

USS 1960S

US Steel in the mid 1960s employed approximately a half million employees. At this point in time, they were a very diversified company in that they manufactured steel, had cement plants, mined raw materials, including coal, ore, dolomite and limestone. US Steel had various divisions, including American Bridge, which constructed bridges, a chemical division, which manufactured plasticizers, an agrochemical division, which manufactured fertilizers and pesticides and a division that made paints.

In the 1960s, at the corporate level, there were medical, engineering, safety and industrial hygiene departments. The corporate medical director, during the 1960s, was Dr. Merle Bundy. Dr. Bundy testified that the medical department consisted of approximately fifty physicians and three hundred nurses. The engineering department consisted of various divisions, including a design division that would prepare specifications that would be utilized by outside contractors in performing work at US Steel facilities. The specifications that were prepared called for asbestos products. The corporate safety department, during the 1960s, consisted of five individuals: director of safety, assistant director of safety and three safety engineering administrators. As to industrial hygiene, at the corporate level, there was the director of industrial hygiene, Ken Morse, and five or six industrial hygienists that worked under his direction.

At the plant level, the plant manager was the highest position followed by employee relations. At the plant level in the 1960s, US Steel had a plant medical director, engineering department and safety department. As to the medical department, often times, under the medical director, was one or two plant physicians. Please be advised at the plant level, there was no industrial hygiene department in the 1960s. The five or six industrial hygienists that were employed at the corporate level would visit the many, many operations of US Steel. According to Dr. Bundy, there were 59 US Steel operations.

It is imperative to keep in mind that from 1910 to October 15, 1977, US Steel was in the business of manufacturing asbestos-containing wire and cable products. The wire and cable asbestos-containing products, were manufactured at a plant in Worcester, Massachusetts. The brand names of the asbestos wire and cable were Amerbestos and Tiger Brand. According to US Steel, at the Worcester facility, since 1907, USS had a strong safety program that set forth procedures to minimize and abate exposures to excessive dust of all kind, including but not limited to asbestos dust. US Steel conceded in answering interrogatories that "it was aware of discussions concerning the need to monitor all excessive dust levels in the mid to late 1930s". It is interesting to note how US Steel manufactured asbestos-containing wire and cable. The electrical wire was covered with a fabric like asbestos material. Prior to the defendant purchasing the asbestos fabric, US Steel made the fabric from raw asbestos fiber.

In the 1960s, the very small corporate industrial hygiene department, consisting of five or six people, worked under the direction of a very knowledgeable leader, Mr. Morse. Mr. Morse, in the late 1950s, was circulating the TLVs that were published by the ACGIH in 1958. Not only did he circulate the TLVs, but noted how TLVs can be very inaccurate and not exact delineations between hazardous and non-hazardous conditions. In 1959, he was talking not only about TLV but the need for respiratory protection. In the late 1950s and early 1960s, Mr. Morse was attending the US Steel Semi-Annual Medical seminars advising doctors about

pneumoconiosis, asbestosis, maximum allowable concentration, how to measure dust in the atmosphere and latency periods that exist with asbestos-related diseases. In 1966, Mr. Morse acknowledged that there was a "new attention" concerning asbestos and he refers to the industrial hygiene/physician conference in 1965 in New York City. It is interesting to note when Mr. Morse started to provide information to people outside of industrial hygiene about the OSHA regulations, he referred to Dr. Selikoff as an "alarmist and controversial figure". In 1971, he concluded that since there were no articles linking asbestos diseases with asbestos protective clothing, that asbestos protective clothing could be used by US steelworkers.

Mr. Masaitis was one of the industrial hygienist that worked under Mr. Morse beginning in the mid 1960s. Mr. Masaitis eventually in the 1990s, became the Director of Industrial Hygiene. Mr. Masaitis testified that by the mid 1960s, when he arrived at US Steel, he was well aware that asbestos could cause asbestos-related lung diseases and there was a need in a dusty atmosphere to provide ventilation and/or respirators. US Steel conceded that they maintained all air sampling records and there are no asbestos air sampling being conducted at US Steel Clairton or Neville Island during the 1960s. In 1972, Mr. Masaitis did air sampling while mechanics/insulators performed insulation work at US Steel Neville Island. The evidence will establish that these workers were utilizing wet down procedures and they may have worn masks or respirators. Mr. Masaitis wants to compare these air sampling results with the types of exposure that Dennis Eisenreich would have at USS. In 1968 and 1969. These exposures cannot be compared as set forth by Dr. Longo in his expert report.

US Steel in answering interrogatories in West Virginia, were asked to identify an industrial hygienists. US Steel responded "due to the large number of US Steel facilities employing such personnel, it would be impractical, if not impossible, to identify all such individuals so employed. US Steel merely will identify the directors". How could US Steel answer this interrogatory in this fashion when in the 1960s, the Industrial Hygiene Department consisted of five or six people?

