John F. Greenwood

United Association Of Journeymen and Apprentices Of the Plumbing and Pipe Fitting Industry of the United States & Canada

The Effects of Asbestos on your Health

What many of us do not understand about airborne asbestos could impair our take-for granted-attitude about the air we breathe. It is only since 1972 that the United States Government instituted regulations to ban the use of asbestos for military, residential or industrial use. However we knew years before 1972 that asbestos was hazardous but that it was commonly used by the Naval Department of our Military and was also widely used in the automotive industry, residential and construction industries.

The deaths attributed to exposure through inhalation or ingestion of asbestos amount in the tens of thousands. The afflictions impairing the lives of those unfortunate enough to have been exposed to asbestos are also in the tens of thousands. Asbestos is a carcinogen that can lead to Asbestosis, Lung Cancer, Mesothelioma or other diseases of the lungs.

My findings are that if craftsmen in the pipe trades had received proper safety training for the use of personal respiratory equipment and training for the handling of and disposal of asbestos materials, then many "UA" members would not have been exposed to the hazards of asbestos during their careers prior to 1972. All because of the failure to require labeling on asbestos products. What everyone needs to realize is that, not only is asbestos a known carcinogen, but many materials containing asbestos can be found in our home's, and the buildings we work in, or attend school in. All working people with the potential for exposure to asbestos should be trained in the proper handling of asbestos for their personal health protection and environmental safety.

The Effects of Asbestos on Your Health

Introduction and Problem Statement

The purpose of my project is to enlighten "UA" members and the public on the possible exposure to asbestos and the dangers it poses to personal health. I do not believe that any one should have to die or become handicapped because of the failure of the Government or Corporate America's neglect to inform working America of the dangers and ramifications of exposure to asbestos as it failed to do in 1934 and again in 1952 by withholding information from the public. I have personally known members of my home local union who have suffered from asbestos-related lung disease and subsequently died.

These concerns and the fact that plumbers, pipe fitters and sprinkler fitters could have abnormal and high levels of exposure to asbestos in our industry prompts me to try to help identify asbestos products that may be found in the home and work place of "UA" members even today. This paper also advises people about legal steps that are available to pursue damages in some cases. And most importantly information is available today regarding research for the treatment and hopeful cure of a devastating and lethal disease attributed to asbestos. Related information can be read in appendixes "D" and "E" of this paper.

Since the 19th century "United Association" craftsmen in the pipe trades were exposed to or came into contact with, asbestos. During the 20th century asbestos was widely used in the pipe trades as insulation for heating systems. It was also used as a component in flux for welding rod, and protective gear when welding or acetylene cutting metal, valve packing, gasket material and cement pipe. All these factors were highly detrimental to members of the pipe trades.

As the "United Association" became more aware of the dangers of asbestos, it began training and educating its members on how to protect themselves from exposure and even worse, contact with it. The problem was that many "UA" members, unbeknownst to them were exposed to asbestos when the "dangers" of it were not advertised on products. In fact, many "United Association" members and other tradesmen became afflicted. Those who survived suffered with chronic lung disorder

My project researched asbestos-related diseases, treatment of those afflicted, and uses of asbestos and legal resources. It also focuses on helping to inform the members of Pipe Fitters and Plumbers "United Association" Local 524 on the dangers of asbestos. It will make them aware of the proper manner to handle asbestos and the effect it could have on their personal health and that of their families if they transport fibers home on their clothing or disturb asbestos materials that may be found in their homes.

I did a survey analysis of our apprentice members to evaluate how much they know or understand about the hazards of asbestos and the extent of the safety training they may or may not have received. Our Local Union has in place, through the "United Association" the Smart Mark Safety Program and the OSHA 30 hour certification program. Both are offered to all members of "UA" Local Union 524, although many journeymen do not participate. If, this report was required reading, maybe they would have a different outlook on becoming OSHA 500 certified. On most job sites, it is mandatory to have at least the ten- hour OSHA course training, but this would not include any hazardous material training. So the OSHA 30 hour course should also be mandatory. The OSHA 30 hour course is mandatory for all "UA" Local Union 524 apprentices before they become Journeymen.

Literature Review

Health Hazards Related to Asbestos Exposure:

In conducting my research on the dangers and negative effects of asbestos to personal health I found that in most all related cases if protective equipment was provided and used, respiratory damage could have been prevented.[1] Also, if workers were advised of the occupational hazards of exposure to asbestos prior to the Government's mandate to label products as hazardous then workers could have been more careful or mindful of how to approach and handle asbestos materials. The personal decision could have been to either wear protective equipment or not purposely mess with it in the first place. Especially if the individual knew what it was and what it was capable of doing to your health.[1]

[1] U.S. Department Of Labor, Occupational Safety and Health Administration Retrieved February 5, 2004 from www.osha.gov.

