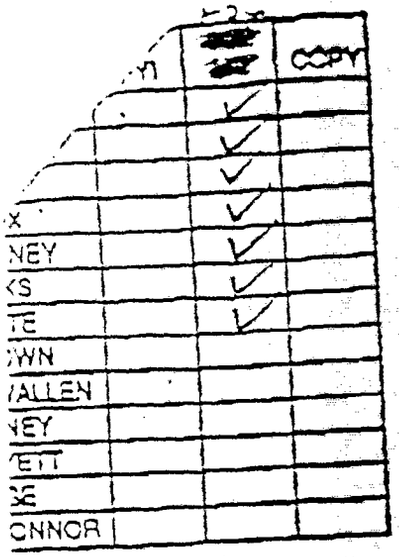


Please provide me with names + tele # to of employees you wish to send to training I'll need this info by noon July 27. Dallas, July 21, 1989
Thanks
MO

DIVISION MANAGER-REAL ESTATE MANAGEMENT - Houston:

Earlier this year, information was provided on the number of individuals in your organization (North & South) requiring Asbestos Awareness and Asbestos Operations and Maintenance hands-on training. Because of stringent guidelines in proposed legislation, it has been determined that the hands-on training will be eliminated and our employees will only require the awareness training.

Based on the tentative schedule listed below, please provide the name and telephone number of an individual who will serve as a contact for each training location.

Location	Date
El Paso	September 28
Lubbock	October 2
San Antonio	October 10 — Rec C.
Austin	October 11
Houston	October 12-13 - JIN W.
Dallas	October 16-18
Ft. Worth	October 25

Please furnish this information to Claudette Justin, One Bell Plaza, Room 3520, Dallas by July 27, 1989. Questions may be directed to Ms. Justin on (214) 464-2939.

Division Manager-
Real Estate Management

Operations Staff
AVP-Support Services

PLAINTIFF'S EXHIBIT
SWB-24

AWARENESS TRAINING

010-100-904 Reference: Section 12.11

Target Population: This course is for all employees who perform repair and maintenance work in buildings that contain asbestos but who will not actually work on asbestos-containing materials (ACM) or access areas that might contain ACM.

Length: 2 hours (estimated)

Videotape: Produced by an interdepartmental group, this will be available by January 1, 1989; ordering information will be provided when that information is available. The videotape covers the following topics:

- what asbestos is
- how asbestos is used in building materials
- what asbestos-containing materials look like
- health effects of asbestos exposure
- how to use and care for respirator
- how to put on protective suit, vacuum and dispose of debris

Additional Items: The following topics must be covered after the above videotape is shown by the field supervisors or other designated person:

- location of ACM in building
- definition and description of damaged, deteriorated or delaminated ACM
- procedures for notifying the Asbestos Program Manager of ACM damage, deterioration or delamination situations
- purpose of SWBT's Building Asbestos Management Program, location of this document and its contents
- activities prohibited in OSHA regulation 1926.58, Appendix G (a handout containing this information will be available from Environmental Compliance Training by January 1, 1989.)

Testing: Section 12.11 in 010-100-904 also indicates that comprehension testing is required. A multiple choice test will be developed by Environmental Compliance Training to meet this need.

Outline:

1. Introduction (15 minutes)

   Handout/job aid: glossary

2. Videotape and discussion (60 minutes)

3. Lecture (45 to 60 minutes)

   - Damaged, deteriorated, delaminated ACM; identification and reporting
   - SWBT's Building Asbestos Management Program; purpose, document contents and location; location of ACM in building
   - Activities prohibited in OSHA regulation 1926.58, Appendix G

   Handout/job aid: prohibited activities

4. Review and test (15 minutes)

460.0 - Safety - Asbestos Medical Surveillance

July 6, 1992

Mr. Victor Crawley, Vice President
District 6, CWA
2334 Olive Street
St. Louis, MO 63103

Dear Mr. Crawley:

This is in response to your attached request for copies of test results due to asbestos related medical surveillance. Southwestern Bell does not have any employees under medical surveillance as a result of exposure to asbestos. This is in compliance with the OSHA asbestos standard and our own Company practice which stipulates the requirements for medical surveillance.

The OSHA asbestos standard requires medical surveillance for all employees engaged in work involving levels of asbestos at or above the action level of the standard for 30 or more days per year, or who are required to wear negative pressure respirators. Our Company practice regarding asbestos related work activity was developed to prevent employees from becoming exposed over the action level and none of our employees are required to wear negative pressure respirators.

If you have any other questions regarding this information, please contact Greg Williams on 331-1904.

Very truly yours,

Sgd. Gary Lucas
Assistant Vice President

Attachment

CC: Div. Mgr.-Lbr. Rel., Safety and Staffing Research

CH:dn

Communications
Workers of America
AFL-CIO

VICTOR C. CRAWLEY, VICE PRESIDENT
2334 OLIVE STREET
ST. LOUIS, MO 63103
314/421-2211 - 314/231-4990
FAX: 314/241-0213

DISTRICT 6
ARKANSAS, KANSAS,
MISSOURI, OKLAHOMA,
TEXAS

LOG NO. 1154

DATE REC'D 6/25	FYI	PLS HNDL	LET'S DISC
Mrs. Smith			
Mr. Williams		✓	
Mr. Zishka			
Reply Due			
FILE	PITCH	RET	

June 23, 1992

Gary Lucas, Assistant Vice President
Southwestern Bell Telephone Company
1010 Pine Street
St. Louis, Missouri 63101

Dear Mr. Lucas:

This is in response to the attached correspondence regarding asbestos medical surveillance among union-represented workers.

I would like to request copies of test results from any such surveillance performed at Southwestern Bell Telephone Company.

As you will note, to ensure confidentiality, individual name identifiers should be absent on aggregate medical results.

Should you have any questions regarding this request, please advise.

Sincerely,

Victor Crawley

Victor C. Crawley
Vice President

VCC/bjg
Attachment

SWBT 000926

Communications
Workers of America
AFL-CIO, CLC

501 Third Street, N.W
Washington, D.C. 20001-2797
202/434-1147 Fax 202/434-1467

M. E. Nichols
Executive Vice President

Victor Crawley

June 11, 1992

To: CWA Vice Presidents

Subject: Asbestos Medical Surveillance

Dear Colleagues:

Recently, I have learned that telecommunications companies with which CWA has a collective bargaining relationship have been conducting asbestos medical surveillance among union-represented workers. As you know, the union is most concerned with member exposure to asbestos and related medical problems. In fact, we recently completed a medical surveillance program involving craft workers employed by Chesapeake and Potomac Telephone.

With this in mind, I would appreciate it if you would request from all telecommunications companies with which your office has a contractual relationship copies of test results from such testing. To ensure confidentiality, aggregate medical results absent individual name identifiers should be requested.

Please send this information to David LeGrande CWA Occupational Safety and Health Coordinator.

In Unity,

M. E. Nichols
Executive Vice President

cc: Executive Committee

SWBT 000927

460.0
~~460.0902~~ - Asbestos

Practice being released for distributio
re. Policy for Evaluation and Control
of Asbestos in Company Buildings
and Customer Premises.

9-16-88

MS. THURROTT:
MR. METZ:
MS. BIELLER:
MR. KUBES:
MR. WATSON:
MS. BECKER:
DR. REHM:
MR. SCHNIEDERS:
MR. FORBIS:
MS. DOEPEL:

The attached letter enlisting upper management support for the asbestos practice and its implementation has been signed by Mr. Hayes.

With his signature, the practice is being released for distribution. Those on the distribution list should be receiving their practice very shortly. If you have any questions, call me on 235-5592.