Dr. Bundy was the corporate medical director throughout the 1960s. According to Bundy, he talks about how US Steel from the late 1950s forward was moving to a preventative medicine program that consisted of the following:

1. Pre-employment exams
2. Treatment
3. Industrial hygiene
4. Health education
5. Research
6. Record keeping

He noted that it was imperative for this program to work that medical department had to work hand in hand with industrial hygiene and safety. He was shown in the late 1950s and 1960s, documents that establish that at US Steel medical seminars speakers were brought in and asbestos-related diseases, more specifically, asbestosis was discussed. Dr. Bundy conceded certainly by April of 1964 when Selikoff published his article, he agreed that asbestos was linked to asbestosis, lung cancer and mesothelioma and that mesothelioma could result from remote exposures. He conceded in the mid 1960s, he knew about the ACGIH published

guidelines on asbestos and that it was imperative to have good ventilation. He denied having knowledge of the 1960 Wagner article and he denied knowledge of the Fleischer/Drinker study. He referred to Dr. Selikoff as "Mr. Asbestos". In response to Dr. Selikoff's research, Dr. Bundy did nothing. In 1970, Dr. Bundy got a letter from Dr. Selikoff, putting him on notice that the increased risk of lung cancer at USS Clairton may be due to asbestos exposure. In 1976, as a result of Dr. Bundy's relationship with Selikoff, US Steel corporate employees visited Dr. Selikoff in New York. Dr. Weddell during the 1960s, was the medical director at US Steel Clairton. He conceded he knew of asbestosis in the 1960s. He would not concede that he knew asbestos was a cancer-causing agent. He indicated that he never disseminated any written material to workers about the dangers of asbestos exposure. He had very limited knowledge about how one would diagnose asbestosis and was not familiar with pleural plaques. Dr. Schwerha was not a medical director in the mid 1960s but he was the plant physician who was sent to US Steel Neville Island to set up a medical program. Dr. Schwerha had a masters degree in public health. He testified that in the mid 1960s, he was aware that asbestos was linked with asbestosis, lung cancer and mesothelioma. He knew that ACGIH was publishing TLVs on asbestos and the way that you determined whether a worker exposure exceeded the TLV was by doing air sampling. Dr. Schwerha knew that good ventilation and respirators were key to a good safety program. He never disseminated any written materials to the workers regarding the dangers of asbestos in the 1960s. He never observed air sampling at Neville Island. Please note both Dr. Schwerha and Weddell conceded that they knew in the 1960s asbestos-containing insulation products were being used at Clairton and Neville Island -- it was not their job to warn of dangers.

As to the corporate safety department the depositions of Douglas Brown was completed in light of the fact that he was the director of corporate safety. James Sumpter's deposition was also taken because in the early 1960s he was at the safety department at Clairton and by the mid 1960s, he was in corporate safety as a safety administrator. The administrators were to complete inspections of the plant safety departments. Both Messrs. Brown and Sumpter testified that throughout the 1960s, no written material was disseminated to the workers regarding the dangers of asbestos. The US Steel safety manual had no information regarding the dangers of asbestos. Mr. Brown, the corporate director of safety complained that he was never aware of a TLV on asbestos prior to OSHA. He conceded he left US Steel in 1979, US Steel was still purchasing asbestos gloves. He had never heard of the Industrial Hygiene Foundation. Mr. Sumpter denied even having knowledge that OSHA promulgated rules on asbestos though Mr. Sumpter did concede in reading the National Safety Council news magazine in the mid 1960s, he knew that Selikoff was linking asbestos with lung cancer. Neither Brown or Sumpter recalled any safe job procedures on asbestos in the 1960s.

From the 1930s through the late 1970s, US Steel was the member of the IHF and obviously received the IHF Digest. No one in industrial hygiene, safety or the medical department, seemed to recall any articles dealing with the dangers of asbestos in the IHF Digest. US Steel conceded that medical and industrial hygiene department had an informed library and they received and subscribed to the New England Journal of Medicine, Journal of the American Medical Association, Annals of Internal Medicine, Journal of Occupational Medicine, Journal of American Industrial Hygienist Association and British Journal of Industrial Medicine. It is interesting to note when US Steel was asked if it was familiar with the following publications:

1. Merewhether article 1930
2. Lanza article 1935
3. Dressen article 1938
4. Fleischer/Drinker Study 1946
5. JAMA article "Asbestosis and Cancer of the Lung" 1949
6. Doll study 1955 British Industrial Medicine
7. Wagner article 1960 "Diffuse Pleural Mesothelioma and Asbestos Exposure in the Northwestern Cape Providence"

"US Steel medical and industrial hygiene personnel through their education and training, membership and trade organizations and review of scientific and medical literature were aware of much of the published literature pertaining to the health and safety of workers in the steel, mining and other industries in which US Steel was engaged. Specific details regarding studies published over thirty years ago are presently unknown due to the passage of time".

Not only was US Steel a member of the IHF but corporate officials sat on various boards of the IHF in the 1950s and 60s, including the Board of Trustees.

In 1968, Dennis Eisenreich was employed at USX Clairton Works, more specifically on the Keystone Project. In the summer of 1969, Dennis Eisenreich was employed at US Steel Neville Island working on the maleic anhydride plant. The contractor of AC&S had employed Mr. Eisenreich for both the Keystone and Neville Island job AC&S, abided by specifications that were prepared by US Steel Engineering Department. The specification called for the use of various asbestos-containing products, including asbestos-containing pipecovering and cement. The US Steel specifications for the Keystone Project, called for Pittsburgh Unibestos or an approved equal. The engineering department never had anyone from industrial hygiene or the medical department review the types of products which they were specifying. The evidence has established that when Dennis Eisenreich was employed at the US Steel facility, not only did US Steel not disseminate any written materials to their own workers about the dangers of asbestos, but they certainly did not disseminate any written materials to the outside contractor regarding an outside contractor's exposure to asbestos on their premises.