So, what is Asbestos?

Asbestos is a name given to a group of minerals, which occur naturally as masses of long silky fibers. Asbestos is known for its unique properties of being resistant to abrasion, inert to acid and alkaline solutions and stable at high temperatures. Because of these "attributes," asbestos was widely used in construction and industry. Asbestos fibers are woven together or incorporated within other materials to create many products.

There are three main types of asbestos fibers:[2]

1. Chrysotile *(White Asbestos)* Fine silky, flexible white fibers (the most commonly used asbestos in the United States)

2. Amosite *(Brown Asbestos)* Straight, brittle fibers that are light gray to pale brown. (the most common use is in thermal insulation.)

3. Crocidolite *(Blue Asbestos)* Straight Blue Fibers. (used in the automotive industry for brake linings and clutch pressure plates)

There are three other types of asbestos fibers: ***Anthopylite, Tremolite, and Actinolite,*** which are found as ***contaminants*** in "Asbestos Containing Materials." (ACM's)

What is the Problem with Asbestos?

People who work around or disturb asbestos are at risk for developing asbestos-associated diseases. Occupational workers, such as Pipe Fitters or Plumbers, are in the greatest risk groups for developing asbestos-related diseases. The public can also be subjected to asbestos exposure. All people who work, attend school in buildings or live in homes containing asbestos products are also considered at-risk for developing asbestos related diseases if the substance is disturbed and is inhaled or ingested. The United States Environmental Protection Agency (EPA) considers that there is no known safe level of asbestos exposure.

[2] Utah Department of Environmental Quality, Division Of Air Quality, Retrieved on February 5, 2004 from utah.gov/HAPS/Asbestos/infoASINFO.htm

Asbestos Containing Materials that can be crumbled, pulverized, or reduced to powder by hand pressure are known as ***friable asbestos***. When friable "ACM" is damaged or disturbed, it releases fibers into the air. Airborne asbestos fibers are small, odorless and tasteless. They range in size from .1 to 10 microns diameter. A human hair is 50 microns.

Because asbestos fibers are small and light they can be suspended in the air for long periods. People whose work brings them into contact with asbestos may inhale fibers. A worker's family may inhale asbestos fibers released by clothing, which has been in contact with "ACM's".

People who live or work near asbestos related operations may inhale fibers that have been released into the air by work activity. The amount of asbestos a worker or anyone disturbing "ACM's" is exposed to will vary according to several factors:

1. The fiber concentration.
2. The duration of exposure
3. The workers breathing rate
4. The weather conditions, and
5. Whether or not protective equipment is worn.

Asbestos has been so widely used in the United States that the entire population has been exposed to some degree. Air, drinking- water, food, and a variety of other products and consumer goods all may contain small amounts of asbestos. In addition, asbestos fibers are released into the environment from outcrops of bedrock in the earth.

Rocks containing asbestos also can release fibers as a result of wind and water erosion.

What are the diseases caused by Asbestos exposure?[2]

Once inhaled, the small, inert fibers can easily penetrate the body's defenses. They are deposited and retained in the airways and tissues of the lungs. Asbestos causes scarring of the lung tissue. This thickening of the lung wall reduces the amount of oxygen available to the body. Because asbestos fibers remain in the body, each exposure increases the likelihood of developing one or more of the following diseases.

1. Asbestosis: A chronic lung ailment caused by build up of scar tissue in the lungs.
2. Mesothelioma: asbestos - caused cancer of the chest cavity or abdominal cavity.
3. Other cancers: of the lungs, esophagus, stomach, colon or pancreas.

The time it takes to develop lung cancer is often twenty years or longer. The time frame for developing Mesothelioma is even longer. Cigarette smokers exposed to asbestos on the average are ten times more likely to develop lung cancer than non-smokers.

While asbestos by itself can increase the risk of lung cancer, asbestos and cigarette smoking together greatly increase the already high risk of smoking alone.

[2] Utah Department of Environmental Quality, Division Of Air Quality, Retrieved on February 5, 2004 from utah.gov/HAPS/Asbestos/infoASINFO.htm

Asbestos Exposure:

Most health information on asbestos exposure has been derived from studies of workers who have been exposed to asbestos in the course of their occupation. Asbestos fiber concentration for these workers were many times higher than those encountered by the general public[3].

