lead was harmful when inhaled or ingested. We now

know that the absorption of excessive quantities of lead may cause diseases of the kidney as well as of the peripheral and central nervous systems. The effects of lead on the nervous system range from mild behavioral symptoms to fetal brain damage. Infants and young children are especially vulnerable to the adverse effects of lead exposure. Lead exposure can also result in impotence and sterility in men as well as decreased fertility in women.

If proper workplace hygiene practices are not followed, the lead on workers' clothing may expose their families at home. OSHA is aware of instances of lead poisoning among children whose parents work in an environment with excessive amounts of lead.

OSHA first regulated lead exposure in a comprehensive way in 1978 when the agency adopted its lead standard for general industry. The standard requires employers to limit worker exposure to airborne lead to 50 micrograms per cubic meter of air over an 8-hour period. In addition to the PEL, the regulation includes provisions for monitoring and medical removal from further exposure of employees whose blood lead levels reach certain ceilings.

The standard contains requirements for work practices, personal protective equipment, medical surveillance, respirators, and training and education. The lead standard also contains provisions for proper laundering of protective clothing as well as changing and showering facilities for the workers exposed to lead. This is designed to prevent the transporting of work-related contaminants away from the workplace. Although these provisions are designed to protect workers, one of the beneficial effects is that they also help to protect the families of workers exposed to lead.

At the same time that OSHA enforces its own lead standard, we also work with other Federal agencies to address the problems associated with lead. For example, OSHA has been a participant in an interagency task force, co-chaired by the Environmental Protection Agency and the Department of Housing and Urban Development (HUD), which deals with lead abatement issues. OSHA has assisted HUD in developing written guidelines for the protection of workers who are removing lead-based paint from public housing. Lead-based paint is a major source of lead exposure for workers as well as the general public. OSHA has advised HUD on the preparation of reliable testing protocols, safe and effective abatement techniques, and clean-up methods. Proper work practices to reduce dust generation, such as wet methods and local exhaust ventilation, can limit exposures to workers as well as exposures to the occupants and neighbors of buildings in which lead-paint abatement is undertaken.

Another substance which is a danger to workers and their families is asbestos. Asbestos is one of the most well-documented health threats of any toxic substance used in American workplaces. Diseases caused by asbestos exposure are life-threatening or disabling. They include lung cancer, gastrointestinal cancer, mesothelioma, and asbestosis.

OSHA's asbestos standard contains detailed requirements to protect employees in the workplace. It also contains provisions designed to prevent workers from continued exposure once they leave the workplace.

The asbestos rule was the first comprehensive health standard developed by the agency. It was issued in June 1972. A revised rule, which lowered the PEL from 2 fibers of asbestos per cubic centimeter of air to 0.2 fibers, was issued in June 1986. In recognition of the significant differences in exposure and workplace conditions in general industry and construction, OSHA issued separate standards for these sectors. The standards provide for engineering controls, work practices, personal protective equipment, communication of hazards to employees, regulated areas, housekeeping procedures, recordkeeping, and employee training.

Provisions of the asbestos rules require steps to be taken to avoid asbestos exposure after the employee leaves the workplace. Employers are required to provide protective work clothing and ensure that it is used by employees. Clean protective clothing and equipment must be provided to each employee at least weekly. Employers are also required to ensure that employees remove any clothing contaminated with asbestos only in specified change rooms. The change room must be equipped with two separate lockers or with storage facilities in separate locations in order to prevent the contamination of an employee's street clothes by his protective work equipment. Clothing may be removed from the change room only for laundering, maintenance or disposal. Employers must also ensure that workers exposed to asbestos above certain levels shower at the end of the work shift.

In addition to specific standards for toxic substances, OSHA enforces standards which are applicable to multiple substances. For example, the agency enforces a sanitation standard for general industry. This regulation provides that whenever employees are required by a particular standard to wear protective clothing because

of the possibility of contamination with toxic materials, employers must provide change rooms with storage facilities for street clothes. Since most of OSHA's comprehensive health standards contain requirements for protective clothing, workers exposed to these substances must have access to the change rooms. Under these conditions, the sanitation standard also mandates that employers provide showers and appropriate cleansing agents for employees. The sanitation requirements are intended to ensure that workers do not remain exposed to toxic substances away from their workplaces. They have.the indirect effect of protecting the families and friends of employees from workplace chemicals.

OSHA has issued a standard to protect employees conducting clean-up operations at hazardous waste sites and those who respond to emergency releases of hazardous substances. Included in this regulation is the requirement that all employees leaving a contaminated area must be appropriately decontaminated. All contaminated clothing and equipment must also be decontaminated or disposed of.

OSHA's Hazard Communication Standard requires that employers provide employees with information about the hazards of the chemical substances used in their workplaces. It requires that training and education be provided to workers so that they can take precautions to minimize the hazards. The standard applies to all workplaces where employees may be exposed to hazardous chemicals. This rule addresses more than a half million hazardous substances used in America's workplaces.

COMMENTS ON S. 353

Although the Administration shares with the authors of S. 353 the concern that we prevent or mitigate home contamination from toxic substances used in the workplace, it does not support enactment of S. 353. We understand that the intent of the bill is to protect workers and their families from exposure to toxic substances.

Before deciding whether regulatory action is needed, we must first determine the extent of the problem. OSHA has no objection to the concept of a study of the issues related to home contamination as required in section 3 of S. 353.

As for possible regulatory action, we understand that S. 353 would allow OSHA to act through procedures established by section 6(b) of the OSH Act and that OSHA would retain the flexibility provided under section 6 of the OSH Act to determine: (1) the circumstances under which it is necessary to develop a new standard, (2) the priority which this rule would be given in relation to other hazards that must be addressed by OSHA, (3) the timetable for the rule, and (4) the contents of the regulation.

Section 4(a) instructs the Secretary to issue a "regulation" unless the Secretary determines that it is unnecessary. Since the rule, which would address contamination from toxic substances, would be a health standard rather than a regulation under section 6(b) of the OSH Act, it would be appropriate that the word "regulation" be changed to "standard" whenever it appears in section 4.

Section 4(a) requires the Secretary of Labor to issue a regulation, as appropriate, within three years of enactment report to Congress on why such a rule is unnecessary. Howe as drafted, the bill could create a much shorter time period for the regulation to be issued. Section 4(a) requires that the regulation be based upon the studies conducted by the National Institute for Occupational Safety and Health (NIOSH) and other agencies listed in section 3(a). NIOSH is given up to 2 years from enactment to report its findings to Congress. If NIOSH were to take the full 2 years to complete the study, OSHA would then have only 1 year to issue the regulation according to the timetable in section 4(a).

The rule would presumably be issued under section 6(b) the OSH Act, since it is not otherwise specified in the bill. OSHA's experience in issuing health standards under section 6(b) leads us to believe that a final rule could not be issued in 1 year. Requirements in the OSH Act for public participation and the time needed by the agency to review and analyze scientific and medical data associated with such a rule would most likely prevent the agency from completing the standard in 1 year. In such a short time period it would be much more likely that OSHA could issue a Notice of Proposed Rulemaking.

This concludes my statement. I would be happy to work with you, MNr. Chairman, and any other members of the subcommittee in finding the most effective wa of dealing with this problem.

Senator JEFFORDS. Dr. Millar, to summarize your testimony, it would seem to me you are saying that there is sufficient evidence out there that indicates that you can carry toxins home from the

workplace, and therefore there is no need to study it, and that the action that must be taken to correct it is something that we ought to take up with OSHA. Is that a quick summary?

Dr. MILLAR. I think that is not a complete summary of my position. I think that—I don't believe there is adequate information on the extent of the problem. And in fact, I think it would be very worthwhile to support studies to determine the extent of the problem.

Senator JEFFORDS. All right.

Dr. MILLAR. My point is that the existing information doesn't give me much comfort in assigning a higher priority to this particular problem, as opposed to many other problems in this field for which our limited research dollars——

Senator JEFFORDS. Well, do you feel that the study would be more appropriately done by someone else?

Dr. MILLAR. No, I don't think that that is the case. I think NIOSH really is an agency that has expertise in the matter of determining the extent and epidemiology of occupationally-related problems.

I think it is not inappropriate for us to be interested in this, and in fact we have been interested in it to the extent of responding to situations that come to our attention through HHE requests and investigating those situations.

We have contributed, I think, considerably to the knowledge of this problem through those kinds of responses.

Senator JEFFORDS. Well, you place those of us as legislators in a difficult position with your answer, in saying that yes, there are problems out there. Yes, studies should be done, but there are other more important things to be studied than this, and therefore that is the end of it as far as we are concerned in NIOSH.

Then we have to make some judgments as to what, if anything, we should do—pass the legislation, order a study, and then you will say, well sure, we put it in, but it is at the end of the priority list. We are down to priority ten, and you are number 35 on the list.

So then we end up with a continuing problem. I appreciate your answer, I understand what you are saying, but it does leave us in a difficult position.

Mr. McMillan, in view of the fact that there seems to be a recognized problem, and you indicated the rather long list of procedures and all that you have hopefully to prevent this kind of a problem, then you talk in terms of the rules, etc.

What do you recommend? How do we try to solve this problem, then, if we are having these problems even though they are probably in violation, or at least the result of violation, of OSHA rules and regulations?

I suppose your answer is that we need more investigators and more money in order to do an adequate study of this investigation and to be able to enforce procedures. Is that basically where you come down, or would some additional regulations or standards be appropriate to help?

Mr. MCMILLAN. Well no, Senator Jeffords. I don't certainly agree that the answer is one that results simply from more money and more inspectors.

I think that the problem clearly has been articulated and recognized by OSHA, by NIOSH, certainly by the previous panel, and I do think there are things that we can do and they are things that we should do.

Maybe on the front end of what we ought to look at is more education, and not just education directed at the employer, though that is clearly important, because from our perspective, we hold them responsible. The Act holds them responsible for a safe and healthful workplace.

But I think we have to do a better job of even getting down to the workers themselves. We have wrestled with what is the best way to do this, as it relates to issues of hygiene that are associated with the standards that we do have.

I brought with me several booklets, and several of these are really new booklets. They are booklets that we have put together dealing with asbestos and general industry, in construction, and one also that we have recently issued on mercury.

And in both of these, I think we have tried to begin to more recently reach out with information to the workers about the critical importance that the standards and the rules that the Occupational Safety and Health Administration puts in place and that the employer hopefully will have in place and will enforce, that they understand them, they understand the key link between the necessity for changing and showering and using separate clothing to take home when they are working with toxic substances so that they don't bring home contamination. I believe that that may help as well.

I also think that perhaps we need to go back and take a look at our own internal procedures, quite frankly. We have in different regulations, different specific standards, certain ancillary provisions which I addressed to you as they related to asbestos and as they related to lead.