In Eisenreich, when US Steel was asked when they first learned that the inhalation and ingestion of asbestos fibers posed a potential health hazard to human beings, they responded "US Steel states it is difficult to pinpoint a precise date as to when it became aware of any potential health hazards of asbestos. US Steel's awareness of the potential dangers developed gradually over the years as did the general public's awareness of such dangers. US Steel was aware of the publication in the mid 1960s of Dr. Selikoff's views on the potential dangers associated with asbestos exposure. US Steel was also aware of the promulgation of OSHA regulations concerning permissible exposure levels in or about 1972".

It was not until the early 1980/1981 when US Steel disseminated the first written guideline to employees regarding the dangers associated with the use of asbestos exposure. When US Steel was asked in interrogatories when the defendant began to warn the employees about the dangers of being exposed of asbestos, they indicated the following:

1. By 1972, US Steel began implementing safe job procedures concerning how to

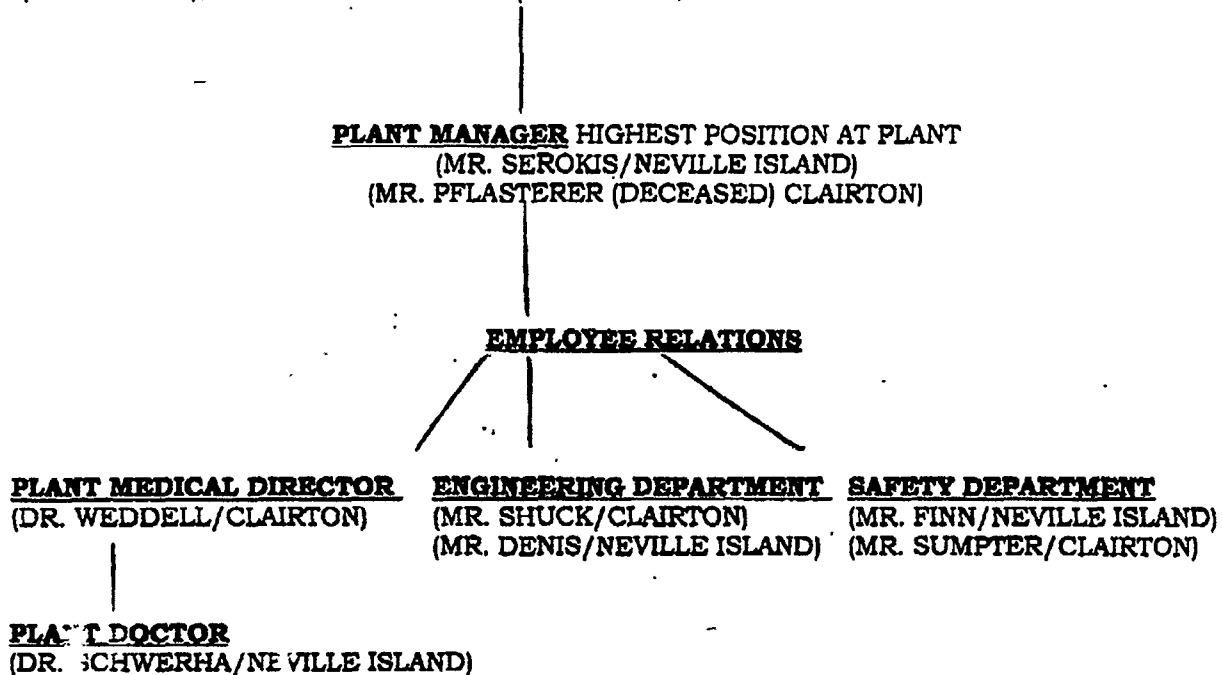
hand asbestos. I have one such procedure. Apparently the job procedures were disseminated to management employees; the management employees were to make them available to hourly employees

2. US Steel notes in 1971, Kenneth Morse disseminated to superintendents and plant managers information regarding the possible cancer effects associated with asbestos exposure and preventative control measures. The plant managers and superintendents were to provide this information to hourly employees through safety contacts and safety meetings.

When US Steel was asked when they began to communicate to outside contractors about the dangers of asbestos, they indicated by the latest 1972. This information was also provided via word of mouth. There were to be "contract safety line up meetings" where contractors would be put on notice about the dangers of asbestos or any other hazard they may confront on the premises.

UNITED STATES STEEL 1960S

CORPORATE DEPARTMENTS (I.E., MEDICAL (DR. BUNDY), ENGINEERING (MR. DUFFY), SAFETY (MR. BROWN), INDUSTRIAL HYGIENE (MR. MORSE))



***NO INDUSTRIAL HYGIENE AT PLANT LEVEL**

USS 1960S - OVER 40,000 EMPLOYEES - VERY DIVERSIFIED COMPANY

- A. MANUFACTURED STEEL/STEEL PRODUCTS
- B. CEMENT PLANTS
- C. MINED RAW MATERIALS
 - COAL MINES - WEST VIRGINIA
 - ORE MINES - MINNESOTA
 - DOLEMITES MINES - MICHIGAN
 - LIMESTONE MINES - MICHIGAN
- D. USS VARIOUS DIVISIONS
 - (1) AMERICAN BRIDGE - CONSTRUCT BRIDGE
 - (2) CHEMICAL DIVISION - PLASTICIZERS
 - (3) ARGO CHEMICAL DIVISION - FERTILIZERS AND PESTICIDES
 - (4) DIVISION THAT MADE PLANTS
 - (5) DIVISION MANUFACTURING ASBESTOS WIRE/CABLE