Chuck

Network Operations Department
Dist. Mgr.-Auto. & Safety

Attachment

CC: AREA MANAGER-SAFETY AND HEALTH - Little Rock
AREA MANAGER-SAFETY - Topeka
AREA MANAGER-SAFETY - St. Louis
AREA MANAGER-SAFETY - Oklahoma City
AREA MANAGER-PERSONNEL - Dallas
AREA MANAGER-SAFETY AND SECURITY ADM. - St. Louis
MR. BILL HENRY

460.0902 - Asbestos

St. Louis, September 16, 1988

PRESIDENT-ARKANSAS DIVISION - Little Rock:
PRESIDENT-KANSAS DIVISION - Topeka:
PRESIDENT-MISSOURI DIVISION - St. Louis:
PRESIDENT-OKLAHOMA DIVISION - Oklahoma City:
PRESIDENT-TEXAS DIVISION - Dallas:
EXECUTIVE VICE PRESIDENT-FINANCE AND EXTERNAL AFFAIRS:
EXECUTIVE VICE PRESIDENT-MARKETING AND OPERATIONS:
VICE PRESIDENT-GENERAL COUNCIL AND SECRETARY:

Re: Policy for Evaluation and Control of Asbestos in Company Buildings and Customer Premises

The presence of asbestos-containing materials has been identified in numerous buildings built during the mid 1900's. This includes a number of company-owned buildings. While this asbestos does not pose a potential health risk unless it has been disturbed, the inhalation of airborne asbestos may cause disabling respiratory disease and has been linked to various forms of cancer.

Very shortly, the Real Estate and Architecture, Safety, Network and Procurement organizations in the states and at general headquarters will be receiving an extensive practice, SW 010-100-904, setting out the company's policy and procedures for identifying, monitoring, maintaining and abating asbestos found in company buildings. It further covers work practices to be employed when asbestos is encountered on customer premises. This practice has taken several months to compile and addresses a complex federal regulatory scheme. Your support of this practice and its implementation is crucial.

It is imperative that Southwestern Bell Telephone Company implement companywide preventative and precautionary measures. A coordinated effort must be undertaken for the continued safety of our employees and the public.

President and Chief Executive Officer

Network Operations Department
AVP-Real Est. Mgmt. & Training

460.0 Safety--New Asbestos Procedures Practice

[illegible] official file copy.]

September 26, 1988

Mr. Victor C. Crawley
Assistant to Vice President
District No. 6, CWA
2334 Olive Street
St. Louis, Missouri 63103

Dear Vic:

As discussed, attached are two copies of the new Asbestos Procedures Practice.

Chuck Hill and I will be glad to review this practice with you if you so desire.

If you have any questions please contact me.

Sincerely,

SGD. DAVID L. METZ

Attachments

BCC: Chuck Hill (letter only)

Copies sent 9-22 to Mr Alexander
Mr. Barry
Mr. Dickemper ✓
Mr. Schoonmaker

460.0902 - Asbestos

882673 9-23

Mr. Lucas	
Mr. Metz	✓
Mr. Oney	
Mr. Phillips	
Mr. Ravas	

St. Louis, September 16, 1988

☑ F. Brockman
☑ Z. Bettis

Have we been involved in the drafting of this practice?

PRESIDENT-ARKANSAS DIVISION - Little Rock:
PRESIDENT-KANSAS DIVISION - Topeka:
PRESIDENT-MISSOURI DIVISION - St. Louis:
PRESIDENT-OKLAHOMA DIVISION - Oklahoma City:
PRESIDENT-TEXAS DIVISION - Dallas:
EXECUTIVE VICE PRESIDENT-FINANCE AND EXTERNAL AFFAIRS: ✓
EXECUTIVE VICE PRESIDENT-MARKETING AND OPERATIONS:
VICE PRESIDENT-GENERAL COUNCIL AND SECRETARY:

Re: Policy for Evaluation and Control of Asbestos in Company Buildings and Customer Premises

The presence of asbestos-containing materials has been identified in numerous buildings built during the mid 1900's. This includes a number of company-owned buildings. While this asbestos does not pose a potential health risk unless it has been disturbed, the inhalation of airborne asbestos may cause disabling respiratory disease and has been linked to various forms of cancer.

Very shortly, the Real Estate and Architecture, Safety, Network and Procurement organizations in the states and at general headquarters will be receiving an extensive practice, SW 010-100-904, setting out the company's policy and procedures for identifying, monitoring, maintaining and abating asbestos found in company buildings. It further covers work practices to be employed when asbestos is encountered on customer premises. This practice has taken several months to compile and addresses a complex federal regulatory scheme. Your support of this practice and its implementation is crucial.

It is imperative that Southwestern Bell Telephone Company implement companywide preventative and precautionary measures. A coordinated effort must be undertaken for the continued safety of our employees and the public.

President and Chief Executive Officer

Network Operations Department
AVP-Real Est. Mgmt. & Training

R: Jim Raves FYI & Return
JMM
5/8

X To: V...
5-12-87

St. Louis, May 8, 1987

MEMO

Mr. Dave Metz received a call from Burldene Leininger, Administrative Assistant to Vice President of CWA, District 6. She was called by Tom Mitchell of Central Business Systems who has a job to pull cable in an office at 500 N. Broadway in St. Louis. He said he was told by the building manager that parts of the building contained asbestos and might be restricted from some areas. He wanted to know how SWBT was approaching this situation.

After explaining to Burldene that 500 N. Broadway is owned by the Nooney Corporation and that the asbestos policy at that building is their policy, not Southwestern Bell's; it is a customer owned building, therefore, their restrictions and policies include all contract work done on their premise, so we would also abide by their procedures. We would not equip our employees though with respirators because they have not been qualified or trained in their use.

Therefore, if Southwestern Bell had a job that a possibility existed that asbestos containing material might be disturbed, an alternative method would be sought.

File with other asbestos material in safety file "Inquiry by Burldene Leininger regarding asbestos at 500 N. Brdwy-STL"

Chuck Hill
Staff Mgr- Safety

5/19 T/W Chuck- no further information on 500 N. Broadway

Communications

LOCAL 6310
2258 SCHUETZ RD.
SUITE 116
ST. LOUIS, MO. 63146
993-6310

A.F.L. C.I.O. Workers of America

12

January 14, 1987

Mr. Bill Harwell
CWA-Administrative Assistant
2334 olive Street
St. Louis, Missouri 63103

Dear Bill:

One of our members recently attended training for Air Conditioning Specialist where they were trained on the danger of asbestos.

He feels many of our Southwestern Bell buildings have dangerous levels of asbestos in and around their boiler rooms.

I thought you could put this on the agenda for a joint Company-Union safety committee meeting.

Yours truly,

Philip D. Ferrill

Philip D. Ferrill
President-Local 6310

PDF/dm
opeiu #13

see attached

460.0 Safety

Levels of asbestos, as referred to in Phil Ferrill's letter are not a problem when in an undisturbed state. Asbestos becomes a potential problem if disturbed.

We are not aware of any hazardous asbestos situations in the company. If and when such conditions arise they are remedied in accordance with prescribed procedures. ~~Tests are also made for asbestos particles, as needed.~~

If, at any time, an employee feels that asbestos will have to be or is disturbed, the safety people should be immediately advised.

The company continues to ~~monitor, become knowledgeable with, and~~ seek ways to protect employees against potentially hazardous conditions, whatever the source. This includes asbestos. We are also committed ~~and do~~ comply with any state or federal safety standards.

1-26-87

Conveyed the above information in "conversation form" to Kuvldeue. She appeared satisfied with my explanation. Told her also that with the current concern naturally about asbestos we are looking at it with a fine tooth comb.

[illegible] RECORD COPY

381.0102 - Asbestos [illegible] official file copy.)

St. Louis, November 24, 1986

Mr. Favre
ASSISTANT VICE PRESIDENT-LABOR RELATIONS:

This is a request for your concurrence that the assignment of Air Conditioning Specialists and Building Mechanics to perform removals of friable asbestos on a selected basis is within the scope of responsibilities for these job titles.

Asbestos was commonly used by the construction industry as an insulating material in buildings prior to 1970, at which time the health hazards associated with asbestos exposure became known. Based on sampling conducted, the presence of asbestos has been confirmed in Company-owned buildings, and most notably around HVAC (heating, ventilating and air conditioning) equipment, and other mechanical equipment and related piping that must be repaired or maintained on an occasional basis.