We have a general provision for environmental controls in our general industries that talks about change rooms and showering and the requirements where personal protective equipment is used.

We have in our mercury—we don't have a mercury-specific standard, we have a PEL for mercury. But we do have a compliance directive for mercury. And the compliance directive for mercury tells our compliance officers to look for issues about clothing and footwear and showering and contamination not leaving the plant, unless it is packaged for laundering and decontamination or disposal.

I think we need to do a better job internally in our own organization of maybe bringing some of these things together and getting maybe the word out to our compliance officers and to our field staffs, so that when they go into the facilities, they have maybe a better understanding and appreciation of the regulatory tools that we have given them today and maybe can use them more effectively in the future.

Senator JEFFORDS. I think you mentioned some 25 chemicals that you presently had standards for. Is that a sufficient list? Are there only 25 that require that kind of——

Mr. MCMILLAN. No, it is not a sufficient list, and in fact there are other chemicals that are under proposals even today. We have

an agenda, obviously, even as NIOSH indicated they have an agenda of priorities that we are always trying to work on, and there are a number of additional health standards that are specific to a particular substance, toxic substances, that are even in the pipeline as we speak here today, either in the advanced notice of proposed rule making stage, the proposal, or on their way to final rules.

I think that we will always have some list within the priorities that we have that we will be working on.

Senator JEFFORDS. I appreciate your testimony. I would like to work with you and examine exactly just how you are approaching these issues so we can better decide as to exactly what action should be taken.

I know that standards for workers at hazardous waste sites, for instance, we have some concerns there. I think there is presumed equipment on the site, but there isn't much about taking care as to what is going home in the shoes and those kinds of things.

There are a number of these areas where we hope that you will be looking to ensure better action in these areas. I thank you all for your testimony, and appreciate it very much as we move forward to see what we can do to try to reduce the amount of risk to our families at home in these situations.

Thank you very much.

Dr. MILLAR. Thank you, Senator.

Senator JEFFORDS. Our third panel is Mr. Gordon Banks, Executive Director of the American Industrial Hygiene Association from Akron, OH; Harold Schaitberger, Executive Assistant to the President, International Association of Firefighters Association, Washington, DC; and Neil D. Wernick, President of Rifkin-Wernick Associates of Rhinebeck, NY.

I welcome you all here. We will have a five-minute rule in place for this panel, as we have some time constraints, to ensure that I have adequate time for questions.

Mr. Banks, will you please proceed.

STATEMENTS OF CHRISTOPHER WIERNICKI, CHAIRMAN, PROTECTIVE CLOTHING AND EQUIPMENT COMMITTEE, AMERICAN INDUSTRIAL HYGIENE ASSOCIATION; HAROLD A. SCHAITBERGER, EXECUTIVE ASSISTANT TO THE PRESIDENT, INTERNATIONAL ASSOCIATION OF FIREFIGHTERS, WASHINGTON, DC; AND NEIL D. WERNICK, PRESIDENT, RIFKIN-WERNICK ASSOCIATES, RHINEBECK, NY

Mr. Wiernicki. I am here in place of Mr. Banks. My name is Chris Wiernicki. I am the——

Senator JEFFORDS. I am sorry. Would you spell your name, please?

Mr. Wiernicki. It is W-I-E-R-N-I-C-K-I.

Senator JEFFORDS. Thank you.

Mr. Wiernicki. I am with the American Industrial Hygiene Association. I am the Chairman of the Protective Clothing and Equipment Committee, and I am here to provide the testimony on behalf of the AIHA, which is in support of S. 353, the Workers' Family Protection Act of 1991.

We have written testimony that we would like to have submitted and accepted as part of the record.

Senator JEFFORDS. It will be made a part of the record, yes.

Mr. Wiernicki. In addition to that, I would like to make a few comments above and beyond that.

Senator JEFFORDS. Please do.

Mr. Wiernicki. The American Industrial Hygiene Association has well over 9,000 members and is the largest nonprofit international association representing industrial hygienists, occupational health, and environmental health professionals.

The American Industrial Hygiene Association members are dedicated to the prevention of injury, illness, or impairment to workers and members of the community by promoting recognition, evaluation, and control of environmental stresses arising in or from the workplace.

Our organization's membership includes individuals from industry, government, academia, labor, and private practice. The American Industrial Hygiene Association does have 44 technical committees, one of which is the Protective Clothing and Equipment Committee.

We have an interest in S. 353, not so much because it talks about regulating something I think NIOSH and OSHA have already talked about, the fact that there are a number of regulations in this area, but because it really does put sound science up front.

The fact that you wish to investigate the particular extent of this problem is what we feel is a key issue here—to look into it and find out exactly how widespread it is and how significant it is.

The key issue is control of exposure in the workplace. That is where you have to cut it off. Protective clothing is used frequently as a means to protect workers. In our profession, we generally advocate other measures to be taken first—engineering controls or administrative controls—because there are certain limitations with protective clothing.

They obviously do nothing to reduce the airborne level of contaminants, so if you have an asbestos worker, you may have him in a respirator and clothing, but that really does nothing to reduce the airborne levels out there. You are protecting him, but at the time the job is over, you can run into problems because you may transfer contamination to him when taking the clothing off or if the clothing is taken out of the controlled air, then it can transport contamination to the home and so on.

So it is, I think, relevant that we look into this issue and find out the extent of it and study it.

I would like to go back to some of the comments made earlier by the doctor and his position on the fact that there is a need for industrial hygienists not associated with companies, because our observations and what we have seen indicates that really the opposite is true, and I can take two examples to show you what that is.

For a number of years, I headed up a protective clothing program at a very large facility employing well over 10,000 people involved with many, many different types of hazards. We had a very comprehensive and extensive protective clothing program that included clothing supplied by the company, instructions on how to don it, take it off, how to use it, specific controls on that clothing so

that people showered before they left, took the clothing off, it was laundered either on-site or sent off-site to an outside place to be laundered.

Industrial hygienists did air testing, monitoring, reviewed the program, and it was very effective, worked very well, and contaminants were not taken off the plant site.

In another case, we went into a small brass machining operation and there was no professional person there to establish a personal, look over the program. We observed people who were machining brass products containing lead. Workers were coming in in their clothing, generally T-shirts and jeans, carrying their lunch pails to the worksite, sitting them down there, smoking cigarettes there, and quite a bit of airborne lead was being generated.

They were unaware of this. They didn't realize the controls that were necessary because they were not educated and informed about the OSHA requirements and good industrial hygiene practices.

However, once we informed them of the problems that were there and sat down with them and explained what was going on and what had to be done to control it, they responded very promptly.

So I think a lot of it is an issue of educating and enlightening not only workers but management at a lot of facilities where they do not either have the financial means or knowledge of industrial hygiene to hire either hygienists or other types of occupational health professionals to come in and help them out.

[The prepared statement of Mr. Wiernicki follows:]

Prepared Statement of Christopher Wiernicki

Mr. Chairman and members of the subcommittee, my name is Christopher Wiernicki. I am the manager of the Environmental Health Group for the Aetna Life & Casualty Company. I am a Certified Industrial Hygienist and a Certified Safety Professional. I am currently the Chairman of the American Industrial Hygiene Association's Protective Clothing and Equipment Committee. I am here to provide testimony as the representative ot the American Industrial Hygiene Association in support of S. 353, the "Workers' Family Protection Act of 1991."

The American Industrial Hygiene Association (AIHA), with over 9,000 members is the largest nonprofit, international association representing industrial hygienists, occupational health and environmental health professionals. AIHA members are dedicated to the prevention of injury, illness, or impairment to workers and members of the community by promoting the recognition, evaluation, and control of environmental stresses arising in or from the workplace. Our organization's membership includes individuals from industry, government, academia, labor and private practice.

The AIHA has 44 technical committees to address issues comprising all aspects of occupational and environmental health. One of these committees is the Protective Clothing and Equipment Committee. The goals of this committee are:

Assemble, evaluate, and disseminate relevant information to occupational and environmental health professionals on preventing harmful skin contact with chemicals, physical, or biological agents.

Promote mutual employer-employee productivity through use of protective clothing and equipment.

Actively participate in identifying and responding to protective clothing and equipment issues.

Promote the use of good scientific principle in legislative and regulatory activities that affect workers and members of the community.

The AIHA is interested in the "Workers Family Protection Act of 1991" because it addresses one of the three fundamental control strategies recognized for eliminating or minimizing worker exposures to workplace hazards. This fundamental control strategy regards workplace protective clothing and equipment.

The research provisions of S. 353 are focused on the issues needed to be addressed to determine the magnitude and severity of the clothing contamination issue. Also, the bill recognizes the agencies with the required expertise and resources to conduct and/or manage the research. AIHA strongly feels that the needed research into this problem should be conducted and conluded prior to the possible adoption of any regulatory standard.

Worker clothing contamination is ultimately a workplace problem.

The most efficient and cost effective way to deal with this issue is in the workplace before it spreads. This bill will give regulatory jurisdiction to OSHA if the research shows it necessary and we feel this is most appropriate.

The "Workers' Family Protection Act of 1991" presents a well framed scientific approach with immediate benefits to the American public. It recognizes the fact that human exposures to chemicals, physical and biological agents may not end in the workplace. These hazards can be carried beyond the fence line into peoples' homes by contaminated clothing and workers.

While there is some evidence to indicate the problem exists, there is much we don't know:

What industries and or workplaces are most likeLy to result in community contamination by workers and their clothing?

Which contaminants are most likely to be carried home from the workplace?

What is the prevalence and incidence of home contamination cases? Is this a serious problem or just a few isolated incidents?

What are the best methods to prevent transfer of contaminants to homes and other parts of the community:

Traditionally industrial hygienists and other occupational health specialists responsible for controlling exposures in the workplace have recommended engineering and administrative controls rather than personal protective clothing and equipment.

We have taken this position because protective clothing and equipment does nothing to eliminate the source of the hazard. Coveralls and a respirator can be used to protect an asbestos abatement worker removing asbestos insulation in a boiler room. However, the coveralls and respirator do nothing to reduce the airborne concentration of asbestos fibers in the air around the worker. Consequently one or two undesired things can happen.

The protective clothing or equipment can be misused or fail, allowing the hazardous substance or agent being kept out to enter and contact the worker. In addition the protective clothing or equipment may become contaminated. This contamination may be transferred to the worker during the process of removing the clothing or equipment. The contamination can be spread further throiighoiit the community when the clothing is laundered or disposed of or transferred from the contaminated worker to other people in the community including family members.

Therefore protective clothing must be treated as a "last line of defense" for worker protection.

In a practical world, there are cases where protective clothing is the only method available to protect workers. This may be due to the process, design or age of the facility, or the infrequent nature of the task.