Because asbestos fibers are naturally occurring and extremely aerodynamic, to be a significant health concern, asbestos fibers must be inhaled at high concentrations over an extended period of time. Asbestos fibers then accumulate in the lungs. As exposure increases, the risk of disease also increases. Therefore measures to minimize exposure and consequently minimize accumulation of fibers will reduce the risk of adverse health effects.

Asbestos is only dangerous if it becomes airborne. As long as asbestos containing materials are not damaged, the asbestos fibers do not become airborne and do not pose a health threat to the building occupants.

Asbestos bonded in finished products is not a risk to health, as long as it is not disturbed in such a way as to release it into the air. Since fibers are nearly indestructible, a risk exists only if fibers are set free.

[3] Agency for Toxic Substances and Disease Registry (ATSDR). Retrieved February 5, 2004 from www.ATSDR.CD@gov.toxprofiles/phs61.html

What Are The Health And Warning Signals?[4]

Asbestosis[4] is evidenced by shortness of breath. With a stethoscope, a doctor can hear a dry, cracking sound coming from your lungs during inhalation. Besides breathing difficulty, which causes a strain on the heart, the symptoms of asbestosis include a cough, increased sputum and weight loss.

Lung Cancer is the most serious health hazard to occupational workers exposed to asbestos. The disease is related to the amount of asbestos present in the lungs.

Mesothelomia, is a disease of the chest lining and the membrane lining of the abdominal cavity. The first symptom is usually shortness of breath or pain in the wall of your chest or abdomen. Although x-ray's are of some help in diagnosing the disease, a tissue biopsy is required.

How Can Asbestos Related Diseases Be Prevented?[4]

Federal regulations have been established to protect workers exposed to asbestos dust or fibers. The Occupational Health and Safety (OSHA) guidelines are designed to control exposure levels.

[4] Agency for Toxic Substances and Disease Registry (ATSDR). Retrieved February 5, 2004 from www.ATSDR.CD@gov.toxprofiles/phs61.html

To meet specifications employers must monitor dust levels, isolate dust producing operations, and provide necessary personal safety equipment, Individual health and safety precautions are also essential. Wear protective clothing and respiratory equipment. "Do not" take work clothes home. Never drink, eat or smoke where asbestos is in use or being abated.

If problems are recognized early, exposure levels can be reduced and complications treated. Therefore you should have regular checkups by a physician. If you have been employed in a risky occupation for more than twenty years it is extremely important to your health to have a chest x-ray done and read by a radiologist to determine if any asbestos-related disease is present. All Building Trades Craftsmen were highly susceptible to asbestos exposure during their careers.

Where Is Asbestos Found[5]?

Asbestos containing materials can be found in floor tiles, sheet rock, ceiling tiles, automotive friction products, rubber stair threading, gasket materials, roofing materials, caulking, siding, furnace cements, fluxes, fire brick, tar, and insulation materials.

[5] U.S. Environmental Protection Agency, Retrieved February 5, 2004 from http:/wwwepa.gov/Region06/6p/asbestos/asbmatl.htm

The Time Line Of Asbestos:[6]

>As far back as 400 BC Asbestos was used for lamp wicks. The substance was known as "asbestos" meaning inextinguishable.

>The first known U.S. Patent issued for asbestos insulating material was in 1828 and used in steam engines.

>In the 1860's packing and gaskets were produced as mixtures of asbestos and organic fibrous materials.

>In 1880 the American Asbestos Industry was founded to manufacture asbestos paper and board.

>As early as 1887 physicians wrote that pulmonary problems left no doubt that inhalation of asbestos dust was the cause.

>In 1906 brake linings were manufactured in the United States. And in 1913 asbestos pipe was used.

>And in the 1960's health concerns began to surface in the United States after studies revealed that low levels of asbestos exposure could be more dangerous than previously thought.

So now the experts know that asbestos is known to be hazardous based on studies of high levels of exposure to asbestos. However the risks associated with low level exposure are not well established. OSHA has set a Permissible Exposure Level at 0.1 fibers per cubic centimeter. (To me that sounds contradictory, EPA claims there is no safe level and OSHA allows 0.1 per cubic centimeter.)

[6] About Asbestos-History of Asbestos-Active Asbestos Manufacturing Limited, Retrieved February 5, 2004 from www.active.co.uk/frame_centre_about_history.html

The Asbestos Tragedy [7]

In 1934, Vandiver Brown the head of the Johns-Manville's legal department persuaded Dr. Anthony Lanza, a physician at the Metropolitan Life Insurance Company to delete unfavorable information from a report about disease among asbestos workers that was soon to be published by the U.S. Public Health Service.