*ACCORDING TO DR. BUNDY - 59 SEPARATE OPERATIONS

USS ANSWERS TO DISCOVERY

1. 1968 and 1969 concede purchasing various asbestos products for use at USS Clairton and Neville Island
2. IHF member 1935-1977; 1980-81; 1984-86 in addition National Safety Council 1932 to present
3. The Medical and Industrial Hygiene Department maintained a library related to health issues since the 1930s. USS Medical Director were responsible for disseminating information to plant doctors. Some of the publications USS subscribed to or received included:
 - A. New England Journal of Medicine
 - B. Journal of the American Medical Association
 - C. Annals of Internal Medicine
 - D. Journal of Occupational Medicine
 - E. British Journal of Industrial Medicine
 - F. Journal of American Industrial Hygienist Association
4. Worker's Compensation Claims:
 - A. First case for asbestosis 12/78
 - B. First case lung cancer between 1975-1978
 - C. First case at Clairton for asbestosis 1980
 - D. First case at Clairton for meso 1980
5. In 1968-69
 - A. No written guidelines or policy regarding wet down procedures
 - B. No written guidelines or policy regarding dust masks or respirator
 - C. No written guidelines or policy regarding sawing or cutting asbestos insulation
 - D. No asbestos air sampling at USS Clairton or Neville Island
6. Please state when and how this defendant first learned that the inhalation or ingestion of asbestos fibers posed a potential health hazard to human beings? USX states that it is difficult to pinpoint a precise date as to when USX became aware of any potential health hazards of asbestos. USX's awareness of the potential dangers associated with different exposures and forms of asbestos and other dusts developed gradually over the years, as did the general public's awareness of such dangers. USX was aware of the publication in the mid 1960s of Dr. Selikoff's views on the potential dangers associated with asbestos exposure. USX was also aware of the promulgation of OSHA regulations concerning permissible exposure levels in or about 1972.
7. USS first written guidelines to workers about the dangers of asbestos was in 1981.

USS NEVILLE ISLAND/DENNIS EISENREICH

In the mid 1960s USS had a chemical division at the Neville Island plant. From the mid to late 1960s, USS at Neville Island was constructing a maleic anhydride plant (MA Plant) and phthalic anhydride (PA plant) plant. In addition, plasticizers were being manufactured at this facility. USS:

- (1) hired Badger to construct the phthalic anhydride plant;
- (2) hired Scientific Design to construct the maleic anhydride plant;
- (3) USS approved the specifications prepared by Badger and Scientific Design that called for the use of asbestos insulation;
- (4) above and beyond outside contractors, USS maintenance mechanics/insulators were present during construction of both plants installing asbestos insulation USS purchased; and
- (5) in 1969, Dennis Eisenreich was employed by an insulating contractor hired by Scientific Design. Dennis worked also around the phthalic anhydride plant and plasticizer. Dennis was exposed to asbestos used by the USS maintenance workers.

USS CLAIRTON WORKS/DENNIS EISENREICH

In the mid 1960s, Clairton had 20 plus operating coke batteries - USS was the largest producer of coke. At Clairton there was also coal chemical recovery. In the mid 1960s, USS decided to get rid of old gas processing equipment and construct a new method of processing gas. This would allow USS at a low cost to produce anhydrous ammonia, a prime source of fertilizer. The ammonia plant was known as the Keystone project. In 1964, USS prepared the engineering specifications that would be followed by the outside contractors that constructed the Keystone project. USS engineering specifications called for the use of "Pittsburgh Corning Unibestos pipecovering" and "JM 352 cement" and "fire tard". Dennis Eisenreich in 1968 was employed by an outside insulating contractor that insulated the pipes/tanks at Keystone pursuant to USS specifications. Dennis worked near USS workers that were using various asbestos-containing products. The outside contractors worked side by side with USS workers.

USS MEDICAL DEPARTMENT (1960s - 50 DOCTORS, 300 NURSES)

1. Dr. Bundy - (Corporate Medical Director 1961 through 1980s)
 - A. Masters Degree Public Health 1946
 - B. Board Certified Occupational Medicine 1958
Board Certified Public Health 1950
 - C. In 1958-61 Dr. Bundy acted as the assistant to the medical director Dr. O'Conner with Dr. Braun - Dr. Braun in 1958 published "An Epidemiological Study of Lung Cancer in Asbestos Mining"; Braun left USS to work at IHF
 - D. 1960 - -USS at medical seminars discussing asbestosis, latency periods for dust diseases, and how to limit exposures with proper ventilation
 - E. Dr. Bundy not only knew ACGIH publish guidelines but also guideline on asbestos
 - F. Knew of asbestosis while in medical school (1938-42)
 - G. When Selikoff published article in April of 1964 - Dr. Bundy in 1964 agreed asbestos could cause asbestosis, lung cancer and mesothelioma. In 1964, he acknowledged meso could result from limited exposure; never did anything in response to Selikoff findings.
 - H. Dr. Bundy knew by 1964 good ventilation and attempts to minimize dust would be appropriate and uncontrolled exposure to asbestos could lead to disease.
 - I. In 1964, according to Dr. Bundy, USS had 175,000 to 200,000 union workers.
 - K. Dr. Bundy denied knowledge of 1960 Wagner article
 - L. Dr. Bundy denied knowledge of Fleischer Drinker study
 - M. Dr. Bundy received correspondence in 1970 from Dr. Selikoff who was concerned about the number of lung cancers at USS Clairton Plant - Selikoff opined that the increase in cancers may be due to the use of asbestos
 - N. 1950s Dr. Bundy testified USS moving to a preventative medicine program that was concerned with:
 - A. pre-employment exams
 - B. treatments
 - C. industrial hygiene
 - D. health education
 - E. research
 - F. record keeping

In order for the preventative medicine program to work, the Medical Department, Safety Department and Industrial Hygiene Department had to work hand in hand.