At the recommendation of the headquarters Safety organization, our present departmental policy on asbestos (attached) states that Building Operations employees should not perform any work where asbestos materials may be disturbed and that local contracts with qualified asbestos abatement companies should be negotiated for this purpose. Since this correspondence was issued, however, it has been determined that this policy is not always feasible, especially when emergency repairs are needed. Furthermore, it has been found that building maintenance personnel are widely used by other companies to perform asbestos removals associated with routine maintenance or emergency repair work.

Consequently, with your agreement, our organization will amend the existing policy and allow Company employees to perform asbestos removals associated with the maintenance or repair of mechanical equipment. These assignments will be made at the discretion of the state Real Estate Management organizations, who will also be responsible for ensuring that the regulatory requirements established by the Occupational Safety and Health Administration (OSHA) and associated state regulating agencies on asbestos are met.

Any questions concerning this matter should be directed to James P. Woodworth (235-4450) or Ann Bieller (235-4452), of my organization.

Assistant Vice President-
Real Estate Management and Training

Centralized Services Department
Division Staff Manager-
Real Estate Management and Architecture

SWBT 000992

Attachment

CC: GENERAL ATTORNEY-LABOR AND LITIGATION:

1-~~14~~-87
~~1-20-87~~

P 1/9 AW

~~WAYNE~~ FLORENCE Mound E — X up

✓ to Mote 1-30-87

January 9, 1987

MR. METZ: ✓
MR. HILL:
MS. BIELLER:

This is to confirm our meeting regarding the issue of employee training for asbestos removal, scheduled for January 15, 1987, at 9 a.m. in the Legal Department Conference Room, 22nd Floor, 1010 Pine.

Raal H. Roos

General Legal Department
Labor and Litigation

cc: Mr. Rahoy
Mr. Ravas

1/15 - meeting rescheduled for 9 AM 1-21

SWBT 000991

TELCO hasn't used asbestos since 1965. Problem involves purchase & rental of bldg. which will have asbestos up to 1970

SWBT 001006

460.0902 - Asbestos

St. Louis, April 28, 1989

ASSISTANT VICE PRESIDENT-CENTRALIZED SERVICES - St. Louis:
ASSISTANT VICE PRESIDENT-OPERATIONS STAFF - Oklahoma City:
ASSISTANT VICE PRESIDENT-PLANNING AND PERSONNEL - Dallas:
GENERAL MANAGER-COMPTROLLERS AND SUPPORT SERVICES - Topeka:
GENERAL MANAGER-NETWORK AND DISTRIBUTION SERVICES - Little Rock:

Recently a question arose regarding the need for respiratory protection equipment when Building Operations employees work above the ceiling in Company-owned buildings which contain asbestos-containing materials (ACM).

This situation is covered in the last paragraph of Section 12.14 in the asbestos practice, 010-100-904. This paragraph states that such work is considered a small-scale, short-duration job and that respiratory protection equipment and, possibly clothing, must be worn. These precautions must be taken even if the ACM is not friable. Asbestos is friable when the application of hand pressure would cause asbestos fibers to be released into the air.

In buildings that contain ACM, it is important not only to prevent exposure in situations actually involving work on ACM but to avoid exposure resulting from other work activities as well. Adherence to Section 12.14 referenced above is one way to address this concern and prevent accidental exposure.

Any deviations from this requirement must be completely documented in the individual Asbestos Building Management Plans as described in Section 12.09 of the Practice and reviewed by your respective State Environmental Coordinators.

Your questions on this matter may be referred to Mary Jo Dolan, Area Manager-Environmental Compliance Training on (314) 235-4443 or Ann Bieller, Area Manager-Environmental Regulations on (314) 235-4452.

Vice President-Procurement

4.24

4/24/89

Procurement
Procurement Administration

CC: State Environmental Coordinator - Dallas
State Environmental Coordinator - Little Rock
State Environmental Coordinator - Oklahoma City
State Environmental Coordinator - St. Louis
State Environmental Coordinator - Topeka

BCC: GHQ Environmental Council Members
Division Manager-Real Estate Management and Architecture

Subject: Introduces the New KS-22240 Heat and Fire Retardant Glove SL: RL 78-12-071

type letter: Recommendation

date: December 8, 1978

American Telephone and Telegraph Company
195 Broadway
New York, N. Y. 10007
Phone (212) 393-9800

distribution lists:

file no. sl: RL 78-12-071

related letters:

other:

to: Building Operating Staff Heads

from: Director - Real Estate Management, Automotive Operations, Energy and Environment

description: Introduces the new KS-22240 Heat and Fire Retardant Gloves and calls for the removal of all KS-8463 Asbestos Gloves.

* * *

Federal regulations have placed limits on the use of products or materials which contain or are made of asbestos, but more specifically, where the use of this product or material will introduce free asbestos fibers into the atmosphere. Since this ruling, Western Electric Purchased Product Engineering has been searching for an acceptable replacement for the KS-8463 asbestos gloves.

Presently, each portable fire extinguisher station in central office equipment areas has a canister (KS-8434) mounted with, or adjacent to, the extinguisher station and containing a pair of KS-8463 asbestos gloves. These gloves were intended to be used after extinguishment of a fire, to separate bundles of wires in order to put out any burning embers.

It is recommended that all existing KS-8463 asbestos gloves be replaced with the new KS-22240 Heat and Fire Retardant Gloves. These new gloves can be ordered through Western Electric supply as:

Gloves (Fire Retardant), KS-22240

The cost of each pair of KS-22240 gloves is approximately $5.25 to the OTC, and will be available during the second quarter of 1979.

These gloves are constructed of two layers of material, with the outer layer being of fire retardant cotton twist terricord and the liner being of 6 ounce cotton material. The overall length of each glove is approximately 19 inches and is made for use on either hand. Tests indicate that these gloves will not support combustion and have a high resistance to the transfer of heat. When rolled in pairs, they can be stored in the existing KS-8434 canisters.

At the present time, spacing of the existing asbestos gloves is at each extinguisher station in central office equipment areas. The new gloves, stored in a KS-8434 canister, should be located at the main entrance to each central office equipment area, not at each extinguisher location. The programmed replacement of the KS-8463 asbestos gloves should be over a three year period.

The existing KS-8463 asbestos gloves should be disposed of by placing them in a plastic bag and tying the end. The individuals performing this task should be equipped with a face mask to prevent the inhalation of free asbestos fibers. These plastic bags, containing the KS-8463 gloves with the open end tied, should be removed to an approved sanitary land fill operation suitable for disposal of this material.

Any questions regarding these gloves should be addressed to V. J. Hession (201)221-4986.

J. W. Williamson
Director - Real Estate Management, Automotive Operations,
Energy and Environment

AT&T
American Telephone and
Telegraph Company
295 North Maple Avenue
Basking Ridge, N. J. 07920
Phone (201) 221-2000

January 3, 1979

TO ALL SAFETY COORDINATORS

Attached for your information is a copy of the long awaited System Letter dealing with the problem of asbestos gloves in Central Office locations.

The letter recommends a systematic replacement of KS-8463 asbestos gloves with the new KS-22240 gloves over a three year period. Disposal instructions are included within the System Letter.

Until such time that a complete changeout of gloves is completed, it is recommended that the KS-8463 asbestos gloves not be removed from the canisters for periodic inspection.

Sincerely,

R.L. Beach
Manager - Safety

Attachment

Southwestern Bell Telephone Company
Joint Practice No. 28
Southwestern Bell Telephone Accident Prevention Plan

Review Package No. 6
January 1988

KEY POINT REFERENCE BOOK

OUTSIDE CRAFT

Southwestern Bell Telephone

The information in the Key Point Reference Sheets is intended to highlight the safety requirements for various work operations. Specific information on the individual subjects must be obtained from the associated company practice.

DESCRIPTION OF REVIEW PACKAGE NUMBER 6

1 REFERENCE BOOK 6

1.1 Key Point Reference Book 6 contains the key points for each question and/or demonstration item listed on the Safety Knowledge Review/Work Observation Card 6.

1.2 More detailed information is available by consulting the appropriate Company Practice or policy letter listed before each subject covered.