Many employers with industrial hygienists on staff have comprehensive protective clothing and cquipment programs. These programs generally include worker training, locker rooms with showers, onsite or contracted decontamination or laundering of protective clothing, clean clothing for each day or task and hazard monitoring.

Most workers don't work for an employer large enough or sophisticated enough to employ an industrial hygienist or other occupational health specialist. This lack of control programs can result in incidents of transfer of contaminants beyond the workplace. This gap of protection for American workers and their families must be filled if it exists.

The "Workers' Family Protection Act of 1991" puts good science into public policy. To this end the American Industrial Hygiene Association supports the bill and offers the knowledge and experience of its members, particularly through its technical committees as a resource available to all the agencies involved with contributing to the "Workers' Family Protection Act of 1991." We are at your service.

Thank you for the opportunity to present this testimony. Mr. Chairman, I would be happy and pleased to answer any questions.

Senator JEFFORDS. Just a quick question. What about families? No one has mentioned informing or educating the families. Shouldn't that be done as well?

Mr. Wiernicki. That should be part of it, certainly, that when you inform the worker you should give them information to take home with them perhaps, that they can spread on to the members of their families and so on.

But really, if you control it at the workplace and don't allow anything to come out of there, you have eliminated that problem in terms of the workplace.

Senator JEFFORDS. Mr. Schaitberger.

Mr. SCHAITBERGER. Thank you, Senator.

On behalf of the International Association of Firefighters, I am here today to address and support Senate Bill 353, the Workers' Family Protection Act of 1991.

As you may know, the IAFF is an international union affiliated with the AFL-CIO, and we currently represent over 190,000 paid professional firefighters throughout the United States and Canada.

Over the last decade, many profound advances have been made in both the laws and programs designed to improve workers' safety and health in the United States.

For example, from 1971 to the present, the Occupational Safety and Health Administration and the National Institute of Occupational Safety and Health have initiated and stimulated numerous projects to improve the ability of employers and employees to recognize, avoid, and control occupational safety and health hazards.

Special projects and training programs have been conducted for small and medium-sized businesses, high-hazard industries, leaders of organized labor, supervisors, apprentices, and others.

Generally these intended improvements have been made with the best interests of the worker in mind. However, the favorable impact of the improvements, when impact is considered to be the reduction of deaths and the frequency of severity of injuries and illnesses, is unevenly distributed.

While some industries in particular crafts have enjoyed a reduction in industry diseases and death, many occupations have experienced little or no change at all. The firefighting profession illustrates a selective impact of past safety and health initiatives.

Despite the advances made in safety and health areas, firefighters are still being killed, injured, and diseased at an alarming rate. Professional firefighters experience inordinate numbers of line-of-duty deaths, deaths due to occupational diseases, forced retirements, and line-of-duty injuries.

Firefighters fatalities were almost double those of police officers and also rank with other publicized hazardous occupations such as mining and construction. The data also showed that over 50 percent of all firefighters can be expected to be seriously injured at least once during the course of a single year.

Clearly, professional firefighting is deserving of concentrated attention and support in order to reduce the number of injuries, illnesses, and deaths.

One area that the IAFF has been directly involved in for a number of years has been the issue of firefighters' para-occupational exposures. These are exposures that firefighters as well as their families receive from the clothing that they wear or from furnishings, appliances, or vehicles that such clothing was worn in or on, transported in, or cleaned in at the home of the employee.

Such exposures continue until the clothing is disposed of or decontaminated. The cleaning of structural firefighting protective clothing must be conducted periodically to remove foreign, flammable, and toxic contaminants. Periodic cleaning should prolong the life of the protective clothing and help maintain its performance and ultimately the protection of the firefighter.

Cleaning must recognize that the garment is composed of a combination of materials. Each of these materials has its own unique characteristics, capabilities, and weaknesses. Even fabrics inherently flame-resistant can have this characteristic negated by improper care and use.

The amount of soil and the care procedures and chemicals utilized can adversely affect a fabric's performance. Thus, procedures utilized to clean such materials must protect the weakest of the materials.

Historically, fabric suppliers' care recommendations have failed to consider the other materials which comprise the garment. Thus, many recommendations, while appropriate for the suppliers' own material, would have destroyed the garment because of their impact on other materials.

We make a recommendation that there should be industrial cleaning products and facilities available for the protective clothing which the employer should purchase or enter into a cleaning contract. The IAFF has been recently involved in such an evaluation of protective gear for our membership.

On April 10, 1991, a fire at an illegal dump site in Jersey City, NJ, exposed numerous firefighters to toxic byproducts of chemical composition. The fire involved tires as well as containers of chemical waste, reportedly including benzene, xylene, DDT, and PCBs at a 15-acre site. Over 300 firefighters were involved in the incident, and approximately 90 have presently reported chemical exposure injuries.

Immediately after this incident, the International Association of Firefighters formally requested that NIOSH provide technical assistance through a health hazard evaluation in characterizing the exposure of the firefighters during this fire.

We also asked that NIOSH review the response procedures, including postincident decontamination and the medical monitoring provided to all exposed firefighters. Finally, we asked that NIOSH review the records of those injured firefighters to determine if proper care was provided for these occupational exposures.

After our initial request, our local affiliate in New Jersey had one of the fire coats worn during the incident cleaned by the national Safety Clean, a national protective cleaning firm. The company provided us with a report, with test date from the effluent from the initial wash which we in turn forwarded to NIOSH and asked them to evaluate. We have attached the initial response from NIOSH for the committee's review.

I need to stress that the 300 firefighters returned to quarters with the clothing worn at the site. Additionally, the work uniforms worn by these firefighters were taken home for cleaning with the family laundry. This is not a special incident, but a day-to-day occurrence in the fire service.

I would like to stress the need for inclusion of infectious agents in any study conducted in regards to this legislation. Firefighters are exposed to numerous infectious agents while performing their duties as firefighters, paramedics, and emergency medical technicians.

These exposures occur during firefighting activities, victim rescue, and body removal for structural and nonstructural fires, during rescues, extrications from vehicles, while performing emergency medical duties as first responders, EMTs, and paramedics during hazardous material incidents, where biological materials are involved, and during day-to-day activities involving their peers and the general public.

As always, Mr. Chairman, the IAFF appreciates the opportunity to express our views before you, and we look forward to working with you on this and other issues affecting the Nation's fire service.

[The prepared statement of Mr. Schaitberger follows:]

Prepared Statement of Harold A. Schaitberger

Mr. Chairman, my name is Harold Schaitberger, and I am the executive assistant to the president of the International Association of Fire Fighters. On behalf of the IAFF, I am here today to address and support S. 353, the Workers' Family Protection Act of 1991.

The IAFF is an international labor union affiliated with the AFL-CIO and the Canadian Labor Congress. At the present time, we represent approximately 190,000 paid professional fire service employees in the United States and Canada. The membership of the IAFF is employed by various entities including the Federal Government, States, counties, municipalities, fire districts, airports and industrial manufacturers.

Over the last decade, many profound advances have been made in both the laws and programs designed to improve worker safety and health in the United States. For example, from 1971 to the present the Occupational Safety and Health Administration and the National Institute for Occupational Safety and Health have initiated and stimulated numerous projects to improve the ability of employers and employees to recognize, avoid and control occupational safety and health hazards. Special projects and training programs have been conducted for small and medium sized businesses, high-hazard industries, leaders of organized labor, supervisors, apprentices, and others.

Generally, these intended improvements have been made with the best interests of the worker in mind. However, the favorable impact of the improvements—when impact is considered to be the reduction of deaths and the frequency and severity of injuries and illnesses—is unevenly distributed. While some industries and particular crafts have enjoyed a reduction in injuries, diseases, and death, many other occupations have experienced little or no change at all.

The fire fighting profession illustrates the selective impact of past safety and health initiatives. Despite the advances made in safety and health areas, fire fighters are still being killed, injured and diseased at an alarming rate. Professional fire fighters experience inordinate numbers of line-of-duty deaths, deaths due to occupational diseases, forced retirements, and line-of-duty injuries. Fire fighter fatalities were almost double those of police officers and also ranked with other publicized hazardous occupations, such as mining and construction. The data also showed that over 50 percent of all fire fighters can be expected to be seriously injured at least once during the course of a single year. Clearly, the profession of fire fighting is deserving of concentrated attention and support in order to reduce the number of injuries, illnesses and deaths.

One area that the IAFF has been directly involved in for a number of years has been the issue of fire fighters' para-occupational exposures. These are exposures that fire fighters, as well as their families, received from the clothing that they wear or from furnishings, appliances or vehicles that such clothing was worn in or on, transported in or cleaned in at the home of the employee. Such exposures continue until the clothing is disposed of or decontaminated.

The cleaning of structural fire fighting protective clothing must be conducted periodically to remove foreign, flammable and toxic contaminants. Periodic cleaning should prolong the life of the protective clothing and help maintain its performance and ultimately the protection of the fire fighter. Cleaning must recognize that the garment is composed of a combination of materials. Each of these materials has its own unique characteristics, capabilities and weaknesses. Even fabrics inherently flame resistant can have this characteristic negated by improper care and use. The amount of soil and the care procedures and chemicals utilized can adversely affect a fabric's performance. Thus, procedures utilized to clean such materials must protect the weakest of the materials. Historically, fabric suppliers' care recommendations have failed to consider the other materials which comprise the garment. Thus, many recommendations, while appropriate for the supplier's own material, would have destroyed the garment because of their impact on the other materials.

Clean protective clothing reduces health and safety risks, therefore, it is recommended that clothing be cleaned frequently to reduce the level of and bodily contact with contaminants. User agencies should establish guidelines for frequency and situations for garment cleaning. For gross contamination with products of combustion, fire debris or body fluids, removal of contaminants by flushing with water as soon as practical is necessary, followed by appropriate cleaning. Decontamination may not be possible when protective clothing is contaminated with chemical, radiological, or biological agents. When decontamination is not possible, garments should be discarded in accordance with local, State, and Federal regulations. Whatever the case, the IAFF continues to recommend that protective clothing as well as any other clothing worn at work not be taken home under any circumstances. We make this recommendation with the recognition that there are industrial cleaning products and facilities available for protective clothing which the employer should purchase or enter into a cleaning contract. The IAFF has been recently involved in such an evaluation of the protective gear of fire fighters. On April 10, 1991 a fire at an illegal dumpsite in Jersey City, New Jersey exposed numerous fire fighters to toxic by-products of chemical combustion. The fire involved tires as well as containers of chemical wastes, reportedly including benzene, xylene, DDT and PCB's, at a 15 acre site. Over 300 fire fighters were involved in the incident and approximately 90 have presently reported chemical exposure injuries. Immediately after this incident, the International Association of Fire Fighters formally requestedthat NIOSH provide technical assistance through a Health Hazard Evaluation in characterizing the exposure of the fire fighters during this fire. We also asked that NIOSH review the response procedures, including post incident decontamination, and the medical monitoring provided to all exposed fire fighters. Finally we asked that NIOSH review the records of those injured fire fighters to determine if proper care was provide for these occupational exposures.