- O.. Knew USS had been a member of the IHF.

DR. WEDDELL
(USS CLAIRTON PLANT - MEDICAL DIRECTOR IN 1960s)

1. Conceded before 1960 knew of asbestosis and knew that asbestos could cause x-ray changes and breathing impairment
2. No knowledge of ACGIH or TLV for asbestos between 1946-70
3. Never fit a worker for a respirator or told a worker to wear a respirator
4. Never provided written materials to workers about dangers of asbestos
5. Dr. Weddell testified that it was not his job to warn workers about dangers of asbestos - a job of Employee Relations
6. No feeling one way or another whether an employer should tell employees if they are being exposed to cancer causing agents.
7. Never heard of Dr. Selikoff.
8. Never heard of pleural plaques.
9. Not aware that asbestos exposure can cause pleural thickening.
10. Testified on behalf of employer for silicosis claims.

DR. SCHWERHA
(AT SOME POINT BETWEEN 1967-1970 HE STARTED THE
MEDICAL DEPARTMENT AT USS
NEVILLE ISLAND - SCHWERHA STARTED AT USS 1966)

- A. 1962 MASTER DEGREE PUBLIC HEALTH
1962-66 MEDICAL SCHOOL
- B. KNEW IN MEDICAL SCHOOL ASBESTOS LINKED WITH ASBESTOSIS, LUNG CANCER AND MESO.
- C. KNEW OF IHF BY 1966 AND KNEW THE IHF PUBLISHED A DIGEST.
- D. KNEW OF ACGIH AND KNEW ACGIH PUBLISH TLVS ON ASBESTOS BY 1967.
- E. KNEW BY 1967 - IMPORTANT TO HAVE GOOD VENTILATION AND USE OF MASKS AND RESPIRATORS; NEVER IMPLEMENTED A MASK PROGRAM AT NEVILLE ISLAND IN 1967-70 TIME PERIOD.
- F. NEVER OBSERVED AIR SAMPLING 1967-70 AT NEVILLE ISLAND; CONCEDED NEED AIR SAMPLING TO DETERMINE IF EXPOSURE EXCEEDS TLV
- G. NEVER DISSEMINATED TO WORKERS WRITTEN MATERIALS ABOUT DANGERS OF ASBESTOS - NOT HIS JOB - HE FELT IT WAS THE DUTY OF THE SAFETY DEPARTMENT.

KEN MORSE (DECEASED)
DIRECTOR OF INDUSTRIAL HYGIENE AT CORPORATE LEVEL
1952 to 1973

- A. NO INDUSTRIAL HYGIENE AT PLANT LEVEL
- B. 5-6 INDUSTRIAL HYGIENIST AT CORPORATE LEVEL ANSWERING TO MR. MORSE - THEY WOULD VISIT THE PLANTS (*59 OPERATIONS)
- C. ACCORDING TO DR. BUNDY, MR. MORSE WAS A MEMBER OF THE ACGIH PRIOR TO WORK AT USS
- D. MR. MORSE CIRCULATED 1958 TLVS IN 1959 AND STATED:

The enclosed list of "Threshold Limits" are known under a variety of names, such as "maximum allowable concentrations", "toxic limits", etc. They are not exact delineations between hazardous and no-hazardous conditions, since they are derived from a variety of sources. Some are based upon studies with human subjects, others upon opinions derived by interpolating from animal experimental data, while still others are based merely upon unsupported opinions from industrial medical and hygiene authorities. Therefore, in actual practice, it is important to maintain air concentrations of these gases, vapors, dusts or mists within such levels where possible or protect workers by approved respiratory devices. It is our opinion that short-term exposures also should also should be maintained within such limits where practicable, because of the absence of good data on safe concentrations for preventing acute (sudden) poisoning. This approach is considered to be the best course of action because the human body does not respond in a direct arithmetic relationship with the amount of contaminant in the air. In other words, it would not be prudent to expose an individual for one hour to eight times the values shown in the enclosed table without respiratory protection".

- E. MR. MORSE IS ASKED ABOUT HIS KNOWLEDGE OF HAZARDS ASSOCIATED WITH ASBESTOS SPRAY IN FEBRUARY 1966. HE STATED:

This is to acknowledge your memo of February 25 relative to the subject compound. Asbestos has long been recognized as a material which, if inhaled over a long enough period of time and in significantly heavy concentrations in air, can and has produced serious pulmonary disability. The subject has received renewed attention on the part of industrial physicians and industrial hygienists at an international conference held last year in New York. The evaluation of the work conditions under which the subcontractor is handling this product can best be ascertained by observing the work conditions and the source of the asbestos. However, as a general precaution in any spraying operation, we believe that the use of a respiratory device should be a minimum requirement. Therefore, until we have an opportunity to evaluate this potential problem with more information and/or by observing the operation, we would suggest that the sprayers involved be provided with respirators approved by the USEM for pneumoconiosis -producing dust.

- F. MR. MORSE SPOKE AT THE USS SECOND ADMINISTRATIVE MEDICAL MEETING DECEMBER 1957 AND ADDRESSED THE FOLLOWING:

At 9:00 a.m. Wednesday, December 4, 1957 the meeting reconvened.