1.3 A blue pocket folder is provided with each Key Point Reference Book for use by the supervisor. The folder is intended to carry the Key Point Reference Book and sufficient Safety Knowledge Review/Work Observation Cards for each employee in the supervisor's work group.

2 SAFETY KNOWLEDGE REVIEW/OBSERVATION CARD 6 (SW6726)

2.1 Each Safety Knowledge Review/Work Observation Card 6 is a one year record of one employees safety knowledge review results and work observations.

(a) Space is provided to schedule and document completion of safety knowledge reviews, follow up checks and inspections as well as notations of completed work observations.

(b) Space is also provided for upper level management's participation in safety knowledge reviews and work observation.

(c) OTHER space number 193 is to be used to review additional safety items that are not listed. These may include local safety rules and policy letter, etc.

2.2 The front of Card 6 (Fig. 1) provides space for the employee's name and job title, the year of coverage and the supervisor's name.

(a) Documentation of work observations are made in the space provided as noted:

2.201 If the work observation was completely satisfactory, enter the month and day (e.g., 7/14) that the observation was performed. (See Fig. 1)

2.202 For each deviation noted, the date, subject and a brief explanation of the deviation and the corrective action taken should be noted in the Identify Deviations space.

2.203 All deviation require immediate, on-the-spot training.

2.204 The required work observations should be recorded for each employee per the district plan. (All deviations must be recorded.)

2.2041 Space is available in the top left corner for upper management to document work observations.

2.3 The back of Card 6 (Fig. 2) provides space for scheduling, completion and documentation of safety knowledge reviews, follow ups and inspections.

3. SCHEDULING TECHNIQUES

3.1 At least once a year, each employee shall be covered with each safety knowledge review or appropriate work observation that pertains to the task(s) or work procedure(s) which the employee may be called upon to perform.

3.2 One method of scheduling safety knowledge reviews is listed below:

(a) Beginning with the number 1, assign a consecutive number to each employee in the first level work group.

(b) Using Fig. 3, schedule the safety knowledge review subjects by month as indicated in the schedule/complete column.

(c) The actual schedule for employee No. 1 is shown in Fig. 2.

(d) Schedule the remaining employees in the work group by using this procedure.

SWBT 001404

NOTE: Supervisors in the various outside crafts should schedule safety subjects for safety knowledge reviews that specifically pertain to their reporting people

Safety subjects not applicable to normal work assignments should be marked (NA).

SAFETY KNOWLEDGE REVIEWS

Documentation of safety knowledge reviews is made in the spaces provided on the back of the card. Entries should be made in pencil so changes may be made as required.

(a) OK Column: Place a mark in this space when the employee's demonstration and/or explanation of the specific item is fully correct and no errors are made.

If the employee demonstrates safety knowledge by the manner in which a task is performed, the supervisor should consider the demonstration as proof that the employee does have the knowledge to perform the task safely.

(b) DEV Column: Place a mark in this space when the employee does not demonstrate and/or explain the specific item correctly.

4.101 Retrain the employee before concluding the subject being reviewed.

4.102. Schedule a follow-up check of the DEV item(s) within the next three months in the following sch/comp. column.

Sch/comp. column: Mark the review subject completion by month and day.

FOLLOW-UP

5.1 A follow-up is a reexamination of a deviated item noted during the initial safety knowledge review.

(a) If an employee correctly demonstrates and/or explains the previously deviated safety item, place a mark in the Follow-Up OK column.

(b) Follow-Up Sch/com/ Column: mark the follow-up completion by month and day.

Figure 1 (Example)

Southwestern Bell Telephone — Retention Until Superseded — Joint Practice No. 28

Review Package 6
SAFETY KNOWLEDGE
REVIEW/WORK OBSERVATION CARD

SW6726
Page 1 of 2
(6-85)

Work Observations

Date	Subj. No.	Initials	Mgt Level	Date	Subj. No.	Initials	Mgt Level	Date	Subj. No.	Initials	Mgt Level	Date	Subj. No.	Initials	Mgt Level
[illegible]	1 AAP	FJC	2												
[illegible]	4 Tools	RN	3												
[illegible]	2 Eye	JR	4												

Employee Name: Art Reinhardt
Job Title: Cable Splicing Technician
Year: 1984
Supervisor: F. Ashe

Date	Subj No	Deviation & Corrective Action

No.	Work Observations	OK	OK	OK	OK	OK	OK	Dev	Dev	Dev
16	Electrical Hazards			5/2					7/28	
17	Body Belt									
18	Climbers			6/12						
19	Climbing Skills									
20	Working Aloft	1/30								
21	Derricks	1/18								
22	Trenching									
23	Manholes									
24	Buried Plant	2/20								
25	Breakdown									
26	Light Wave									
27	Nitrogen	3/8								
28	MAPP Gas									
29	Acetylene									
30	Propane									
31	Asbestos				7/14					
32	Other									
33	Motor Vehicle							6/20		

Record Month And Day (7/12)

No.	Work Observations	OK	OK	OK	OK	OK	OK	Dev	Dev	Dev
1	Work Area Protection	3/6			7/12					
2	Eye Protection	1/3	4/20							
3	Hard Hat			4/17					5/5	
4	Hand Tools				5/8					
5	Power Tools									
6	Aerial Platform	2/10								
7	Lifting		5/21						3/6	
8	Stilts									
9	Rope		4/12							
10	Stepladder									
11	Ext. Ladder							2/10		
12	Tree Trimming									
13 / 14 / 15	Encapsulants / Lead Exposure / PCB								8/1	

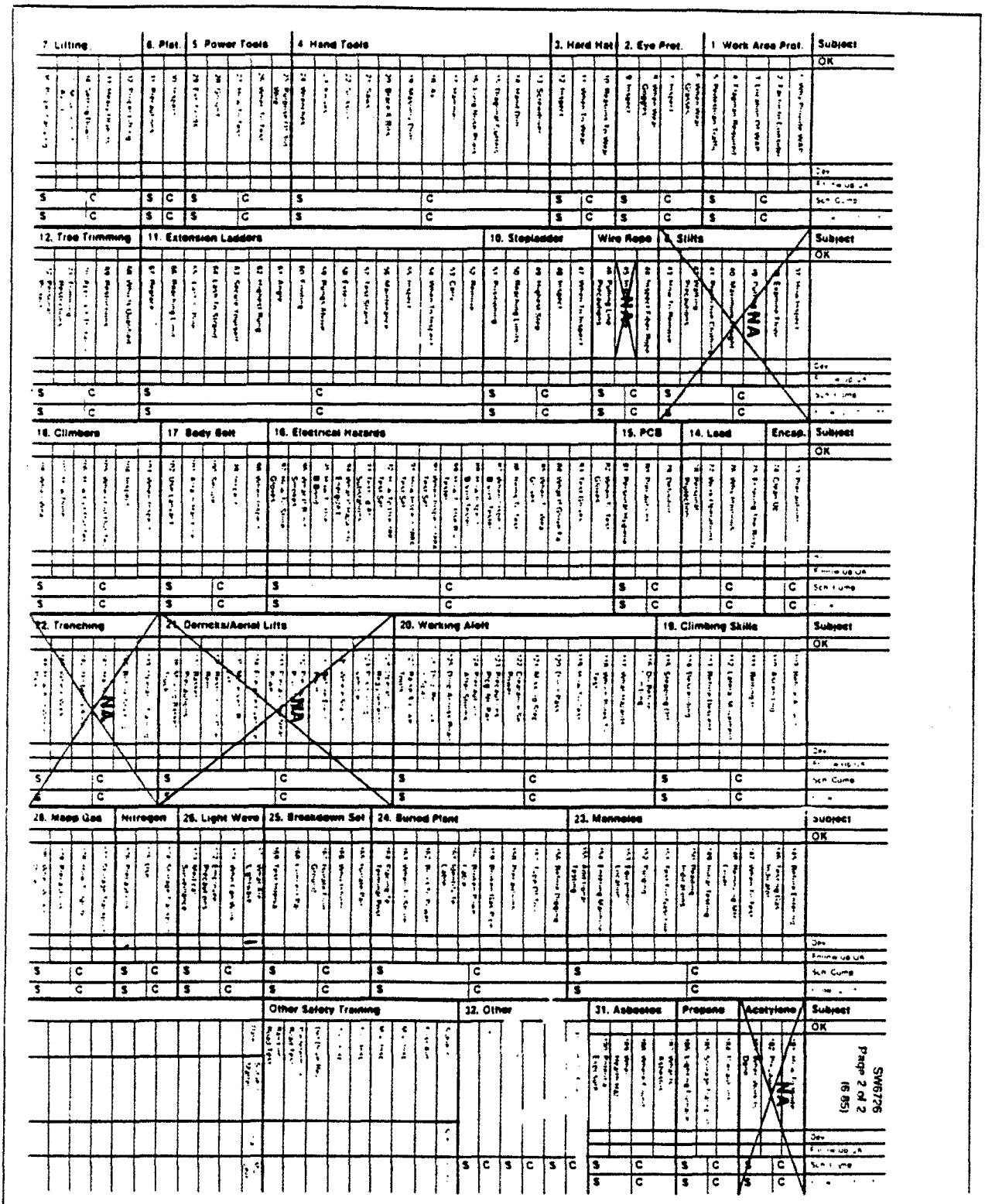
Date	Subj No	Deviation & Corrective Action