After our initial request, our Local affiliate in Jersey City had one of the fire coats worn during this incident cleaned by National Safety Clean, a national protective clothing cleaning firm. The company provided us a report with test data from the affluent from the initial wash which we in turned forwarded to NIOSH and asked them to evaluate the data and review this cleaning process. We have attached the initial response from NIOSH for the Committee's review. I need to stress that the 300 fire fighters returned to quarters with the clothing worn at the site. Additionally, the work uniforms worn by these fire fighters were taken home for cleaning with the family laundry. This is not a special incident, but a day-to-day occurrence in the fire service.

The IAFF would like to address some specific sections in the present language. First we believe that the time frames are much to long. We believe that NIOSH has the capability to initiate the required study immediately. Additionally, we would like to add to the list of employee transported releases the following:

by-products of combustion; radiological agents; and infectious agents.

I would like to stress the need for the inclusion of infectious agents. Fire fighters are exposed to numerous infectious agents while performing the duties as fire fighters, paramedics and emergency medical technicians. These exposures occur during fire fighting activities, victim rescue a body removal for structural and non-structural fires, during rescues, extrication from vehicles, while performing emergency medical duties first responders, EMT's and paramedics, during hazardous material events where biological materials are involved and during day-to-day activities involving their peers and the general public.

As always, Mr. Chairman, the International Association of Fire Fighters appreciates the opportunity to appear before you, and we look forward to working with youy on this and other issues affecting the Nation's fire service.

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Centers for Disease Control
National Institute for
Occupational Safety & Health
Robert A. Taft Laboratories
4676 Columbia Parkway
Cincinnati, OH 45226-1998

July 18, 1991

Mr. Richard M. Duffy, Director
Department of Occupational Safety & Health
International Association of Fire Fighters
1750 New York Avenue, N.W.
Washington, D.C. 20006

Dear Mr. Duffy,

This letter is in response to your request for NIOSH to review the cleaning process used by National Safety Clean, Inc., and to evaluate their results from the cleaning of a fire coat. The fire coat was submitted by the Jersey City Fire Department and IAFF Local 1066 to determine if sufficient decontamination was performed after use by fire fighters responding to an illegal dumpsite fire on April 10, 1991. The fire coat was cleaned using the Safety Clean Process, and the resulting affluents were collected for laboratory analysis.

The results of the analysis performed on the cleaning affluents from the initial wash showed that lead, chromium, and petroleum hydrocarbons were detected. The resulting concentrations for these contaminants were determined to be 0.031 milligrams of lead per liter of affluent (mg/l), 0.015 mg/l of chromium, and 92.0 mg/l of petroleum hydrocarbons. Mr. Frank LeMaster, chief executive officer for National Safety Clean, indicated that this hydrocarbon buildup appears to be high.

In order to determine if this contamination was due to use during the dumpsite fire and if the hydrocarbon buildup was high, additional information and\or sampling would be needed. Samples of fire gear, that was not used at the dumpsite fire, would need to be washed and the affluents analyzed by the same methods used for the other fire coat. This analysis would determine the amount of contamination due to typical use, such as structural fires. It would also be technically correct to wash and analyze the affluents from fire gear that has never been used at a fire. This type of information would help determine the level and type of contamination resulting from the dumpsite fire.

In order to determine if the fire coat is sufficiently decontaminated, additional washes would be necessary. The affluents from each wash should be analyzed to determine the percent reduction of the contaminants. Subsequent washes should be performed until the percent reduction is negligible. Since additional information, such as the identity of the wash solution and analytical methods used, was not included in the report from National Safety Clean, further review of the cleaning procedures is not possible at this time. This additional information will be requested from National Safety Clean.

Page 2 - Mr. Richard M. Duffy

As part of the NIOSH Health Hazard Evaluation (HETA 91-190) being conducted for the dumpsite incident, we will review the results of sampling performed by the Environmental Protection Agency. Samples of fire gear used and unused during the dumpsite incident were collected by the EPA for analysis. The results of this analysis are not yet available. The review of the EPA's results and any additional information provided by National Safety Clean will be included in the final report for this Health Hazard Evaluation.

If you should have any questions regarding this letter or the Health Hazard Evaluation requested by the IAFF, please feel free to contact me at (513) 841-4374.

Sincerely yours,

Gregory M. Kinnes

Gregory M. Kinnes, M.S.
Industrial Hygienist
Industrial Hygiene Section
Hazard Evaluations and Technical Assistance Branch
Division of Surveillance, Hazard Evaluations, and Field Studies

cc:
D. Harrington, EPA
J. Krajnik, IAFF Local 1066
F. Lemaster, National Safety Clean
D. Lemen, NIOSH
M. Pierro, Jersey City Fire Department

Senator JEFFORDS. Thank you very much.
Mr. Wernick.

Mr. WERNICK. Senator Jeffords, thank you for the opportunity to testify at this hearing.

My name is Neil Wernick, and I am the President of Rifkin-Wernick, Incorporated, of Jenkintown, PA.

My firm conducts market research and provides consulting services in the fields of environmental protection, worker safety, and health care.

I have a full statement and documentation which I would like to submit for the record, and I would like to summarize my comments for you at this time.

Senator JEFFORDS. Yes, you may do so. We will make that a part of the record. Thank you.

Mr. WERNICK. Thank you. My testimony relates to work practices and the removal of asbestos from buildings, both public and private. Our data indicate that inadequate OSHA regulations and ineffective decontamination procedures are likely to be resulting in the daily exposure to asbestos of at least 20,000 workers and their families.

We and other stakeholders in the so-called asbestos abatement industry believe that the current Federal OSHA regulations are so vague and underprotective that thousands of workers are now being legally outfitted with protective coveralls made from materials that are not protective at all. A garment made of fishnet would be legally acceptable under existing OSHA standards.

Our field research and several scientific studies show that workers who wear this type of coverall may actually be carrying home deadly asbestos fibers off the job at the end of every work day, and these are fibers which, as you know, Senator, can be later dislodged and inhaled by the worker, his wife, or his children with lethal consequences.

The current OSHA Federal regulation, which is 29 CFR 1926.58, the language there is very vague and nonspecific, and it has caused significant confusion in the regulated community. The agency did not explain its use of the word protective, which it includes in that language. It does, however, have a nonmandatory Appendix F to that standard which advocates the use of disposable, impervious—being the key word—impervious coveralls that are equipped with head and foot covers and such coveralls typically made of a fabric called tyvek.

A nonmandatory standard means that contractors and other people who purchase protectable garments for asbestos have been and remain free to completely ignore the recommendations of imperviousness.

Our research shows that price and not protection is the key factor that influences the purchase of garments for asbestos work. At this point in time, 60 to 70 percent of all the garments used by asbestos workers are the lower-priced, porous, and penetrable garments.

This translates to the likelihood that each working day, at least 20,000 workers are carrying home asbestos fibers on their hair, their skin, and their clothing.

OSHA does require that each worker showers prior to leaving a contaminated area, with the expectation that any asbestos on the worker's skin or hair will be washed away. The problem with this expectation is that, as indicated by two recent scientific studies, decontamination showers may not work nearly as well as it is assumed.

We believe that these findings raise disturbing questions about the efficacy of the mandated decontamination procedures. The study results indicate that the combination of porous garments and ineffective showering may be allowing workers to routinely leave job sites still contaminated with asbestos.

The fact is that technologically and economically feasible garments already exist to reduce worker exposure to acceptable levels. Based on the results of our research, we have recommended to OSHA that the agency adopt a mandatory standard for imperviousness for all protective garments worn for asbestos abatement work as part of their ongoing remand process. Simply the insertion of the word impervious into the mandatory standard will accomplish the task.

It is my opinion that rectifying the situation through the current remand procedure is appropriate and important. Support for this mandatory standard has come from all quarters, including Congress, labor unions, and garment manufacturers.

However, OSHA has recently told us that because garments are not a specific remand issue, the agency may not be addressing this shortcoming in the regulation, and since the agency has no court mandate to undertake protective clothing revisions, it simply may opt not to make that change.

We would argue, as you might, Senator, that this would be terribly short sighted. We sincerely hope that the agency does not choose this course of action. We believe that the evidence with which OSHA has been presented is persuasive, and therefore the agency must, under the OSHA Act, implement a standard that is most protective of human health.

I trust that the testimony that I have presented to you today will assist your efforts to ensure that workers and their families are guaranteed freedom from carrying home contamination, and I thank you for your attention and giving me this opportunity.

[The prepared statement of Mr. Wernick follows:]

Rifkin-Wernick Associates

July 26, 1991

Good morning, Senators/Representatives:

Thank you for the opportunity to testify at this hearing. My name is Neil D. Wernick and I am the president of Rifkin-Wernick Incorporated of Jenkintown, PA. My firm conducts market research and provides consulting services in the fields of environmental protection, worker safety and healthcare.

I am here today to share with this panel the results of three years of research into one worker health and safety issue in particular: the potential for secondary contamination of asbestos abatement workers and their families due to inadequate protective apparel and ineffective decontamination practices.

We, and others in the so-called "asbestos abatement industry", believe that the current Federal Occupational Safety and Health Administration (OSHA) regulations are so vague and underprotective that thousands of workers are now being legally outfitted with "protective" coveralls made from materials that are not protective. Materials that are so porous that over 70% of the asbestos fibers to which they are exposed in laboratory testing go right through.

Our field research and several scientific studies show that that workers who wear this type of coverall may be carrying deadly asbestos fibers off the job site at the end of their workday. These are fibers that can later be dislodged and inhaled by the worker, his wife or children--with lethal consequences.

Recent health studies have pointed out the consequences of asbestos exposure. In 1990, a report from the American Cancer Society revealed that wives and children of asbestos workers are dying of cancer at a rate 100% higher than the general population. Their only apparent exposure was dust which was brought home on the clothes of their husbands and fathers. This alarming fact has particular relevance to the role of protective clothing. In my testimony today, I will:

1. Explain the state and status of the current Federal regulations that are supposed to protect the worker from just such secondary contamination.

2. Demonstrate how and why these regulations are clearly inadequate.

3. Provide data on the patterns and practices in the field that exacerbate the dangers to which workers are left open by the regulations.

4. Prove that technologically and economically feasible apparel already exist to reduce worker exposure to the lowest possible level.