Mr. K.M. Morse presented "Environmental Health in the Steel Industry - II," covering the newer knowledge of the effect of industrial dusts on employees' lungs. He stressed the fact that free silica was no longer the only dust to be concerned about, but that any dust in sufficient amounts over sufficient time could impair lung function. Especially a combination of irritant gases, heat and dust is cause for concern. He cited a recent case in which a very reputable chest consultant in Pittsburgh, who has in the past examined many cases at company request, considered that the pulmonary fibrosis and emphysema he found in a soaking-pit crane operator was caused by the combination of dust, heat, and sulfur-dioxide fumes to which he had long been exposed. He described the old and new concepts of the term "pneumoconiosis" and indicated that while silica and asbestos were considered the sole causes in the past, now talc and diatomaceous earth had been added, and Shaver's Disease from the fusion of artificial abrasives, and more recently coal miners' pneumoconiosis.

G. MR. MORSE SPOKE AT THE USS SEMI-ANNUAL ADMINISTRATIVE MEDICAL MEETING IN JUNE OF 1960. HE DISCUSSED:

The second speaker was K.M. Morse, Director of Industrial Hygiene, U.S. Steel, and the title of his talk was "Measurement of Dusts".

Mr. Morse said there are four major items of concern to the industrial hygienist and the physician regarding dust and its effects on the lungs.

- A. Chemical composition. In the past, one was concerned almost wholly with silica and asbestos. If these were not present, then the dust was considered merely a nuisance. Although free silica content is still important and silica is the most hazardous of the common industrial dusts, we know that any dust regardless of silica content, in great enough quantities, can overload the defenses of the lungs and cause trouble.
- B. Particle size. We are concerned only with those under 5 microns. It is felt that maximum retention of dust in the lung occurs with particle size between 1.5 or 2 microns.
- C. Concentration. Maximum Allowable Concentrations (MAC) have been set up by the Conference on Governmental Industrial Hygienists for all the substances commonly met in industry. Some of these have been well substantiated, but some of them are mere guesses. For example, the MAC of 5 million particles per cubic meter of air for silica has been well validated, whereas a commonly accepted MAC of 50 million particles for "nuisance" dusts is not at all well validated. In U.S. Steel, we are aiming below this latter amount and are recommending 20 million as a maximum in any dust situation.
- D. Duration of Exposure. In speaking of pulmonary dust diseases, one is speaking of conditions that take twelve to fifteen years to develop.

Mr. Morse then discussed various techniques of measurement of dust and the instruments used:

- A. Sedimentation. This is now obsolete for in-plant studies, but is still used in some studies of community air pollution. Settled dust can be used for chemical analyses; however, it is apt not to be truly representative of the dust in the air.
- K. In MAY OF 1971, MR. MORSE WROTE A MEMO TO MR. BROWN, DIRECTOR OF SAFETY REGARDING THE USE OF ASBESTOS PROTECTIVE APPAREL. HE REFERS TO DR. SELIKOFF AS AN "ALARMIST AND MOST CONTROVERSIAL FIGURE". HE FURTHER STATES THAT IT HAS NOT BEEN SHOWN THAT WEARING ASBESTOS PROTECTIVE APPAREL COULD CAUSE DISEASE; HE REMARKS HOW A WORKER WHO WEARS ASBESTOS CLOTHING CAN DEVELOP LUNG CANCER AND BRING A COMP CLAIM AGAINST USS. HE CONCLUDES USS CAN CONTINUE TO BUY ASBESTOS CLOTHING. THIS CLOTHING WAS PURCHASED UP UNTIL 1984.

JOHN MASAITIS (INDUSTRIAL HYGIENE DEPARTMENT)

- A. High School
 - B. 1955-58 Navy
 - C. Kings College, Wilkes-Barre - biology/chemistry 1962
 - D. Department of Health State of PA 62-64; completed air sampling; looked as asbestos exposure
 - E. USS 2/64 to 2/96
Industrial hygienist 1964-70 under the direction of Ken Morse; rose up the ranks to Director of Industrial Hygiene
-
- A. Mr. Masaitis acknowledged ACGIH existed since the 1940s; knew TLV on asbestos when he started with USS in 1964; claims he relied ACGIH TLVs for asbestos prior to OSHA
 - B. In 1964 Mr. Masaitis knew:
 - if install or remove asbestos insulation dust is created
 - aware Selikoff looking at asbestos workers
 - respirators could protect workers
 - ventilation could reduce hazards
 - asbestos could cause asbestosis
 - C. Kne v USS a member of the IHF - he attended IHF meetings in the 1960s.
 - D. Bec me aware of mesothelioma as speculation in mid to late 1960s - acceptance earl to mid 1970s.

MR. MASAITIS/PIPECOVERING STUDY

Mr. Masaitis went to USS Neville Island in 1972 to do asbestos air sampling. He thought he used the filter count method as opposed to the impinger count method. He thought he used a mixed polyester filter. As far as personal air sampling, individuals wore a battery operated pack which was attached to their belt with a hose running from the sampling device to a filter. The filter was attached to the worker's lapel or shoulder. Masaitis was not sure if he did the asbestos count. Not sure how long sampling was completed. Five workers were looked at - but not all five workers on all four days. He thought the filters would have been saved. He had a vague recollection that mechanics were all working together. He did not know if the mechanics had on respirators. What activities were the workers completed: removing deteriorated insulation, cutting, installing and finishing. Later he concedes the mechanics were wetting down the insulation:

- A. Wet down
 - B. Using a knife - not a saw
 - C. Not sure if used cement
- *obviously taking precautions.