Date	Subj. No.	Deviation & Corrective Action
2/10	11	Improperly Tied Review BSAPP #64
3/6	7	Used Back Review BSAPP #32 36
5/5	3	Not Wearing Review BSAPP #11
6/20	33	Emerg. Brake Not Set Review BSAPP Pkg 16
7/28	16	Driving Ground Rod No Insulating Gloves Review BSAPP #85
8/1	13	Mixing Encapsulant No Goggles Review BSAPP #71

Official File Copy unless reproduced

SWBT 001406

Figure 2 (Example)



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SAMPLE REVIEW SCHEDULE
FIGURE 3

EMPLOYEE 1 & 7	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	July
EMPLOYEE 2 & 8	Feb	Mar.	Apr.	May	June	July	Aug.	Sept.	Jan.	Aug.
EMPLOYEE 3 & 9	Mar.	Apr.	May	June	July	Aug.	Sept.	Jan.	Feb.	Sept.
EMPLOYEE 4 & 10	Apr.	May	June	July	Aug.	Sept.	Jan.	Feb.	Mar.	Oct.
EMPLOYEE 5 & 11	May	June	July	Aug.	Sept.	Jan.	Feb.	Mar.	Apr.	Nov.
EMPLOYEE 6 & 12	June	July	Aug.	Sept.	Jan.	Feb.	Mar.	Apr.	May	Dec.

Subject Number	Subject										
1	Work Area Protection			X							
2	Eye Protection						X				
3	Hard Hat						X				
4	Hand Tools		X								
5	Power Tools		X								
6	Platforms						X				
7	Lifting								X		
8	Stilts	X									
9	Rope, Wire (Fiber)	X									
10	Stepladder				X						
11	Extension Ladder				X						
12	Tree Trimming		X								
13	Encapsulants						X				
14	Lead Exposure						X				
15	PCB						X				
16	Electrical Hazards			X							
17	Body Belt	X									
18	Climbers	X									
19	Climbing Skills									X	
20	Working, Aloft									X	
21	Derricks/Aerial Lifts								X		
22	Vehicle Trenching								X		
23	Manholes					X					
24	Buried Plant					X					
25	Breakdown							X			
26	Lightwave Transmission							X			
27	Nitrogen							X			
28	MAPP Gas							X			
29	Acetylene Gas							X			
30	Propane Gas							X			
31	Asbestos									X	
32	Other										
	Motor Vehicle Inspection	X									X
	Tool Inspection	X									X
	Defensive Driving Review	X									
	Predetermined Road Test	X									
	Random Road Test										

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INDEX

EXPLANATIONS
"D" = Demonstrate
"E" = Explain
"ANSI" = American National Standards Institute
CEF = Cable Entrance Facility

WORK AREA PROTECTION

References - 081-200-102 Flashes
081-200-105 Traffic Cones
620-135-010 Guarding Work Areas
620-135-100 Warning Devices Description and Use

E 1. Why must you provide work area protection?

- For the protection of employees, equipment and the public with minimum interference to traffic or pedestrians.

E 2. What factors are to be considered in establishing work area protection?

- Location of work site.
- Type of road (multi-lane, one-way, etc.).
- Speed of traffic.
- Time of day (light versus darkness).
- Weather conditions (snow, ice, rain, etc.).
- State and local laws.

D E 3. How should work area protection be placed?

- The initial warning sign should be placed first, an appropriate distance from the work site.
- Up to 45 MPH x Seven = Placement of MWS.
- Above 45 MPH x Ten = Placement of MWS.
- Speed Limit = Cone Spacing.
- For many different situations see 620-135-010 for good references.

E 4. When is a flagperson required and how should they be equipped?

- A flag person should be used when adequate protection cannot be obtained using conventional devices.

- A flagman is to be equipped with a reflective vest (illuminated at night), hand flags, or paddles.

E 5. How should you provide work area protection for pedestrian traffic?

- Rope
- Tape
- Cones
- Barricades, signs
- Other devices

SAFETY EYEWEAR

References - 081-020-011 Eye Protection
010-100-005 Eye Protection

E 6. When do you wear ANSI approved eye protection?

- Whenever you are performing, observing and/or supervising a work operation where there is a reasonable probability of injury to the eyes that could be prevented by such protection.

  Examples:

  - While using tools
  - While in the close proximity of an individual using tools
  - Any work operations designated by a supervisor as requiring eye protection.

D E 7. How do you inspect safety glasses?

- Lenses and frames, look for the manufacturer's symbol which indicates ANSI approved.
- Lenses not scratched or pitted, clean and bright.

- Proper fit and storage.

E 8. When do you wear goggles?

Dust and splash-proof goggles shall be worn when:

- Drilling or chipping stone, brick, terra cotta tiles, etc.
- Working around grinding wheels.
- Welding or wiping lead sleeves.
- Using power-activated stud drivers.
- Under motor vehicles when hammering.
- Using compressed air.
- Handling air filters or fluorescent tubes.
- Battery acids, countercell solutions, or taking battery readings.
- When work is performed above eye level and when dirt and debris is likely to be disturbed.
- When using encapsulants.

D E 9. How do you inspect and maintain goggles?

- Lens for cracks and scratches.
- Straps for elasticity and wear.
- Clean and bright by washing with soap and water.
- Store in the appropriate case.

HARDHATS

References - 081-020-010 Safety Headgear

E 10. What type of protection is provided by the hardhat?

- Protection against head injury.
- Protection from accidental electrical contact.

E 11. When do you wear a hardhat?

- Working aloft (Definition: When both feet are off the ground).
- In the vicinity of construction apparatus.
- At ground level when work is going on overhead.
- Working in trenches over three feet deep.
- In manholes, except when not exposed to the opening.
- At all sites where building construction work is in progress.
- When there is a possible accidental contact with electrically energized objects.
- Any time or area when there is a potential for head injury.

D E 12. What do you inspect a hardhat for?

- Cleanliness.
- Compression test.
- Physical damage or wear, holes or attachments.
- Suspension for proper fit.
- Unauthorized decals. One vinyl acrylic identification tape may be used on the global surface, not on the brim and no closer to the lower edge than the stripping.

HAND TOOLS

References - 075-160-301 Screw Drivers
081-020-133 Long Nose Pliers
081-330-103 Soldering Coppers
081-745-102 Hammers, Hatches, and Axes
081-745-111 Drills and Drill Holders
081-745-113 Masonry Drive Tools

D E 13. How do you inspect and use screwdrivers?

- Handle for broken, split, roughness.
- Shank for looseness in handle or bent.
- Blade for broken, chipped, bent, rounded edges or corners.
- Select the proper size screwdriver, keeping the shank in line with the screw.
- When using, keep the blade squarely against the bottom of the screw slot, keep the free hand away from the tip of the blade while exerting pressure.