In 1935, Sumner Simpson, the president of Raybestos-Manhattan, wrote Vandiver Brown a letter, telling him that "I think the less said about asbestos the better off we are." To which Brown replied, "I quite agree with you that our interests are best served by having asbestosis receive the minimum of publicity."

In 1952, the Seventh Saranac Symposium on pulmonary dust diseases was held. More than two hundred medical doctors attended it, research scientists state and public health officials, insurance executives and asbestos manufacturers who were told about medical evidence implicating asbestos as a potent lung-cancer producing agent. The proceedings of this meeting were never published. And because only one or two of the participants spoke out about what they heard almost no information about the carcinogenicity of asbestos was published for another decade.

[7] The Asbestos Tragedy by Paul Brodeur, Johns-Manville, Magazine-Spotlight, Retrieved February 5, 2004 from www.bumc.bu.edu/SPH/Gallery/brodeur.html

The result of the cover-up of the asbestos disease hazard was a national public health disaster of unparalleled magnitude, which is unfolding to this very day.

Some twenty million unsuspecting American workers, four and one-half million men and women in the wartime shipyards alone, underwent exposure to dangerously high levels of asbestos dust and fibers.

The cover-up might have gone on indefinitely had it not been for two extraordinary developments during the early 1960's. One in "law" and the other in "medicine" which would ultimately result in "exposing the misconduct" of the asbestos manufacturers. This action and discovery made them accountable to some of their many victims. The "legal" development occurred in 1965 when the American Law Foundation defined tort law to make the sellers of all unreasonably dangerous products strictly liable to users and consumers unless their products carried adequate warning labels. "The medical development consisted of some pioneering epidemiological studies of the health and mortality experience of asbestos victims, which had been conducted in 1962 and 1963"[7]. Those studies furnished incontrovertible evidence that industrial exposure to asbestos was extremely hazardous. Unfortunately, state and federal health officials in the

[7] The Asbestos Tragedy by Paul Brodeur, Johns-Manville, Magazine-Spotlight, Retrieved February 5, 2004 from www.bumc.bu.edu/SPH/Gallery/brodeur.html

United States were slow in reacting to the studies. In some cases they were clearly reluctant to take any action at all.

During the 1960's the chief industrial hygienist for the U.S. Public health Service's Division of Occupational Health entered into confidentiality agreements with asbestos manufacturers that prevented him from giving out any details concerning the asbestos exposure of any workers employed at any asbestos factories his division was inspecting. As a result the Public Health Service did not make any recommendations to asbestos workers or to their "unions" about how workers might protect themselves from the hazards of excessive dust.

For its part, the U.S. Department of Labor merely saw fit to reduce its inadequate and almost totally un-enforced standard for occupational exposure to asbestos from one that allowed workers to inhale tens of "billions" of asbestos fibers to one that allowed them to inhale "millions" each day. As for the Environmental Protection Agency and its predecessors, these organizations allowed the use of asbestos insulation in buildings and construction industry until 1972 when this extremely hazardous practice was finally banned nationwide. By this time asbestos workers were bringing product liability lawsuits against manufacturers of asbestos insulation that failed to attach labels to their products warning that asbestos could cause disease.

Methodology

In addition to my library research of published articles and internet-websites, I conducted a questionnaire survey of sixty apprentices of the Pipe Fitters and Plumbers United Association Local Union 524, located in Scranton, Pennsylvania.

The apprentices were asked to complete the survey and were advised of the purpose for which it was being conducted. Although the apprentices, at an average age of twenty-six were all born *"circa"* 1978, it was apparent they were not victims of the construction industry's indiscretions prior to 1972 when labeling was required for materials containing hazardous substances. Nevertheless some of the apprentices may one day be in a situation on a jobsite where asbestos could be present or where it is being abated. Additionally the apprentices may be living in homes where asbestos materials were installed years ago. (*i.e.* pipe covering, wall board, roofing, siding, floor tiles or insulation). The apprentices should be aware of the dangers to themselves and their families in the event renovation is done in their homes.

In this survey, the point was to find out how many apprentices did receive safety training and how many could recognize or identify asbestos materials. It also asked if they knew how to approach it safely for the protection of personal health and the environment.

RESULTS AND ANALYSIS OF SURVEY DATA

I conducted one survey but with two separate groups. One group was comprised of 2nd and 5th year plumber apprentices and the second group was comprised of 2nd and 5th year pipe-fitter apprentices. Both groups were comprised of (30) persons, for a total of sixty apprentices surveyed. Both groups were given the same questionnaire to complete.