Mr. Masaitis concluded (p.124) that at the time of trial he could testify that since he did exposure evaluations of mechanics at Neville Island he could discuss the exposure Mr. Eisenreich had at USS.

Dr. Longo authored a report in Eisenreich and stated:

Dr. Longo will testify that he has reviewed the deposition transcripts of John B. Masaitis, retired industrial hygienist for US Steel concerning air studies performed at USX facilities. Dr. Longo will state that the Masaitis' air sampling involved the cutting of thermal insulation in the early 1970s at US Steel. Dr. Longo will further state that these particular air studies are not representative of the work conditions that Mr. Eisenreich was subjected to while at either the Clairton or Neville Island works. The reason for Dr. Longo's opinion that the Masaitis' air studies are not representative is based on the fact that both "wet down" procedures and the use of non-sawing type tools to cut the thermal insulation were used to reduce the amount of dust generated. Neither of these low dust producing techniques for thermal insulation were used by Mr. Eisenreich when he was working at the two US Steel plants in the late 1960s.

USS CORPORATE SAFETY DURING TIME PERIOD 1966-70 (6 PEOPLE)

- A. DIRECTOR OF SAFETY (INDIVIDUAL - *MR. BROWN)
- B. ASSISTANT DIRECTOR OF SAFETY (1 INDIVIDUAL)
- C. (3) INDIVIDUALS - SAFETY ENGINEERING ADMINISTRATORS
-COMPLETE INSPECTION OF PLANT SAFETY DEPARTMENT
(*MR. SUMPTER - PRIOR TO ACTING AS A SAFETY ADMINISTRATOR IN THE SAFETY DEPARTMENT AT PLANT LEVEL AT USS CLAIRTON)

DOUGLAS BROWN
USS SAFETY DEPARTMENT
(1960-79 MEMBER OF USS CORPORATE SAFETY)

- A. No written material ever disseminated to workers from Safety Department regarding dangers of asbestos.
- B. May have heard of the ACGIH
- C. Never aware of TLV on asbestos prior to OSHA
- D. Entire career at USS never heard asbestos could cause lung cancer
- E. After OSHA regs on asbestos he did not recall educating plant safety departments on asbestos guidelines
- F. When he left USS in 1979 - USS still purchasing asbestos gloves
- G. Safety Department never prepared a safe job procedure on asbestos.
- H. Never heard of the Industrial Hygiene Foundation

JAMES SUMPTER

- 1955-79 - ONE OF THE SAFETY ENGINEERS AT CORPORATE LEVEL - MR. BROWN WAS HIS SUPERVISOR
- B. 1952-63 AT USS CLAIRTON SAFETY DEPARTMENT

- A. USS SAFETY MANUALS - 1952-64 NOTHING ABOUT ASBESTOS
- B. OBSERVED IN NATIONAL SAFETY COUNCIL NEWS MAGAZINE IN THE MID 1960S. SELIKOFF ARTICLE LINKING ASBESTOS WITH LUNG CANCER
- C. 1952-64 AT CLAIRTON NO WET DOWN PROCEDURES
- D. 1966-79 NO DISCUSSION WITH PLANT SUPERVISORS CONCERNING ASBESTOS DANGERS
- E. NOT AWARE OF ANY WRITTEN MATERIAL BEING PROVIDED TO USS WORKERS OR OUTSIDE CONTRACTORS REGARDING THE USE OF ASBESTOS.
- F. DID NOT KNOW OSHA PROMULGATED RULES ON ASBESTOS
- G. NOT FAMILIAR WITH INDUSTRIAL HYGIENE DEPARTMENT.
- H. NEVER RECALLED A SAFEJOB PROCEDURE ON ASBESTOS.
- I. MEDICAL DEPARTMENT NEVER ADVISED OF ASBESTOS DANGERS

USS MANUFACTURING ASBESTOS PRODUCTS

USS manufactured asbestos-containing wire and cable products from about 1910 to October 15, 1977. The product was manufactured at a plant in Worcester, Massachusetts (American Steel and Wire, a former division or subsidiary of USS). The brand names were Amerbestos then Tiger Brand. The product contained a chrysotile-containing braid or yarn. USS manufactured high temperature wire/cable with silicon rubber and teflon.

USS was served interrogatories in West Virginia regarding USS asbestos-containing wire and cable. USS was asked the following and responded:

Interrogatory No. 30 - State what action, if any, you have ever taken since 1930 to minimize or eliminate any risk of occupational disease or pneumoconiosis to those at any time engaged in the manufacture or production of asbestos-containing products. USX respond that USX has had a strong safety program since at least 1907 which set forth procedures to minimize or abate exposures to excessive dusts of all kinds, including but not limited to asbestos dust. As knowledge of the potential hazards of asbestos became known, USX issued formal guidelines specifically on asbestos to minimize or abate exposures to asbestos dust. These guidelines include but are not limited to: exposure monitoring, medical surveillance, employee training, isolation and restriction of area, work practices to minimize dust generation, housekeeping, personal protective equipment, substitution of alternative materials, personal hygiene and waste disposal. Moreover, it has always been USX's policy to comply with governmental and industry standards, regulations and recommendations including the threshold limit values provided by the American Conference of Governmental Industrial Hygienists and the permissible exposure limits of the Occupational Safety and Health Act.

In the same case USS was asked about their industrial hygiene department and responded as follows:

Interrogatory No. 38: Have you ever employed on a full-time basis, an individual hygienist? If so, please: (1) identify all such individuals by name and; (2) provide dates of employment and current or last known address, and (3) state when said position was first filled by this defendant.