D E 14. How do you inspect and use the automatic drill?

- Shaft for free rotation and excess wear.
- Bits for sharpness and straightness.
- Proper storage.
- When using, keep fingers away from the drill point.
- Place one hand on grip to apply even pressure.

D E 15. How do you inspect and use diagonal pliers?

- Ensure grips are in good condition and secure.

NOTE: (Grips offer no electrical protection).

- Cutting edge for deep nicks, space between cutters, alignment of jaws.
- Handles for straightness, broken, freedom of movement.

- Select the proper size of cutting pliers for the job at hand.

- When using diagonal pliers, cut the wire or cable in the direction away from the user.

D E 16. How do you inspect and use long-nose pliers?

- Ensure grips are in good condition and secure.

  NOTE: (Grips offer no electrical protection).

- Jaws for straightness, broken nose ends, alignment and gripping serrations.

- Handles for straightness, broken, freedom of movement.

- Select the proper long-nose pliers for the job at hand.

- When using long-nose pliers, the direction of force should be away from the body; especially the face.

D E 17. How do you inspect and use hammers?

- Handle for cracks, splinters, tape.

- Head for fractured edge, mushrooming and securely fastened.

- Select the appropriate hammer for the task to be performed.

- Wear goggles.

- When using a hammer, grip the handle tightly, strike object squarely, keep other hand away from striking operation.

D E 18. How do you inspect and use axes?

- Handle for cracks, splinters, tape.

- Head for burrs or deep groves in cutting edge, securely fastened to handle.

- Proper storage.

- Wear goggles.

- When using an axe, secure a firm footing, verify that movement will not be impeded when swung, area is clear of any onlookers, travel of cutting edge is away from body and never between legs.

E 19. How do you inspect and use masonry drills?

Reference 081-745-111

- Drill holder for mushrooming or signs of cracking.
- Drills for sharp cutting edges and straightness.
- Proper storage.
- Select the proper drilling hammer.
- When using, wear gloves and special eye protection. Apply light hammer blows and turn drill slightly between blows.

D E 20. How do you inspect and use a brace and bit?

- Brace for ease of operation of the chuck and ratchet.
- Bits for sharpness and straightness.
- Proper storage.
- When using, seat the bit firmly in the chuck.
- Align the bit and the brace, applying necessary pressure to allow the cutting edges of the bit to complete the boring operation. Never strike the brace with another tool.

D E 21. How do you inspect and use saws?

- Blades for sharpness, missing teeth.
- Proper storage.
- Handle for cracks and security of blade.
- Select the proper saw for the job.

- When using, maintain firm footing and apply pressure on either forward and/or reverse stroke.

- On initial stroke use work glove on free hand to aid in guiding saw blade. Then move free hand away from saw blade.

D E 22. How do you inspect and use scissors and shears?

- Cutting edges for nicks and burns or excessive sideplay in blades.

- Proper storage.

- Handles for ease of operation, cracks or fractures.

- When using cut at right angles, keeping free hand from cutting edge.

D E 23. How do you inspect and use knives?

- Blades for sharpness, burrs and nicks, mushrooming.

- Proper storage.

- Handle for tightness and wear.

- Select the correct knife for the job.

- When using, wear appropriate gloves (mesh), keep free hand away from direction in which force is applied. Do not use items between knees or legs.

D E 24. How do you inspect and use wrenches?

- For wear and burrs on holding edges, ease of operation of moving parts.

- Gripping end free of burrs and straight.

- Ensure that the set screw is prevented from falling out of the adjustable wrench as this screw retains the adjustable jaw.

- Select the proper size of wrench for the job.

- When using adjustable wrenches, position tightly on the nut so that the pulling force is applied to the stationary jaw.

- Use a pulling motion on a wrench, not a pushing motion.

POWER TOOLS

References - 010-111-010 Electrical Protection
620-103-010 Portable Tools
GL 77-04-094

E 25. What is the purpose of the third wire?

- To protect the user from shock and possible death by providing a low-resistance path to ground from the case of the tool.

E 26. When do you test a power tool and cord?

- When received.

- Each day before using.

- When maintenance work is performed.

- When damage is suspected.

D E 27. How do you test a power tool and cord?

- Test ground continuity between the case of the tool and the ground prong using a buzzer, OHM meter or the 188A test set and the W1BU cord, (with the on/off switch open and closed). Include the drill chuck for double insulated tools.

- Test the conductors, between each conductor prong and the metal case to insure that no continuity exists. Repeat with the on/off switch open and closed.

D E 28. How do you ground a three-conductor tool in a two-conductor outlet?

- Test the outlet box and receptacle cover for voltage with the 188A test set.

- Test the outlet box for ground.
- Insert an approved adapter in the two-conductor receptacle and ground to the box using the cover plate screw provided the center screw is metallic and not plastic.
- If the outlet box is not grounded, connect a grounding cord to an approved ground source.
- If the tool cannot be grounded use a double insulated tool.

E 29. What types of extension cords may be used and how should they be inspected?

- Use only company or UL listed extension cords in good condition.
- Inspect insulation for cuts, burns, worn places, tears, frays and bare wires.
- Use of tape is not permitted.

AERIAL PLATFORMS

References - 081-300-015 Aerial Platforms
081-300-111 Pole Platforms

D 30. How do you visually inspect a platform before each use?

- Boards for cracks, excessive wear, poor finish, paraffin, solder drippings and filled cable compounds (jelly and encapsulants).
- Hardware for defective welds, saddles, snaps, hooks.
- Bolts or screws missing or loose.
- Rope for abrasion, broken fibers, cuts, burns, soft and loss of stretch, mildew, mold and change of color at three foot intervals.
- Rope for correct knots and ties in saddle and hooks.

E 31. What precautions do you take before placing and using?

- Inspect and/or test poles at each end of the span.
- Test strand before placing using the two person method.
- Do not place on 2.2M strand or any size strand on pole to building spans.
- Do not place on slack span construction.
- Platforms placed in excess of three feet from a pole shall be tied to a ladder.
- Ladders used for guy rope tieing shall be secured to the strand by the two-rope method.
- Body belts and safety straps must be worn when placing, removing and working on a platform.
- All items on the platform should be secured.

LIFTING

References - 010-110-007 Safety Precautions For Material Management Operations.

D E 32. How do you lift properly?

- Position yourself with one foot slightly ahead of the other, toes pointing slightly outward, feet apart (width of shoulders) and firmly planted.
- Squat down close to the object, keeping back as straight as possible. Elbows positioned between knees with chin tucked in toward chest.
- Test the weight of the object by lifting or tilting it using the "Palmer Grip".
- Grasp object firmly with "Palmer Grip".
- Keep object close in and lift by straightening the knees.

E 33. What do you do if the weight to be lifted exceeds your capabilities?

- Divide load into smaller portions.

- Get help or use a mechanical device.

D E 34. How do you set an object down?

- Squat down while keeping back straight.

- Lower object onto the corner or onto support to avoid finger injuries.

- Lower object into final position keeping fingers from underneath.

E 35. What are some of the movements that should be avoided when lifting?

- Twisting; change of direction by moving your feet, not your torso.

- Jerking.

- Side lifting.

- Overextending when reaching.

E 36. How should you carry objects?

- Select clear route of travel.

- Keep object close to body.

- Do not allow load to block your vision.

- Do not twist your body.

- Do not change your grip.

- Face spot where object is to be placed.

- Change direction by moving your feet.

STILTS

References - 065-106-100 SHUJAX Working Stilts

D E 37. When and how should stilts be visibly inspected?

- Inspect prior to each use.
- Inspect for loose nuts, broken bolts, worn straps, bent parts, and any other physical damage.
- Check the soles of the floor plates for foreign substances and proper traction.

D E 38. What should be examined before wearing stilts?

- Examine the floor in the work area for obstacles and potential trip hazards.
- Floor should be an even, hard surface.

D E 39. How do you put on stilts?

- Sit in a chair or at a desk at the proper height.
- While seated, tighten the leg straps before tying the shoes or tightening the adapter heal and toe straps.
- Keep straps fastened tightly.