My survey asked twelve questions. Ten questions specifically focused on asbestos related questions. Questions one and two were required in order to calculate the average age and years worked at the trade in order to determine how many years of possible exposure to asbestos each candidate experienced.

"The Plumbers Survey" revealed that the average age was 26 years. The average time working in the construction industry was six years. When asked if they received OSHA 500 Safety Training, 97% responded that they did not receive the OSHA 500 training but had the basic "UA" safety training. When asked if they were aware of the dangers of asbestos, 97% responded that they were aware of the hazards of asbestos.

When asked if they could identify asbestos materials, 72% indicated that they could identify asbestos materials. That the other 28%, after being in the industry for an average of six years, could not identify asbestos materials is not acceptable. The plumber survey appendix "A" asked if they received any personal protective equipment training? This question was answered indicating that an even number either were trained or not trained. When asked if they ever removed any asbestos from projects the response was 60% were involved in removing asbestos and 40% never removed asbestos. Question eight asked if they would work to remove or abate asbestos? Once again the answer was 60% would and 40% would not. The reason question nine was asked, dealing with electric arc welding was to determine how many apprentices were aware of respiratory hazards emitted from welding fumes especially if the rod was coated with flux containing asbestos components. In this case 75% have experienced welding and 25% have not. Question number ten asked if they knew how to handle asbestos? The results were the same as those who answered questions 7 & 8. Again, they were consistent by answering 60/40. Question eleven was asked to determine how many apprentices at a young age of twenty-six have already had an x-ray?

The results were 65% did have an x-ray and 35% did not. The final question asked if they were aware of the health and environmental hazards asbestos could cause? A strong majority, 95% , responded that they were aware of what dangers asbestos could pose to personal health and the environment.

These results dealt with the plumber apprentices and the results were somewhat to be expected because they did not work on heavy industrial projects such as the pipe fitter apprentices. Also, it must be kept in mind that the second year group was combined with the 5th year group who had some training. Nevertheless, everyone should be aware of the potential hazards asbestos can present. The plumber should be aware that even while working in private homes or commercial buildings asbestos could be present in materials manufactured years ago.

The next half of my survey dealt with answers I received from the pipe fitter apprentices. Keep in mind that each group consisted of thirty apprentices in number and each group also represents the 2nd and 5th year class equally. I compared the results and evaluated the information to prepare recommendations and a conclusion to my study. Appendix "B" graph reflects the percentage results of the Plumber Survey.

RESULTS AND ANALYSIS OF SURVEY DATA

(Pipe Fitter Group)

Review of the Appendixes "B" and "C" pie graphs will show how much in contrast both groups are even though they are both members of the same local union and under the administration of the same Joint Apprenticeship and Training Committee. The slight difference is that each group has different training instructors.

The other exception focuses on appendix "A" questions 3-6-7-and 8. These four questions were answered almost opposite in nature from the plumber response and dealt with training, protective equipment, abatement, and proper removal of asbestos. The remaining appendix questions 4-5-9-10-11-and 12 dealing with the dangers of asbestos, identifying materials, welding fumes, correct handling of asbestos, early x-rays and the hazards of asbestos were close enough in percentage to reflect that the majority of both groups were of the same opinion or close to the same opinion and also had similar experience with asbestos to answer the questions.

The pipe fitter apprentices answered question number three with a 100% "yes", that they did receive the OSHA 500 Safety Training. Question #4 indicated that 99% responded that they were aware of asbestos dangers. Question number five, 80% indicated that they could identify asbestos materials.

Question number seven, only 7% responded that they did work to remove asbestos materials. Question number eight, indicated that 98% answered that they would work to remove asbestos. Question number nine indicated that 99% responded that they did perform electric arc welding. Question number ten, only 50% were convinced that they did know how to handle asbestos properly. Question number eleven reflected that 55% answered that they did have a chest x-ray. And question number twelve was answered by 98%, yes, they were aware of the hazards and dangers of asbestos. It was questions numbered 3-6-7-and eight that were very opposite responses. Question number three could be explained as the pipe fitter apprentices in fact did receive the OSHA 500 Safety Training Course and the plumber apprentices were scheduled to take it prior to advancing to the status of journeyman. Question number six, was answered almost 50% apart. The pipe-fitter apprentices did receive personal equipment training and the plumber did not, accounting for the range difference in the answers. "My concluding remarks will explain why there was a significant difference between the two groups."