5. Detail our efforts to make OSHA aware of this information and correct the deficiency of the regulations.

The current OSHA Federal Regulation, 29 CFR 1926.58, Section (i) Protective Clothing, Paragraph (1) reads as follows:

(Chart 1)

"THE EMPLOYER SHALL PROVIDE AND REQUIRE THE USE OF PROTECTIVE CLOTHING, SUCH AS COVERALLS OR SIMILAR WHOLE BODY CLOTHING, HEAD COVERINGS, GLOVES, AND FOOT COVERINGS FOR ANY EMPLOYEE EXPOSED TO AIRBORNE CONCENTRATIONS OF ASBESTOS THAT EXCEED THE TWA AND/OR EXCURSION LIMIT PRESCRIBED IN PARAGRAPH (C) OF THIS SECTION."

This paragraph, which is the only explanation of protective clothing requirements in the mandatory portion of the rule, is vague and non-specific, and it has caused confusion among the regulated population. The agency did not explain what it meant by "protective". There is no standard of protection cited and no test method referenced to evaluate how protective a garment should be. Actually, a coverall made of fish net would meet this requirement.

At the time the rule was enacted, however, the Agency did indicate the intended makeup and function of the garments: in non-mandatory appendix F, the following language was included:

(Chart 2)

"DISPOSABLE COVERALLS. EMPLOYEES INVOLVED IN ASBESTOS REMOVAL OPERATIONS SHOULD BE PROVIDED WITH DISPOSABLE IMPERVIOUS COVERALLS THAT ARE EQUIPPED WITH HEAD AND FOOT COVERS. SUCH COVERALLS ARE TYPICALLY MADE OF TYVEK® (1). THE COVERALL HAS A ZIPPER FRONT AND ELASTIC WRISTS AND ANKLES."

(FOOTNOTE) 1. MENTION OF TRADE NAMES OR COMMERCIAL PRODUCTS DOES NOT CONSTITUTE ENDORSEMENT OR RECOMMENDATION FOR USE.

In the third line of this recommendation is the key word "impervious." It is clear from the use of the word "impervious" that OSHA expected these garments to serve as a barrier between the worker and the asbestos-laden atmosphere of the work area. This barrier would serve to reduce his (and others') exposure to asbestos inhalation by minimizing the amount of asbestos that would lodge on his skin, in his hair and on his street clothes--asbestos that could later become dislodged and subsequently inhaled.

It is generally accepted that the presence of asbestos fibers on the skin or hair does not represent a safety or health hazard to the worker. Direct health effects result only from inhalation. Thus, the main protection the worker needs on the job is a respirator.

Protective garments were and still are intended to serve instead to prevent secondary inhalation of asbestos--fibers carried out of the containment area by the worker which later become airborne.

The problem is that the section in which the requirement for imperviousness appears is not mandatory. This means that contractors and other purchasers of protective garments for asbestos abatement have been and remain free to completely ignore the recommendation of imperviousness. Our data show that today 60% to 70% of all garments used by abatement workers are porous, penetrable coveralls. This translates to the likelihood that each working day, at least 20,000 workers are carrying home asbestos fibers on their skin, hair and clothing.

The majority of garments meet the letter of the mandatory rule, but fall far short of being impervious, as we will demonstrate, and the percentage of workers wearing these porous suits continues to increase.

GARMENT DEMONSTRATION

These suits are exactly the type currently in use in the abatement industry. To the untrained observer, both of these asbestos abatement garments appear similar, but they are in fact quite different. The first garment is made of an impervious material and the second garment is made of a penetrable fabric. We want to demonstrate for you this morning the great difference in the ability of these fabrics to stop asbestos penetration despite the similarity of their appearance.

My associate will cut off a sample of each of these materials and fasten it into an embroidery ring. Next, he'll put a small amount of cornstarch baby powder on top of each fabric sample and then gently tap the two rings on top of a piece of blackboard. For your information, the size of the baby powder particles is about the same, or slightly larger, than the size range of asbestos particles. As youwill clearly see, the powder particles easily penetrate the porousmaterial while none goes through the impervious fabric.

(PAUSE FOR DEMONSTRATION)

This is obviously not a scientific test, but given the rigorous nature of the work done on abatement jobs, this demonstration is certainly a reasonable challenge for fabrics that are supposed to be protective.

OSHA officials have told us that when the current regulation was written, the protective garment was envisioned as the first layer of a two-layer system of protection; the sytem was designed to prevent workers from carrying fibers out of the containment area. However, since the majority of suits being worn on abatement jobs today are not as protective as OSHA wanted them to be, the first layer of the protective system is already compromised.

This brings us to the second layer of the protection system -- the decontamination shower. OSHA requires each worker to shower prior to leaving a contaminated area, with the expectation that any asbestos on the worker's skin or hair will be washed away.

The problem with this expectation is that it may not be correct. Two new studies, which were conducted in 1990 with the encouragement of OSHA, seem to indicate that decon showers may not work nearly as well as is assumed, and the combination of the requirements for garments and showers that was intended by OSHA to keep workers safe is not functioning as planned.

The decontamination studies that were done raise serious questions about whether or not showering can be counted on to remove asbestos fibers from workers' hair and skin. To answer these questions, we first looked into the literature, seeking a report, study, or other document which could have been used by the writers of the original rule to confirm that the required shower would remove contamination; we could find none. OSHA personnel to whom we spoke could not recall a study of this subject in the original-rule writing process.

In fact, the only reference to the question we could find was a 1977 article in a British periodical, The Annals of Occupational Hygiene, which stated that it required 5 washings with shampoo to remove asbestos contamination from the hair of a worker.

In subsequent conversations with OSHA personnel, it appears that it was just assumed that a shower with soap would remove any contamination. It should be noted that their level of anxiety about the efficacy of the showers was probably not too high, since they intended for all the workers to be dressed in impervious coveralls in the first place. These impervious garments would have kept the contamination to a minimum.

Let me emphasize at this point that the 1990 studies were pioneering laboratory studies only; they were conducted to gain initial information and were not intended to be full-scale clinical research projects. In both cases simulated showering was used, and in both, substantial attention had to be given to methodology, since this type of work had not been done before, to our knowledge. There was no standardized test method previously devised and accepted by the scientific community. The hair study in its entirety is included in our evidence submission.

Most important was the conclusion of the study which was:

(Chart 3) "The results of this limited study indicate that SHOWERING MAY BE INEFFECTIVE AS A MEANS OF REMOVING ASBESTOS FIBERS FROM HUMAN HEAD HAIR."

The methodology and details of the second test, the skin study, are presented in the complete full report which we also submit to this panel. The very limited testing did show that quantifiable amounts of asbestos did remain on the washed skin.

Despite the absence of more substantial field testing, we believe that these findings raise disturbing questions about the efficacy of the mandated decontamination procedures.

The study results certainly do make clear that this combination of practices may be allowing workers to routinely leave job sites still contaminated with asbestos. If this is so, there is daily being created the potential hazard of secondary inhalation of asbestos fibers by both workers and their families.

At this point, I'd like to comment and elaborate on current work practices and worker attitudes gained through my company's extensive asbestos-related market research conducted in 1989 and 1990. Through focus group interviews with workers and sales information provided by manufacturers and distributors we reached the following conclusions:

1. The use of light-weight and porous garments has proliferated since 1989;

2. In the absence of a mandatory protection standard, low price and not worker safety is and will continue to be the primary buying influence for garments in the asbestos abatement field;

3. Wearing two garments and inadequate showering are common practices among abatement workers;

4. Knowledge of asbestos-related health risks was lacking among buyers and workers.

Let me share with you some selected quotes taken from the focus group interview conducted with abatement workers in the first quarter of 1989.

(Chart #4)

There is the old trick of a lot of contractors double suiting rather than having a decon...You could wear street clothes under it and you need not take a shower.

Philadelphia abatement worker

Tomorrow I'm going to set up a decontamination chamber just for show and tell for this hygienist but I'm going to have double suiting.

Philadelphia abatement worker

We're not worried about (protection). Fibers don't hurt the outside of the body.

Houston abatement worker

What a lot of people do is, if they don't shower and go through decon, they go home and shower.
Houston abatement worker

There is no risk because you can't absorb asbestos through the skin.
Los Angeles abatement worker

Based on the results of this research, we made certain recommendations to OSHA. Our recommendations to the agency were: (1) OSHA should adopt a mandatory standard for imperviousness for all protective garments worn for asbestos abatement work, as part of their remand process. To effect this change, all that needs to be done is to insert the key word "impervious" into the mandatory language of paragraph (1) which would then read:

(Chart 5): "THE EMPLOYER SHALL PROVIDE AND REQUIRE THE USE OF **IMPERVIOUS** PROTECTIVE CLOTHING, SUCH AS COVERALLS OR SIMILAR WHOLE BODY CLOTHING, HEAD COVERINGS, GLOVES, AND FOOT COVERINGS FOR ANY EMPLOYEE EXPOSED TO AIRBORNE CONCENTRATIONS OF ASBESTOS, TREMOLITE, ANTHOPHYLLITE, ACTINOLITE OR A COMBINATION OF THESE MINERALS THAT EXCEED THE TWA AND/OR EXCURSION LIMIT PRESCRIBED IN PARAGRAPH (C) OF THIS SECTION."

That action would return the industry to the level of protection it initially enjoyed. It might also raise the level of concern for effective barrier protection on the part of workers, many of whom now flout the regulations by refusing to shower, or who double suit in an effort to avoid showering.

(2) OSHA should also include in Paragraph (i) a requirement that all garments, regardless of material, meet the requirements of ANSI/ISEA standard 101-1985, entitled "Limited-Use and Disposable Protective Coveralls - Size and Labeling Requirements." Adoption of this concensus standard as mandatory would deal with two serious problems: (1) undersized garments, and (2) variation in sizing practices from manufacturer to manufacturer. These two sizing problems frequently cause sudden and premature garment failure, particularly at garment seams, resulting in worker contamination.

The ANSI/ISEA standard sets minimums for key garment dimensions, thus preventing undersizing. It could also lead to an industry concensus on sizing, which would mean that garment sizing would be more uniform. Finally, the labeling requirement will facilitate tracing garments back to their manufacturer in cases where garments fail to meet requirements.
Other industry or government standards dealing with the barrier effectiveness of protective clothing are currently being developed. The American Society of Testing Materials F-23 committee on protective clothing is developing test methodology to measure dry particle penetration of garment fabrics.

The United States Navy is implementing standards that address barrier protection and deal with the same issue, with specific regard to asbestos abatement.The protective apparel requirements of the current version of the OSHA standard are vague and non-specific. This has allowed abatement contractors to outfit workers in less-protective, porous garments based on price, instead of the effective protective suits that OSHA originally recommended.

Rectifying this situation through the current remand procedure is appropriate and important. Support for a mandatory standard has come from all quarters including Congress, Labor Unions, and Garment Manufacturers. However, OSHA has told us that because garments are not a specific remand issue, the Agency may not address this shortcoming in the regulation.