E 40. What is the maximum total weight for the user?

- Maximum total weight including side tools and cable is 225 pounds and never to be exceeded.

D E 41. What protective clothing should be worn?

- Hard hat.
- Safety goggles.
- Gloves.

D E 42. What are the precautions to follow when walking?

- Walk on even, hard surfaces only. Always walk forward.

- Make U turns to reverse direction.
- Never walk backwards.
- Always watch where you are walking.
- Never use stairs.
- Do not lean over to pick up objects, get assistance if necessary.
- Be cautious around low profile fixtures.
- Do not lean over objects such as boxes or desks.

D E 43. How should stilts be removed?

- Wearer should be seated and disconnect leg straps last.

CHAIN SAWS

Reference - 649-530-901
620-310-100
620-310-200

E 44. Who may operate a chain saw?

- Only trained personnel. This training must be documented prior to being allowed to use a chain saw.

E 45. What safety precautions should be observed?

- Safety glasses or goggles, hard hat, work gloves, and hearing protection shall be worn at all times when using a chain saw.
- Electric chain saws will only be used from aerial lift vehicles.
- Gasoline powered chain saws shall be used only when the workman is standing on the ground.
- Do not operate in an enclosure, unless there is adequate ventilation.

- Clear adjacent area of foreign objects which might hinder the operator or interfere in the operation of the tool.
- Never use where balance and footing are not secure.
- Hold the saw in both hands during operation.
- Do not use for cutting above the chest level of the operator.
- Operator must have firm footing when working on the ground or from an aerial lift device.
- Wear sturdy shoes.
- Do not wear loose-fitting articles of clothing which could get caught in the chain saw.
- Avoid burns from contact with heated parts.
- Stop the engine as soon as cutting is finished.
- Never set the saw down with the engine running.
- Never carry the saw from one work area to another with the engine running.
- When not in use, the chain guard or scabbard should be placed over the chain.
- Keep the chain sharp.

E 46. When do you inspect a chain saw?

- Inspect all chain saws daily.

E 47. What do you inspect on a chain saw?

- -Assure that all handles are tight, guards secure and in place.
- Check all controls, and muffler for proper operation.
- Ensure the operation of the chain brake if equipped.

- Check the chain for proper tension, sharpness, and free of debris.

E 48. What do you do prior to operating a chain saw?

- Examine the material to be cut and remove any metallic objects, light brush or branches, that may interfere with the operation of the saw.

  Check for:

  - Gasoline chain saws:
    - Maintain at least 10 ft. from fueling location.

      (NOTE: Never add fuel when engine is hot).
    - Proper levels of fuel and oil.
  - Electric chain saws:
    - Proper oil levels.
    - All cords free of defects and proper grounding.
  - Chain saws (all types):
    - Clean filters and oilers free of any debris.

E 49. How do you operate a chain saw?

- Firm footing and weight evenly distributed.
- Both hands on the saw.
- Body positioned directly behind and in line with the motor end of the saw, never beside it.
- Avoid kick backs. (Kick back occurs when the chain, near the nose or the top of the guidebar, contacts any object such as another log or branch or the chain is pinched in a cut.)

- When a log is supported on both ends and would close on the blade, cut 1/3 through from the top, then finish cutting from the bottom up. With large logs, wedges should be used to avoid pinching the blade.

E 50. How do you store and transport a chain saw?

- Transport and store the saw in a secure area with a scabbard over the chain.
- Gasoline chain saws must have proper ventilation.

WIRE/FIBER ROPE

References - 081-510-101 Manila Rope
081-511-101 "D" Plastic Rope
081-512-100 Handlines
649-310-011 Wire Rope
649-310-100 Rolled Eyes
649-310-111 Cable Reel Slings
649-310-115 Slings

E 51. How do you inspect fiber rope before usage?

- Look for abrasions, cuts, extreme softness, decay or burns.
- At 3 foot intervals twist the rope open looking for broken fibers, fine powder, mildew, mold or change in color.
- No tape permitted.

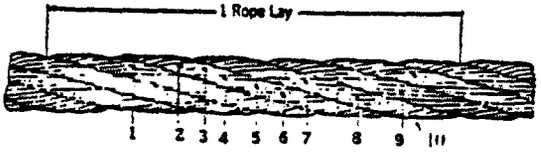
D E 52. How do you inspect wire ropes and sling before usage?

Inspect for:

- Abrasions
- Corrosion
- Pitting
- Rust
- Kinks

- Crushed spots

- Five broken wires within the strands in any one lay. (649-310-011 include example).



Rope is unsafe for further use if there are five broken wires in one strand (2, 3, 4, 5, 6) or a total of 10 broken wires in all strands in any one rope lay. (1 through 10, inclusive.)

Fig. 6--Inspection of Wire Rope for Broken Wires

- Ten broken wires in all strands in any one lay.

D E 53. What precautions do you follow when using pulling lines?

All types of ropes:

- Wear work gloves.

- Do not overload.

- Determine proper size and kind.

- Avoid twist and kinks.

- Do not straddle, stand next to, or place hands when rope or line is under tension or moving.

- Do not stand inside the angle.

- Avoid sudden jerks.

- Use the appropriate grip or hitch for the job at hand.

- Use walkie-talkie hand or voice signals to control pulling operations.

Fiber:

- Do not use wet rope in the vicinity of power wires unless it is an emergency and then only if wearing insulating gloves.

Wire:

- Check rigging.
- Do not bend wire rope around sharp corners.
- Never pull winch lines over stationary supports.
- Do not place hands on winch lines being moved by winch drum or within arms reach of any sheave, guide, etc.
- Never use wire rope clamps to form an eye.
- Use a B sheave guard on a mandrel bar.
- Never be in a manhole when wire rope is under tension.
- Wind evenly on winch drum.
- Never splice except when forming an eye.

STEPLADDERS - References - 065-104-301
081-741-105

E 54. When do you visually inspect?

- When received.
- Before beginning any work with the ladder.
- If dropped.

D E 55. How do you visually inspect?

- Place the stepladder in good light.
- Side rails for cracks, splinters, or protruding nails.

- Steps and rungs for cracks, splits, splinters, decay and loose braces or tie rods on the steps.

- Hardware for bent or broken metal and loose rivets.

D E 56. What is the highest safe step to stand on?

- The second step below the top cap.

D E 57. What are the reaching limitations?

- Do not lean in either direction so that your outside shoulder extends one foot beyond the side rail. A good rule to remember is never move your breastbone beyond the side rail.

D E 58. How should the step ladder be positioned when pulling cable, wire or drop?

- Place the ladder so that when standing on it, it is between you and the source of the cable, wire, or drop.

EXTENSION AND/OR COMBINATION LADDERS

References - 081-740-105 Extension Ladders and Attachments
081-741-100 Ladders, B and C Combination
460-300-108 Ladders
081-510-101 Manila Rope
460.0401 Safety - Personal Protection - Tools
620-131-010 Precautions Before Working on Poles or Pole Mounted Equipment

D 59. How do you remove it from the vehicle?

- Lower the base of the ladder onto the ground.

- Assume a position at the side of the vehicle facing the base, bend the knees slightly and fit side rail snugly against the shoulder.

- Lift the ladder by straightening the knees and readjust until the exact point of balance is obtained;

- or, after facing the base, lower the other end of the ladder using the proper lifting procedure.

D 60. How do you carry it?

- Carry on the shoulder in a balanced position, ladder hooks turned in, base downward and to the front. Arms not through the rungs.

- Or, carry the ladder at one's side with the spurs forward.

E 61. When do you visually inspect all ladders?

- When received.

- Before beginning any work with the ladder.

- If dropped.

- Wooden ladders receive a dead weight test at six-month intervals or when dropped.

D E 62. How do you visually inspect and what are the ladders limitations?

- Side rails for cracks, splits, splinters, decay protruding nails and loose rivets.

- Rungs for cracks, splits, splinters, decay, looseness or wear.

- Hardware for broken, worn or defective spurs, rubber pads, guide-irons, locks, pulleys and strand hooks.