Again, this can be attributed to the fact that the plumber did not, as yet, receive the OSHA Safety Training. Question number seven had a significant difference. In this case, the plumber apprentices did work to remove asbestos, most probably because they worked in homes and/or on more renovation work than the pipe fitter apprentices normally work on. In question eight only seven percent (7%) of the pipe fitter apprentices responded that they would work to remove asbestos. Whereas, "93%" would not. And the same question when answered by the plumber apprentices, 60% responded that they would work to remove asbestos.

CONCLUSION:

The fact is that both the pipe fitter and plumber apprentices attended training classes in the United Association Local Union 524 program. However, the results of the survey revealed that a significant difference in the knowledge of asbestos, personal health and environmental hazards exist between the two groups or classification of craft. (I am referring to questions 3-6-7-&-8- of the survey Appendix "A"). The rest of the survey was acceptable in percentage rating comparison.

Each craft was interviewed by a survey questionnaire composed of the same questions. The plumber in contrast to the pipe fitter, was not up to the level of Safety Training although the plumber averaged the same age and the same number of years in the trade.

In the first three years of apprenticeship training, the plumber and the pipe fitter receive basically the same "UA" training curriculum. In the fourth year each craft begins to receive specialized training courses relevant to their respective classifications.

The pipe fitter, of course, receives more welding training than the plumber, and the plumber, on the other hand receives more specialized training in the sense of medical gas and back flow prevention certification, or residential. But that is not the issue within this survey.

The main issues are, how many apprentices are aware of the dangers of asbestos and how many actually know how to handle it properly and also identify it?

The results are somewhat discouraging. How can two groups of the same average age,-- and the same average number of years in the trade,-- who both go through basically the same training,-- under the auspices of the same "J.A.T.C."(Joint Apprenticeship Training Committee) - - be so far apart when it comes to evaluating the results of the same survey? The results help me to make the following recommendations to the "J.A.T.C." of pipe fitters and plumbers UA Local Union 524, and to also advise the United Association International Training Committee of my findings.

RECOMMENDATIONS

By comparing the results of the two surveys, I am compelled to make the following recommendations:

I recommend that the OSHA 500 Safety Training be given to both the plumber and the pipe fitter apprentices earlier in their training. The fact that 100% of the pipe fitters received the OSHA 500 course and the plumber had not yet received it, leads me to recommend that all apprentices receive the OSHA 500 training in the first or second year of their apprenticeship, putting a special emphasis on asbestos abatement and hazardous material training. In fact, asbestos abatement certification is a separate course and should be included in the training.

It was apparent that both the pipe fitter and the plumber received the UA Health and Safety Course but only the fitter had the OSHA 500 course to expand the knowledge of health and safety. This factor was validated by comparing the two surveys. The questions can be read in appendix "A" and the results can be reviewed in the plumber response appendix "B" and the pipe fitter response in appendix "C," reflecting the percentages.

I would also recommend to the United Association, International Training Committee, that they consider adopting asbestos safety training and/ or abatement certification. The "UA" should also make available articles in the "UA" Journal wherein all "UA" members would receive information regarding asbestos issues. An article could be published quarterly, reaching over three hundred thousand members and disseminating valuable information. The articles could cover medical issues, safety issues or personal health and protection issues. I would also recommend that the "UA" compile and distribute a brochure based on asbestos hazards and other related asbestos material dangers.

Writing my research paper, "*The Effects Of Asbestos On Your Health*" has opened my eyes as to how much I did not realize or understand about asbestos. I have forty years experience in the construction industry as a pipe fitter and I was very surprised to find out how much I did not know about asbestos but thought I did, such as the deceit of our government and corporate America's boardroom decisions and neglect to inform workers about the dangers of asbestos.

During my forty years in the construction industry I suspect, that if any damage was done to my respiratory system it happened in my first twenty years experience. I have had three chest x-rays over that period of time. The first two proved to be negative.

At my third visit, about thirty years after my first encounter with asbestos in 1960, the test results were positive for plural thickening of the lung tissue, consistent with asbestos exposure. Which, in my case, disclosed that asbestos dust or fiber contamination had a latency period of twenty years or more.

I cannot criticize any apprentice who only has an average of five years experience in the trade, when I had to research and prepare a thesis before it occurred to me just how much could be learned from researching a topic.

This subject should be a part of the "United Association" training and certification programs. If vital information were available to thousands of additional workers and myself, prior to 1972 when hazardous labeling became mandatory for manufacturers of asbestos, then, not only craftsmen in the pipe trades, but thousands of workers in all of industry, would not have had to suffer a debilitating life or ultimate death. All because of ignorance of the hazards caused by asbestos from the failure to label products and also provide specialized training for personal safety equipment and proper handling of asbestos.