We sincerely hope that the Agency does not choose this course of action. We believe that the evidence with which OSHA has been presented is persuasive, and therefore that the Agency must, under the OSHA Act, implement a standard that is most protective of human health.

But we are also aware that in the context of the present rulemaking, protective garments are a "micro issue." That is, faced with having to make changes in major sections of the regulations, the tiny portion of the regulations taken up by the protective garment section may appear to OSHA to be insignificant. And, since the Agency has no Court mandate to undertake protective clothing revisions, it simply may opt not to make the change.

We would argue, as I believe you might, Senator Jeffords, that this would be terribly short-sighted.

When it comes to worker health and safety issues, the Senate is a powerful force for positive change. We have seen the influence that Subcommittees such as this one can exert to encourage reluctant agencies to do the right thing. We hope that the testimony I have presented to you today will assist your efforts to ensure that workers and their families are guaranteed freedom from carry-home contamination.

Thank you for your attention and for giving us the opportunity to present this information.

References:

(1) Rifkin-Wernick Associates, "Market Opportunities in Asbestos Abatement: A New Look at an Industry in Transition", Jenkintown, PA, 1990.

(2) Rich, Laurie A., "Clothing of Peril", Occuational Hazards, February, 1991, pp. 30-32.

(3) Arthur D. Little, Inc., "A Preliminary Assessment of The Effectiveness of Five Fabrics as Barriers to Asbestos", ADL Reference Number C-87352, Cambridge, Mass., May, 1982.

(4) Arthur D. Little, Inc., "Determination of The Barrier Effectiveness of Tyvek® 1422A, KleenGuard® BP, and Polybond® to Asbestos Penetration, ADL Reference Number C-60838, Cambridge, Mass., January, 1991.

(5) Good, R. and Waldron, J., "Penetration of Overall Hoods by Water-Borne Crocidolite Fibres", Annals of Occupational Hygiene, vol. 20, 1977, pp. 195-196.

(6) Jose, D. J. and Salzenberg, C.H., "Effectiveness of Decontamination Procedures Used By Asbestos Abatement Workers", ASTM, June, 1991.

(7) Rifkin-Wernick Associates, "Asbestos Abatement 1991", Jenkintown, PA 1991.

(8) E. I. Du Pont de Nemours and Company, "Protective Clothing and the Risks of Asbestos Exposure", 1990.

Index of Submissions by
Neil D. Wernick
Rifkin-Wernick, Inc.,Jenkintown, PA
to
The Subcommittee on Labor
Hearing on S. 353, The Worker's Family Protection Act of 1991
July 26, 1991

1) Full text of presentation to the subcommittee

2) Jose, Dr. D. J. and Salzenberg, C. H. " The Effectiveness of Decontamination Procedures Used by Asbestos Abatement Workers". ASTM, June, 1991

3) Rich, Laurie A., " Clothing of Peril" , Occupational Hazards, February 1991, pp. 30-32.

4) Good, R. and Waldron, J., " Penetration of Overall Hoods by Water-bourne Crocidolite Fibers", Annals of Occupational Hygiene, Vol. 20, 1977, pp. 195-196.

5) Arthur D. Little, Inc., " The Effectiveness of Showering As a Means of Removing Asbestos Fibers from Human Head Hair", ADL Reference Number C-64936, Cambridge, Mass., September 1990

6) Aurther D. Little, Inc., " A Preliminary Assessment of the Effectiveness of Five Fabrics as Barriers to Asbestos", ADL Reference Number C-87352, Cambridge, Mass., May, 1982.

7) Aurther D. Little, Inc., " Determination of the Barrier Effectiveness of Tyvek® 1422A, Kleenguard® BP and Polybond® to Asbestos Penetration", ADL Reference Number C-60838, Cambridge, Mass., January 1991.

8) E. I. DuPont de Nemours & Co., Inc., " Protective Clothing and the Risks of Asbestos Exposure", 1990.

9) Salzenberg, C. H., " The Need for Impervious Garments for Asbestos Abatement Workers", presentation to O.S.H.A., January 1991.

10) Dr. James J. Leyden, M. D., "Report of Evaluation of Simulated Showering to Remove Asbestos Fibers from Human Skin", University of Pennsylvania, October, 1990.

11) Micron, Inc., " Asbestos on Skin", Wilmington, DE., May, 1990.

[Due to the high cost of printing, the submissions supplied by Mr. Wernick are retained in the files of the subcommittee]

Senator JEFFORDS. Thank you very much for your testimony. I will start with my questioning of you.

This is a very difficult area, in the asbestos field, and certainly the public generally has been very aware of the problems created by asbestos. I am pleased, but I am concerned that even with all of the effort and work that has gone into this, we have not developed sufficient protection for workers and families in this area, and that is basically what you are saying, I think?

Mr. WERNICK. Yes, I am.

Senator JEFFORDS. I certainly will be following up on that, and appreciate very much your testimony.

I welcome Senator Metzenbaum here. I deeply appreciate your coming, Mr. Chairman, and I would be happy——

Senator METZENBAUM. Slightly late.

Senator JEFFORDS. I understand. We all have a rather difficult time trying to get ourselves to where we want to be. It is not quite possible. Do you have a statement you would like to make at this point?

Senator METZENBAUM. Well, first I want to commend you for providing the leadership on the Workers' Family Protection Act and for your concern about protecting workers and their families and the environment. I am pleased to be joining you in cosponsoring this legislation.

I know you have had a distinguished panel that has already appeared before the committee, and rather than encumber the record, what I will do at this point, Mr. Chairman, is ask unanimous consent that my statement be included in the record at the opening of the session.

Senator JEFFORDS. Most certainly.

Mr. Schaitberger, you gave very interesting testimony and yet difficult testimony in the sense of how we protect firefighters like you mentioned, who has responsibility and all those kind of questions. Maybe you don't have the answers either, because it is kind of complicated, but if you could give me some ideas on what we should do, recognizing a study of course would be helpful, but also I would like to know your thoughts.

Would it be possible, for instance, to require factories or areas that have these toxins to immediately inform or provide lists so that firefighters know that when they go to a fire there that they must take additional action during and after the fire? What do you recommend?

Mr. SCHAITBERGER. Well, there are several aspects to our problem. Certainly, the first, as you are mentioning in your question, is information.

One of the items that we find that we lack most when responding to emergencies is the insufficient information as to exactly what we are dealing with. This particularly in the hazardous material and chemical area, and particularly as it is relating to transportation, but also to on-site hazardous material incidents.

I would like to just draw your attention for a moment—I think that it is overlooked or not recognized that firefighters are virtually the first responders on the scene of all of these incidents, whether we are talking about an emergency situation, a clean-up site, emergency situations with transportation incidents, accidents, by-

products of combustions from fires in warehouses and in many of the industries that we are discussing that workers in those industries certainly have an opportunity for contamination, our people are exposed to these contaminants, byproducts on a daily basis in virtually every incident of an emergency that occurs where they are located.

The thing that we find that we lack often is information—what are we really dealing with. So we believe that, for example, the Department of Transportation—and we have been promoting and pushing on that Department to provide better and more timely information on hazardous materials and chemicals in those related areas and incidents. And that can certainly translate into on-site locations as well.

I think the second problem that we see is the lack of Federal government jurisdiction and authority over many of our membership. As I am sure you are aware, OSHA has yet full authority or official authority over State and local government firefighters except in those locations, some 26 States, which have adopted their own OSHA standards.

So we have half of our membership in these United States which are not afforded any of those protections that currently exist in OSHA or may be developed or come about as a result of this or other legislation.

So certainly being covered by and subject to those standards and protections is a secondary that we would certainly suggest.

Senator JEFFORDS. I deeply appreciate that, because you have raised some very interesting questions and problems.

Mr. Wiernicki, I believe that NIOSH and the unions and industry must work together on these kind of things, and I wondered what role you, in your organization, could play in this cooperative effort.

Mr. Wiernicki. Well, I think we can certainly add to that cooperation, since our membership includes representatives from all of those areas. Our protective clothing committee looks at a number of facets of protective clothing, but we are—our charge is to investigate protective clothing, looking at ways to educate workers and management on the efficiency of protective clothing, how to properly use it.

One of the things we are in the process of doing is looking into writing a comprehensive protective clothing program document, a how-to guide, which would be something available to membership and also to go outside.

So we can certainly assist. We have members on our committee that have many years of expertise working with hazardous waste sites, working at plant sites with protective clothing programs. So we can throw our expertise into that arena and certainly help out.

Senator JEFFORDS. I appreciate that information.

Mr. Wernick, you work with industry. What is their perception, the industries you work with, of the kinds of problems that you were enumerating. Do they seem to be aware of them, or what?

Mr. WERNICK. Well, the asbestos abatement industry, as it has come to be called, is quite an anomaly. It is quite different from industry in general, because what we see is buildings—even a

building like this—being converted into a temporary work site for a specific amount of time.

So there is a vast distinction between the work practices that exist in an industrial plant and on a temporary work site such as a public or commercial building.

Senator JEFFORDS. How do you think that your experience with asbestos transfers to other contaminants? Do you have any thoughts on that?

Mr. WERNICK. I don't know. I don't know. The evidence that we have and the detailed research has been limited to the asbestos arena. It would be pure speculation outside of that.

Senator JEFFORDS. Thank you. Is there a member of the carpenters and joiners union here, do you know? I think they wanted to put testimony in. I am sure they will get it to us, and we will have the record open.

I also would mention that we invited the business community to participate today, and they decided not to participate, Mr. Chairman.

And I will ask also, Mr. Chairman, that we have some additional letters of support and some other information which we might make part of the record and also leave the record open for a week for submission of additional statements.

[The information from Senator Jeffords follows:]

DURAFAB, INC

LYNN E. GOLDSTEIN
VICE PRESIDENT

April 8, 1991

The Honorable James M. Jeffords
United States Senate
Washington, D.C. 20510

Dear Senator Jeffords:

On behalf of Scott Durafab, Inc., I want to thank you for introducing S.353, the Workers' Family Protection Act of 1991.

Scott Durafab is a subsidiary of Scott Paper Company, the world's largest manufacturer and marketer of sanitary tissue paper products. Scott Durafab manufactures a broad array of protective clothing and accessories in our role as one of the world's largest manufacturers of reusable/disposable protective wear.

S.353, if enacted, will be an important first step towards assuring workers and their families a greater level of protection from exposure to hazardous chemicals and substances. We have felt for many years that workers and their families are not properly protected in many situations. A good example of this is the asbestos worker who in many instances wears improper clothing which allows fiber to contaminate his or her hair, skin and even street clothing. Even after the required on the job showering these fibers are not removed from the skin and hair. Enclosed is the synopsis of recent studies made by E.I. DuPont de Nemours and Company on the Risks of Asbestos Exposure. These risks are not only true of asbestos but also lead dust, fiber glass, agricultural dusts and many other fine particulates which are or could be hazardous to the worker and his or her family. The worker and his family must be protected.