ANSWER: Due to the large number of U.S. Steel facilities employing such personnel, it would be impractical, if not impossible, to identify all such individuals so employed. Without waiving its objection, USX states that the Industrial Hygiene Department has had the following directors:

John B. Masaitis USX Corporation 600 Grant Street Pittsburgh, PA	1991-present
Frederick M. Toca	1980-1991
W.C. James (Dec.)	1973-1980
Kenneth M. Morse (Dec.)	1951-1973

USS conceded in interrogatories that it "was aware of discussions concerning the need to monitor all excessive dust levels in the middle to late 1930s". Dr. Bundy visited the manufacturing plant on one or two occasions but he wasn't sure when this occurred. Dr. Weddell never knew USS manufactured an asbestos product and Dr. Schwerha found out from a lawyer sometime in the 1990s.

When Mr. Masaitis, the industrial hygienist, described the asbestos wire/cable - he said an

electrical conductor/wire with a cover. On further cross examination, he discussed the asbestos covering as follows:

- Question: I didn't understand that from the direct. This wasn't in a product that incorporated an alloy with asbestos. It was actually an alloy covered with an insulation made from asbestos?
- Answer: Just as a typical electric wire. You have electrical conductor with a cover.
- Question: It's just an insulated cable, but the insulation was the part that contained the asbestos, correct?
- Answer: Yes.
- Question: What form did that asbestos take? In other words, did US Steel make the insulation for that cable? I'm trying to picture this. Is it like a fabric or something?
- Answer: Yes. We purchased the asbestos, and we applied it as an insulation to the electric conductor.
- Question: So this was a fabric type of an asbestos product that was purchased by US Steel from another manufacturer and used to insulate the cable; is that fair?
- Answer: Yes.
- Question: Do you remember the name of that company that supplied from where United States Steel purchased that fabric material?
- Answer: I can't recall the names right now.
- Question: Does the name Raybestos-Manhattan sound familiar to you?
- Answer: That name sounds familiar, but I can't say that they were a supplier.
- Question: In constructing this cable product, somebody necessarily at the plant had to take this textile asbestos textile product, take it off - this came in rolls, did it not?
- Answer: As I recall, it came in different forms at different times.
- Question: What forms?
- Answer: Well, I think initially we may have made a fabric from the asbestos fibers, wove it, carded it, put it in a form. I think eventually we would buy it in a weaved form. I vaguely recall those operations.
- Question: So United States Steel early on would buy raw asbestos fiber of a particular or suitable grade for spinning a textile material, and they would card it and do all the processes involved in weaving a textile product for this?
- Answer: I don't know. I don't recall going through all those steps. I believe that there may have been some process where there was an electrostatic attraction of the fibers to the conductor, and others may have been purchased as a fabric in a weaved form and applied in that manner. I don't want to be specific in the operations. We're talking 30 years ago.
- Question: I understand. We only want your best recollection today. Mr. Masaitis, is it fair to say, then, that somebody or maybe a number of individuals at that Wooster, MS facility had to handle either the raw asbestos fiber or the woven material as it was received in the facility, taken to wherever it was going to be applied to the cable and so forth?

Answer: They had to handle something. They had to get the product to the operation, of course. I don't know if they hand-carried the asbestos fibers. I don't think so.

Question: I understand. Well, asbestos fibers, raw asbestos fibers typically come in a bag, don't they? They're bagged up?

Answer: I imagine they can be packed in different manners.

Question: To get them out of whatever package they're in, you have to open the package and remove the asbestos fiber either by dumping it out or whatever method it has to come out of that package, doesn't it, to be used?

Answer: Yes, some package.

MID 1960S USS SPECIFICATIONS CALLED FOR ASBESTOS INSULATION

1. Safety Engineering - "The Very Least an Employer Should Know About Dust and Fumes" 1931
-stern warning of the dangers of asbestos dust
 2. Safety Engineering - "Silicosis in Odd Places" 1941 "This journal also carried an article about pneumoconiosis contracted by workers mixing asbestos and silica flour in an asphalt roofing mixture. It stated. - Had the management known what the outcome might be, not a man among them would have allowed his employee to work in such a condition".
 3. 1966 Chemical Week (9/10/66)
The asbestos industry - whose end products are valued at \$500 million per year - may be in for a shake up. It could come in the form of federal legislation limiting the use of asbestos...American Cancer Society researchers feel there is a synergistic relationship among airborne asbestos, smoking and lung cancer".
 4. 2/1968 Safety Maintenance and Production - Industry's New Plague: Pulmonary Disease

"Five years ago, the word pulmonary disease would have brought to mind occupational diseases as silicosis, asbestosis and tuberculosis...silica and asbestos have long been recognized as crippers and killers".
 5. Journal of Air Pollution Control - 1967
"Chemical Studies of Asbestos"
 6. 1964 Scientific American - "Dangerous Dust"
-adverse effects of asbestos exposure
 7. IHF Digest
-articles from Plant Engineering
 8. 1968 Science "Unanticipated Health Hazards"
Dr. Selikoff spoke at a symposium about asbestos hazards.
 9. Asbestos Substitutes
-1949 - Commercial Standard for Mineral Wool Insulation for Heated Industrial Equipment
-1947 article in Chemical Engineering "it is a matter of personal preference whether a designer specifies mineral wool insulation or any other standard insulation materials for the average pipecovering job when no special difficulties are expected"
- *5 articles Power Plant Engineering mid 1940s - use of mineral wool