I have attached appendix "D" as an introduction of what your legal rights are. Appendix "E" introduces information regarding medical treatment recently developed.

APPENDIX - A – ASBESTOS SURVEY
REVIEW OF ASBESTOS RELATED QUESTIONS
CONDUCTED BY UNITED ASSOCIATION LOCAL 524
PIPE- FITTERS AND PLUMBERS

(Please fill in the blank or circle your answer to each question)

1. **What is your age? _____**

2. **How many years have you worked at the trade of Pipe-Fitter or Plumber in the Construction Industry? _____**

3. **Did you receive the UA - OSHA 500 Safety Training?. Yes No**

4. **Are you aware of the dangers of exposure to Asbestos? Yes No**

5. **Can you identify any Asbestos Materials or Products? Yes No**

6. **Have you received any training for use of personal protective equipment? Yes No**

7. **Have you ever worked to remove or abate Asbestos from equipment or piping systems? Yes No**

8. **Would you work to remove or abate Asbestos? Yes No**

9. **Have you ever performed electric arc welding? Yes No**

10. **Do you know how to handle Asbestos? Yes No**

11. **Have you ever had a chest X-Ray? Yes No**

12. **Do you realize the health and environment hazards of exposure to Asbestos? Yes No**

"Please note the purpose of this survey is to help our Local Union Training Department evaluate the need to add to or maintain the instructional information our members are currently receiving when taking the UA-OSHA 500 Safety and Health Certification Course."

Plumber Survey
Results
Appendix "B"

QUESTION 3

3%YES

QUESTION 4

97.00%YES

QUESTION 5

72.00%YES

QUESTION 6

50.00%YES

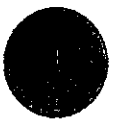
QUESTION 7

60.00%YES

QUESTION 8

60.00%YES

QUESTION 9



75.00%YES

QUESTION 10

60.00%YES

QUESTION 11

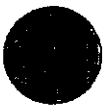
65.00%YES

QUESTION 12

95.00%YES

Pipefitters Survey
Results
Appendix "C"

QUESTION 3



100% YES

QUESTION 4

99.00% YES

QUESTION 5

80.00% YES

QUESTION 6

99.00% YES

QUESTION 7

95.00% NO

QUESTION 8

93.00% NO

QUESTION 9

98.00%YES

QUESTION 10

50.00% YES

QUESTION 11

55.00% YES

QUESTION 12

98.00%YES

Appendix "D"

What Are Your Legal Rights?[8]

If you have asbestosis or mesothelioma you were most likely exposed to asbestos. Many asbestos manufacturers and distributors knew for decades that asbestos was hazardous, yet made a business decision not to warn people of those hazards. As a result if you are a victim you may have a right to recovery against those manufacturers, which can help defray the costs of treatment and provide compensation for your pain and suffering. Or support for your family

Are You Eligible For Compensation?

If you are a victim your eligibility will depend on several factors:
a) Statue of Limitations
b) Identify your exposure
c) Responsible Party's

a) Statue of Limitations:

Your first concern is to file within the statutory deadlines. If you have been diagnosed with asbestosis or mesothelioma, you must file within a few years of being diagnosed.

If you are an executor of the estate of a person who has died from asbestos related disease you may be eligible to file a claim but the claim must be within a short time of the death.

[8] Asbestos Law and Litigation, The Firms Role in Asbestos Litigation. Retrieved on February 5, 2004 from http://www.mesothelioma-facts.com/history.shtml

Appendix "D"
(continued)

A family member exposed in a secondary manner may also be eligible to file a claim. (for example, through asbestos fibers brought home on clothes of the worker)

Because of the statue of limitation issues, you should contact an attorney specializing in this litigation as soon as possible regarding your eligibility.

b) Identify Your Exposure:

If you have lung disease, that alone is not ground for damages. In order to establish a claim (against manufacturers, distributors or contractors) it must be established that you had been exposed to the specific asbestos product at a specified location.

c) Responsible Parties:

If you have found where you were exposed to asbestos, an investigation can find the responsible parties who are capable of paying. For you to file a claim, an attorney must be able to locate a responsible party who is still in business.

"Senate Judiciary Committee Launches Investigation of Asbestos Litigation Issue"

"The Senate Judiciary Committee has launched an investigation of asbestos litigation, with an eye toward finding a better means to compensate those who were exposed to the substance."