DURAFAB, INC. P.O. BOX 658 CLEBURNE TX 76033 817-645-[illegible] FAX 817-645-5818
A UNIT OF THE COMMERCIAL BUSINESS
SCOTT WORLDWIDE SCOTT PAPER COMPANY

Again, I appreciate your support for this important legislation. please let me know if I can be of any assistance.

Sincerely,

Lynn Goldstein
Vice President

LEG/lh

cc. The Honorable Joe Barton

Enclosure

Enclosure

Olin

120 LONG RIDGE ROAD. P.O. BOX 1355. STAMFORD. CT 06904-1355

July 25, 1991

N. O. NEUNABER
Director, Environment, Health and Safety
(203) 356-3647

The Honorable James M. Jeffords
U.S. Senator
Dirksen Senate Office Bldg.
Washington, D.C. 20510

Dear Senator Jeffords:

We at Olin Corporation support your efforts under the proposed Workers Family Protection Act of 1991 (S. 353) to require the National Institute of Occupational Safety and Health (NIOSH) to study the issue of workers in a variety of industries and occupations unwittingly tracking potentially hazardous substances home from the workplace.

As a diversified industrial company with operations in chemicals, metals, and ammunition, Olin can especially appreciate the need for and value of a broad-based study of this issue. By identifying the potential hazards, and recommending the best protective measures being practiced nationwide, NIOSH would be performing a vital service for employees and their families throughout America. We would hope that NIOSH would draw upon the expertise of industrial toxicologists and medical and safety professionals in developing and evaluating such protective measures.

Although Olin is diligent in its efforts to identify and mitigate potential risks from workplace contaminants, we would welcome any insights that might be provided through the NIOSH study. This reflects our underlying philosophy that when it comes to workplace safety, there is always room for improvement. Moreover, we also feel that a key component of any comprehensive workplace safety program is a proactive effort to encourage off-the-job safety as well.

Our support for S. 353 also is a natural outgrowth of our Responsible Care® initiative. Responsible Care requires us to do two critical things: to continuously improve our performance in the areas of health, safety and environmental quality; and to do our utmost to respond to concerns about our products and operations. We can think of no greater concern to our employees than feeling secure that they work in a safe environment and that they don't "bring work home with them" in the form of possible contaminants.

Please do not hesitate to write or call me at (203) 356-3647 should you need any information regarding Olin's workplace safety practices or related matters.

Respectfully yours,

Neil Neunaber
Director, Environment, Health & Safety

cc: R. E. Smith
Olin-Wash. D.C.

NAM
National Association of Manufacturers

MICHAEL E. BARODDY
Senior Vice President
Policy and Communications

July 8, 1991

The Honorable Cass Ballenger
House of Representatives
Washington, D.C. 20515

Dear Cass:

I am sorry for the delay in responding to your letters concerning your "Workers' Family Protection Act" (H.R. 845). We appreciate your efforts to get out in front on this important issue, and hope to work with you in developing a bill which will produce a sound scientific framework for evaluating possible home contamination risks by workers who carry hazardous substances home on their clothing.

Shortly after we received your letter, we distributed your proposed bill to members of our OSHA Policy Subcommittee here at NAM for their review and comment, and I am pleased to report that we did not receive any negative feedback. The most important question raised by the reviewers goes to the heart of this issue: Is the goal of this legislation to prevent disease, or prevent exposure?

I understand that Donna Costlow, who has responsibility for OSHA issues at NAM, and Dr. Marty Reape, Chairman of our OSHA Policy Subcommittee, met with Ashley McArthur of your staff on June 28 to discuss the bill. Our reviewers believe you should avoid getting into a situation where NIOSH studies the problem and releases a report which is promptly criticized and/or denounced by other scientific groups. As a result, several language changes were recommended in an effort to assure that good science is applied in identifying and evaluating the risks involved in home contamination. Based on their meeting, I understand a written recommendation is also being prepared, and should reach you shortly.

Again, thank you for your efforts. We look forward to working with you on this and other legislation to ensure the safety and health of America's workers.

With best regards,

Sincerely,

1331 Pennsylvania Ave., NW
Suite 1500 - North Lobby
Washington, DC 20004-1703
(202) 637-3113 Fax (202) 637-3182

Annette B. Haag, RN
President

Matilda A. Babbitz, RN
Executive Director

News Release

For Immediate Release
May 24, 1991

Contact: Mary Darden at (404) 262-1162
or (800) 241-8014

Occupational Health Nurses Support Workers' Family Protection Act

The Board of Directors of the American Association of Occupational Health Nurses (AAOHN) voted to take a position of support of the Workers' Family Protection Act (S.353 and HR.845)

The bill, introduced by Senator James Jeffords (R-Vermont) and Representative Cass Ballenger (R-North Carolina) would require the National Institute for Occupational Safety and Health to conduct a study of the prevalence and issues related to contamination of workers' homes with hazardous chemicals and substances transported from their workplace, and to issue or report on regulations to prevent or mitigate the future contamination of workers' homes.

Sen. Jeffords expressed concern that industrial workers are unknowingly bringing home lead, mercury, pharmaceuticals and other toxic substances on themselves and/or their clothing. In Vermont, North Carolina and other states, elevated levels of these toxins, which can cause permanent damage to the nervous system, were found in the children of several workers.

"As occupational health nurses, we seek to help workers and their families achieve and maintain the highest levels of health throughout their lives, said Annette Haag, president. "This study will provide information that may protect the life and health of many Americans."

No further action has been taken on either bill since they were referred to the Senate Labor and Human Resources Committee and House Health and Safety Subcommittee.

AAOHN, the professional association for registered nurses who provide on-the-job health care for the nation's workers, has more than 12,000 members in 184 constituent associations nationwide.

-30-

DU PONT

DuPont Fibers

June 11, 1991

Senator James Jeffords
United States Senate
Labor Subcommittee
607 Hart Senate Building
Washington, D.C. 20510

Re: Hearings on S.353, The Workers Family Protection Act of 1991

Dear Senator Jeffords:

We applaud your efforts to ensure that workers and their families are not endangered by contaminants brought home from the workplace, through your introduction last year of the Workers' Family Protection Act, S.353 in the current session of Congress.

E. I. Du Pont de Nemours is one of the world's leaders in the development and production of fabrics used in impervious protective garments for workers. One of our goals is the elimination of secondary contamination of workers and their families through the appropriate use of impervious protective clothing and effective decontamination.

We know that you are aware of our work to convince the Occupational Safety and Health Administration (OSHA) under the current rulemaking on CFR 1926.58, the asbestos regulations, that the agency should adopt a mandatory standard of imperviousness for all disposable protective garments worn by asbestos abatement workers.

We feel that the research we have done on secondary contamination of workers and their families in the asbestos abatement and other fields is particularly germane to the Labor

Subcommittee's deliberations on S.353. Our work, and that of others, has convinced us that secondary contamination after workers leave the job site is a problem of potentially major proportions. We therefore encourage the Subcommittee to hold hearings on the bill, so that we and others who are interested in worker/family health and safety might share our knowledge and concerns in a public forum.

Please keep us advised about upcoming hearings you will be holding on S.353. We would be interested in offering testimony and comments.

Thank you for your kind consideration.

Sincerely,

Larry Gallagher /d

Laurence D. Gallagher
Tyvek® Marketing

LDG:dld

Senator METZENBAUM. I think you are doing superb work in providing leadership in this area, and I expect to help you in every way possible. I think the question of what you take home is very relevant to the kind of health the American people have, and I think you are on the right track.

Senator JEFFORDS. Thank you.

I want to thank the panel for very excellent and very helpful testimony.

Mr. SCHAITBERGER. Mr. Chairman.

Senator JEFFORDS. Yes, please.

Mr. SCHAITBERGER. May I offer for the committee, just prior to our departure, for your deliberation the recent studies which were conducted on the reproductive hazards of firefighting as it relates to both chemical and nonchemical situations, and which was recently published in the American Journal of Industrial Medicine?

I think that you will find that after reviewing these studies, that certainly an analogy can be drawn between the contaminants and the exposures that firefighters bring home from the workplace as it relates to reproductive problems both with the employee and the spouse of those employees, both male and female.

Senator JEFFORDS. Thank you very much. That will be very helpful to us.

Mr. Chairman, just in closing, I would say that, as I did in my opening, that we are spending an awful lot of money on the impact outside of the plant gates to citizens and air and other toxins and we spend a considerable amount of effort on what goes on inside the plant, but where we haven't really fully investigated is what happens when the employee goes home and carries the toxins with him on his clothes and ends up creating a serious health hazard to the family.

So I think we are trying to look at that gap today, and we have had some excellent testimony.

Senator METZENBAUM. I think you are doing well. I am very happy to join with you, and appreciate your leadership.

Senator JEFFORDS. Thank you.

[Additional statements and material submitted for the record follow:]

PREPARED STATEMENT OF THE CHEMICAL MANUFACTURERS ASSOCIATION

The Chemical Manufacturers Association (CMA) appreciates the opportunity to present its views on legislation proposed by Senator Jeffords, S. 353, the "Workers' Family Protection Act of 1991. CMA is a nonprofit trade association whose member companies represent more than 90 percent of the productive capacity for basic industrial chemicals in the United States.

CMA members are concerned about the health of workers and their families. We have made a public commitment to operate our plants andfacilities in a manner that protects the health and safety of our employees and the public. Our experience indicates that appropriate controls and practices need to be tailored to the specific workplace environment, the hazards present, and the potential for significant contamination to spread outside the work environment.

While we believe adequate regulatory authority already exists within the Occupational Safety and Health Administration (OSHA) to address this issue, we offer our support for appropriately designed research focused on improving controls for those hazardous substances that may be carried out of the workplace. We offer our experience and expertise to OSHA and the National Institute for Occupational Safety and

Health (NIOSH) as they evaluate current work practices and respond to concerns in this area.

While we believe that contamination of workers' families and homes is not a widespread occurrence in the chemical industry and is limited to a small number of materials, CMA supports the principal objective of this bill, i.e., to conduct research on the extent and potential impact of the conveyance of hazardous substances by workers into their homes. However, we question the focus of the research proposed in the bill. CMA believes that the research should be aimed at identifying ard preventing the transfer of hazardous agents from the workplace, and not aimed at measures directed at controlling contamination in homes after the fact. We agree with that portion of the testimony delivered by the American Industrial Hygiene Association which states that "worker clothing contamination is ultimately a workplace problem. The most efficient and cost effective way to deal with this issue is in the workplace..."