"Committee Chairman Patrick Leahy (D-Vermont) opened what he said he hoped would be a bipartisan dialogue on the issue. He stressed the need to acknowledge the root of asbestos litigation, saying America's labor force for decades, was "secretly poisoned".

"Unbeknownst to the men and women who worked in our nations factories, shipyards, mines and construction sites, the worksite was laced with a substance so harmful that they could become critically ill by simply breathing, and they risked contaminating their loved ones from their clothes after a hard days work" Leahy said.

"Senator Orin Hatch (R-Utah) ranking Republican on the committee said it cannot be "seriously disputed that some type of comprehensive solution" to the asbestos litigation crisis is necessary". "The exponential increases in asbestos claims has resulted in a wave of asbestos related bankruptcies and consequently threatens to leave hundreds of thousands of claimants without fair compensation" Hatch said.

This affects "not only the claims of those who are truly sick, but also the jobs and pensions of employees of defendant companies" Hatch said.

"Asbestos litigation already has forced more than sixty companies into bankruptcy and one-third of those bankruptcies have happened in the last two and one half years".

Source: Construction Labor Report, January 28, 2004

Appendix "E"

Is There Hope For A Treatment Or Cure?

After all has been said about the history, materials, tragedy, and legal avenues regarding asbestos related diseases, it probably means nothing for those who have already died or continue to be handicapped from asbestos exposure unless there is a possible treatment or cure on the horizon for those who are still living. One such miracle may be in the near future of medicine.

Dr. Parkash S. Gill, Professor of Medicine and Pathology at USC/Norris Comprehensive Cancer Center has recently completed Phase I clinical trials of a treatment that recently received FDA governmental approval called "Veglin" for victims of asbestos caused mesothelioma cancer with tremendous success. Veglin is taken intravenously and is not like chemotheraphy.

Dr. Parkash' research at USC/Norris Cancer Center has been totally funded by the Mesothelioma Research Foundation of America. If any reader of this paper would like to obtain more information on this subject the Foundation website is: ***www.mesorfa.org***

Or the address is: c/o Elizabeth Paul, Executive Director, Mesothelioma Research Foundation of America, 5716- Corsa Avenue Suite 203, West Lake Village, California 91362. Phone 1-800-909-6376
(address, based on information received January, 2004)

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Construction Labor Report: January 28, 2004 issue

Asbestos relief on horizon

In what amounts to a grievous injustice, thousands of veterans and workers have suffered from asbestos exposure and have been unable to get compensation for their suffering.

Many veterans who served between World War II and Vietnam were exposed to this substance during their tours of duty. Diseases caused by asbestos, such as asbestosis and mesothelioma, are often deadly.

Adding insult to injury, veterans and other workers only get about half of the awards they receive in the courts. The rest goes to lawyers and administration. Meanwhile, court delays are so long that many victims die before they ever receive anything.

But there may be hope on the horizon. Last year, the Senate Judiciary Committee passed legislation that will create a national victims' relief fund to provide fast and fair compensation for those suffering from the effects of asbestos exposure. The Fairness in Asbestos Injury Resolution Act will create a fund worth more than $100 billion to be financed by companies and insurers.

Under the FAIR Act, victims won't have to hire a lawyer to handle their case. No more will victims have to wait for their case to be heard, and no longer must they prove who was responsible for their exposure. Victims with deadly mesothelioma will go first and be eligible for the largest awards. Compensation will be awarded in a year or less. And unlike the current system, the FAIR Act allows victims who get sicker to seek additional compensation.

The FAIR Act relieves the burden on the Veterans Health Administration by giving veterans the option of reimbursement for medical monitoring costs, allowing them to seek medical attention for asbestos-related illnesses at the hospital of their choice.

Today, veterans with asbestos-related illnesses must prove exposure was "service-related" to qualify for veterans' benefits. The FAIR Act establishes a no-fault system, so that sick veterans must only prove that they were exposed in the workplace in order to be compensated.

Most important, creation of the fund will make sure there will be money available in the future to take care of the victims who don't know they are sick yet.

As a veteran and a Pennsylvanian, I am grateful and proud to see Sen. Arlen Specter taking a leadership role on this most important issue. For months now, he has been meeting with all sides pushing them to come to an agreement on the final details of this plan.

I urge Mr. Specter and Sen. Rick Santorum to vote for the FAIR Act when it comes to the Senate floor this spring.

Ralph F. Diluigi
Past Department Commander
Pennsylvania Department
Of the Veterans of Foreign Wars
Sharpsburg, Allegheny County