CMA believes that contamination of chemical industry workers homes from chemicals carried out of the workplace is an infrequent problem because of current extensive control provisions in the workplace. Present OSHA standards regulate exposure to hazardous substances by a hierarchy of engineering and administrative controls, and personal protective equipment. Engineering and administrative controls, along with sound industrial hygiene work practices, are designed to reduce the amount of hazardous substances in the work environment and thereby lower the amount available for contact with workers and their clothing. Adequate personal protective clothing further reduces the chance for contact by providing a barrier between the environment and the worker's own clothing. These control methods are augmented by OSHA mandated education and training. In addition, comprehensive industrial hygiene and, where appropriate, medical monitoring programs, further ensure control of exposures in the workplace and, consequently, potential spread to workers' homes.

Several reports, on a limited number of substances, have been cited in support of the proposed bill. These preliminary reports need to be fully investigated to confirm the circumstances that led to transporting materials out of the workplace and into workers' homes. We do not believe this has been done. Complete characterization of the issue is a critical first step in determining the need for further, longer term research or actions. The case reports may provide specific examples that can be used to focus research and improvements in current workplace practices and controls.

The National Institute for Occupational Safety and Health has been involved in a few of the limited cases that have been cited. CMA believes they, along with the Occupational Safety and Health Administration, are in the best position to evaluate these cases fully and provide an accurate characterization of the issue. Since both organizations have the authority to conduct this evaluation, additional legislation may be unnecessary.

The issues of contamination and health risks associated with contaminated clothing involve complicated underlying technical considerations. Follow-up research should be designed to employ scientific approaches and methods to address defined objectives. We believe that NIOSH is the appropriate agency to lead a research effort. Additionally, in its efforts to plan sound scientifically-based research initiatives, NIOSH may benefit from consultation with industrial hygiene professional associations such as the American Industrial Hygiene Association.

In determining action or additional research in areas that may be identified from the cases cited, consideration should be given to the benefits of enhanced training and education directed at specific problems. The prevention of hazardous contamination of workers' homes begins with good industrial hygiene practices in the workplace. Educating and training workers in recognizing potential health hazards and following good work practices is one important tool for protecting workers and keeping materials from leaving the workplace. Evidenced by OSHA's Hazard Communication Standard, education and training is an effective tool for minimizing potential hazards in the workplace and, consequently, workers' homes.

In closing, we would once again like to emphasize our support for efforts to advance our understanding of the workers' home contamination issue. We support, in principle, research that can help to further protect our workers and their families, and we offer our expertise to assist NIOSH and OSHA in carefully examining this issue in the future. Thank you for this opportunity to share our views and we welcome future opportunities to be of assistance.

Prepared Statement of the National Association of Manufacturers

I. Introduction

The "Workers' Family Protection Act" (S. 353/H.R. 845) was introduced on February 5, 1991 by Senator Jef fords (R-VT) and Representative Ballenger (R-NC). It would require the Director of the National Institute for Occupational Safety and Health (NIOSH) to conduct a study of the prevalence and issues related to contamination of workers' homes with hazardous chemicals and substances transported from their workplace and to issue a report to the Congress describing the results of this research and investigation.

The National Association of Manufacturers commends Senator Jeffords and Congressman Ballenger for taking the lead on this important issue, and for calling attention to the problem of workers carrying contaminants home from the workplace. Although NAM has no established policy on this specific issue, our concern flows from our policy on occupational health programs which encourages employers to establish workplace health programs encompassing the preventive, curative and rehabilitative phases of occupational health.

NAM believes this issue must be explored to determine if the families of such workers are being exposed to toxics in quantities which may increase the risk of disease. The legislation also represents an opportunity to establish a "sound science" approach to federally funded research, and NAM believes S. 252/H.R. 845 should be redrafted to assure that any study product is endorsed by the scientific community at large.

Generally, this source of exposure has been assumed to be of limited public health impact and is associated with isolated or sporadic occurrences. Occupational health programs usually address it by controlling worker exposure to specific hazardous materials through engineering controls, worker practices, protective equipment, personal hygiene and worker education.

While we are generally supportive of the approach taken by S. 353/H.R. 845, we believe the following considerations are very important for effectively addressing health protection and hazardous materials which may be transported by workers into homes.

II. Study of Employee Transported Contaminant Releases

In order to understand if and what additional efforts should be developed to prevent disease related to such exposure, S. 353 recommends secondary (literature review) and primary (new investigations) research be supported under the stewardship of NIOSH.

NAM recognizes the need for, and strongly recommends more research into this area. Further, NAM recognizes and respects the complexity and difficulty of conducting this research and that a comprehensive scientific research strategy is fundamental to effectively, definitively and efficiently acquire the information needed to make the determination as to whether, what and how additional risk management and/or regulatory actions may be applicable to preventing any disease related to home exposures due to the transportation of hazardous materials into the home by workers.

Therefore, NAM recommends that S. 353/H.R. 845 focus initially on the research nlannina nhase prior to the initiation of new scientific investigations or research to acquire additional information. Specifically, NAM recommends that scientific workshops be organized and sponsored by NIOSH to assess this problem. Workshop participants should include researchers and experts in exposure monitoring (industrial hygiene), medicine, epidemiology, toxicology, occupational health nursing and risk assessment. Such participants should be recruited from academia, government, industry, labor and other organizations. The purpose of the workshop(s) would be to evaluate all available information from existing world literature, etc., and to develop and propose a research strategy to:

a. define the scope of the issue relative to other sources of exposure and to the subsequent concern of which workers' families may be exposed.

b. identify information necessary to develop the need, techniques, and feasibility of further risk assessment and management.

c. propose research options including cost analysis, feasibility assessment, and the likelihood of producing definitive information on the subject, including limitations.

d. define methodologies and technical criteria which should be minimally included in research projects. This criteria must include (1) a definitive characterization of the incremental exposure family members may receive from any worker-transported substance in addition to background, home or other sources of the same substance (e.g. hobbies); and (2) the ability to verify and distinguish specific health effects known to be associated with a specific agent.

This recommended strategy of the scientific workshop (s) should then serve as the basis for the NIOSH report to Congress on the need and specific research which should be conducted. The recommendation would include a research timeframe, cost and decision points for further risk assessment or risk management.

NAM also recommends that any such research strategy be aimed at identifying "substances" prone to the contamination of the home environment, rather than identifying "industries" as currently proposed by this legislation on page 3 line 13.

III. Conclusion

As outlined above, NAM believes that this legislation represents an opportunity to introduce a sound scientific research planned approach to federally funded research. NAM is concerned that absent such a planned, multiorganizational, comprehensive scientific research strategy, the likelihood is that any research conducted will raise more questions than it answers.

We appreciate this opportunity to present our views on this legislation, and look forward to working with the bill's sponsors to address this important issue.

Executive Summary

The "Workers' Family Protection Act" would require the National Institute for Occupational Safety and Health to conduct a study into the prevalance and issues related to possible contamination of workers' homes with hazardous materials transported from their workplace on clothing, footwear, etc. NAM believes this is an important issue, and one which deserves consideration. It is also an opportunity to establish a sound strategy for carrying out federally funded scientific studies. Too often the Federal Government commissions scientific research which produces questionable results. NAM believes S. 353 should be redrafted to avoid this pitfall.

Prepared Statement of the Carpenter's Health and Safety Fund of North America (The Fund)

I am submitting this written testimony on behalf of the Carpenter's Health and Safety Fund of North America The Fund). The Fund is a joint labor-management trust fund established to improve the health and safety of the 600,000 members of the United Brotherhood of Carpenters and Joiners of America and their signatory contractors.

We at The Fund support your efforts to protect the families of workers with the introduction of S. 353 "Workers' Family Protection act of 1991." As you correctly point out in the legislation, there is little hard evidence of the extent of illnesses caused by workers taking toxins home on their clothes. We at The Fund, however, do have several anecdotal stories from members of the Carpenters' Union that suggest the problem is worthy of further study.

Melvin Rowell, a member of the Carpenter's Union worked for Papco, a construction subcontractor working in the Moss Point International Paper Company (IP) plant before IP replaced the union contractor with the non-union contractor BE&K. In 1980, he remembers removing the roof from the No. 5 paper machine—"big slabs of asbestos, dust flying, picking it up with shovels, loading it into a box, emptying it into trucks." Six years later he was diagnosed with asbestosis. His wife Edie, washed and rewashed his work clothes to get the asbestos out. She refuses to be tested for asbestosis, but she does have a rare intestinal disease—as does a surprising number of her neighbors. Both Melvin's cousin who worked as a construction worker in the same plant, and his daughter who never worked near asbestos, died from asbestosis.

When the Carpenter Magazine sent a reporter to Pascagoula, Mississippi to write a story on the tragedy of asbestos exposure of carpenters by the Ingalls Shipyard and IP Moss Point, John Adams, told the reporter about a construction worker named T. D. Harris who worked as a construction worker with asbestos and now both he and his wife have been diagnosed with asbestosis even though her only work was as a housewife and her exposure limited to shaking out and washing his

contaminated work clothes. The tragedy of this story is that it is still taking place in Pascagoula as the non-union construction workers from BE&K continue to unknowingly expose themselves to asbestos and transport the toxins home on contaminated clothing.

Jesse Eady president of the Jacksonville local of the Carpenter's Union worked in maintenance at the Jacksonville International Airport as an employee of the Jacksonville Port Authority. During his 9 years of employment he was continually exposed to asbestos. At first the Port Authority concealed the fact that the workers were removing asbestos, and later when the workers suspected asbestos, the Port Authority obstructed the workers efforts to protect themselves from the hazard. When Eady asked to wear respiratory protection he was told by the employer that he could not wear the mask in "airport work places where the public was allowed to go." He was told, "this would alarm the public and everyone can't wear masks in the airport." In one job, Eady was assigned to work in the ceiling over the heads of diners in the airport cafe. While working in this job, the workers disturbed asbestos insulation and it fell from the ceiling "onto those travelers' food."

The consensus in talking to workers who have been exposed and taken the contaminants home is one of fear. Eady said, "my children have been exposed for years to the clothing that I brought home not knowing the clothes were contaminated. My co-worker's daughter has already had a positive medical diagnosis for lung problems; she is 19. I worry that my 4 children will die from my work!"

While these anecdotal stories suggest a larger problem, we need to follow-up on stories like these and develop case studies to begin to document the extent of the problem facing the working people of this nation. Because of cases just like these, the Carpenter's Health and Safety Fund of North America strongly supports the efforts of the Workers' Family Protection Act of 1991. We would certainly be willing to work to identify and develop the necessary case studies to determine if there is some work that must not be taken home.

Thank you for allowing us to prepare testimony supporting this important legislation that will assist in assuring workers' families are safe from the hazards of the work place.

Senator JEFFORDS. I think that terminates this hearing. I deeply appreciate your attendance here and all the valuable information you gave us.

Thank you.

[Whereupon, at 10:58 a.m., the subcommittee was adjourned.]

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