- Ladder rope for wear, broken fibers, cuts, extreme softness, decay or burns.

- Both ends of the ladder rope must be properly terminated per 081-510-101 Manila Rope.

- "C" and "E" (fiberglass) extension ladders

  - Less than 32' ladders the safe working load is 300 pounds. (Definition - workman, tools and materials.)

- "C" extension ladders

- Ladders 32' and longer, the maximum safe working load is not to exceed 250 pounds. (Definition - workman, tools and materials.)

E 63. How do you perform field maintenance?

- Remove splinters with a rasp, file, or sandpaper.
- Tighten rivets with two hammers.
- Tighten nuts.
- Replace rope.
- Oil locks, springs and pulleys.
- Rotate spurs or replace rubber feet.

D 64. How do you test strand?

- Inspect and/or test poles at each end of the span.
- No power present-pass a hand line over the strand at the point where the ladder will be placed.
- If power condition exists, place the handline over strand with wire raising tool at the point where the ladder will be placed.
- Grasps both ends of the hand line and gradually apply full weight to the hand line by slowly lifting oneself off the ground.

D 65. How do you extend the ladder?

Reference - 081-740-105SW

- Place the ladder upright with the fixed section close to and facing the wall or strand.
- Face the fly section.
- Place one foot at the outside of the base of the fixed section to steady the ladder, but not in a position where it could be struck by the fly section.

- Bring the rope around the side rail and use one hand to pull the rope and the other hand to lift a rung of the fly section.

- Extend the fly section one or two rungs at a time and engage the locks after each pull. Never place the free hand between the rungs where it can touch rungs on the fixed section.

- After the top section is raised beyond the reach of the free hand, steady ladder by holding side rail and continuing to extend.

- After ladder is extended, place at proper angle and secure the ladder rope.

- To lower, move the base close to the strand or wall and reverse the raising procedure by lowering one or two rungs at a time.

- Never let the ladder rope slip through your hand.

E 66. How many rungs should extend above the strand; the edge of the roof?

- When hooks are not engaged, place the ladder so that at least two rungs extend above the strand when the workman is in position on the ladder.

- To gain access to a roof, extend the ladder at least three rungs above the point of support.

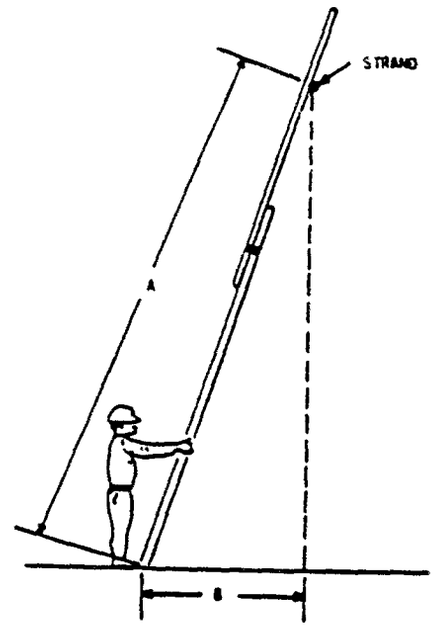
E 67. What is the proper footing and how is it obtained?

- Ensure both ladder feet are on the same level.

- On uneven surfaces use block, wedge, or ladder foot.

- On wet or oily pavement, a smooth floor, an icy or metal surface-lash, block, secure or have ladder held by another employee.

D 68. How do you place it at the proper angle?



- Place the foot of the ladder on the ground so that the distance from the base of the ladder to a line extended vertically from the top point of contact is approximately 1/4 the length of the ladder measured from the point of contact to the base.

- The fireman's method is a convenient way of checking the angle of the ladder. Place your toes against the base of the ladder, fully extend both arms towards the side rail and parallel to the grouhd. When standing erect you should be able to grasp the side rails.

E 69. What is the highest rung to stand on?

- - Fourth from the top.

D 70. How do you secure yourself to the ladder?

- If the ladder is lashed to the strand, pass the safety strap around one rung, or between two rungs and around one side rail.

- If the ladder is not lashed to the strand, pass the strap around the strand, one side rail and between two rungs.

D 71. How do you lash the ladder to the strand?

Reference - 081-740-105

- Tie one side rail securely with a clove hitch and two half hitches.
- Pass the rope around the cable and strand at least three turns.
- Tie the other side of the rung with a clove hitch and two half hitches with 3/8" to 1/2" manila rope or equivalent.
- Secure before climbing on a sloping strand or in a strong wind by first placing a hand line over the strand.
- Tie the end of a hand line to the second rung from the top of the top section.
- Extend and position the ladder two full rungs above the strands.
- Pull the other end of the hand line taut and secure it to a nearby pole or to a rung on the lower section of the ladder.

D 72. How do you lash the ladder to the pole?

- Raise the ladder to the desired height and place in the working position at the correct angle against the pole.
- Using a handline, lash extension ladder to base of pole following the 6 steps as illustrated.

Reference (081-740-105; Page 2 of 2)

- Step 1

  Tie rope securely to the pole at the same height of rung to be lashed (fourth or fifth rung from the bottom) with a clove hitch and two half-hitches.

- Step 2

  Pass rope around the side rail, under rung, and back around the pole.

- Step 3

  Pass the rope under the rung, around other side rail, and back around the pole.

- Step 4

  Pass the rope between loops as shown and back around pole.

- Step 5

  Pull tight, make two turns around pole, and pass rope around loops.

- Step 6

  Make two turns around loops, pull tight and tie off with two half-hitches.

- After the bottom is secured, wearing a body belt and safety strap, ascend the ladder with a 15' length of 3/8" or 1/2" rope. Secure the top of the ladder as listed below.

- Secure the top by using a clove hitch and two half hitches on the side rail rung, pass the rope one complete turn around the pole and secure the oposite end with a clove hitch and two half hitches on the same rung.

NOTE: For alternate methods of lashing ladder before climbing see 081-740-105.

D 73. What are the reaching limitations?

- When the ladder is not lashed, do not attempt to lean to the side so far that the outside shoulder is more than 12" beyond the side rail. A good rule to remember is never move your breast bone beyond the side rail.

- When the ladder is lashed to the strand, the limitations are as far out as the safety strap will allow with both feet on the ladder rungs.

D 74. How do you place a ladder on the vehicle?

- Ensure the ladder rack locking clamps are in the fully open position.
- Lay ladder against the fixed upright of the ladder rack assembly.
- Raise base of ladder onto the ladder rack and secure with locking clamps.

LADDER SUPPORTS

References - 081-740-105 Extension Ladder Attachments Description and Use

D E 75. How do you inspect "D" and "E" ladder supports?

- Check the sling assembly or support member for excessive wear or fractures.
- Inspect the safety rope.
- Inspect clamp assembly for free and proper operation.
- Safety chains must be attached on the clamp assembly.

D E 76. How do you place and use the "D" and "E" ladder supports?

- Test adjacent poles and strand when required.
- Place ladder against strand and attach ladder support screw assemblies and safety chains.

-- "D" ladder support

  - Attach bowed bar to the second rung from the top of the ladder.

- "E" ladder support

- Attach safety rope to the fifth rung from the top of the ladder.

- Pass ladder under cable and strand, then extend ladder between strand and ladder support.

- If "E" ladder support is used, reposition ladder support at the second rung from the top and lash support frame to the rung.

See Figures 20 and 21 of BSP 081-740-105 Page 11.

LADDER PLATFORMS

References - 081-740-105 Extension Ladders and Attachments Description and Use

D E 77. What and how do you inspect ladder platforms before each use?

- Visually inspect the wood for cracks, excessive wear, poor finish, paraffin, solder drippings and filled cable compounds (jelly and encapsulants).

- Bolts or screws missing or loose.

- Ensure that all metal parts have no cracks, rust, any defective welds, and all parts function properly.

D E 78. How do you use "C" and "D" ladder platforms?

- Ascend to working height, position platform support hooks to the rung of the ladder and fasten the spring actuated latches.

- Secure the bottom metal frame and support latches to the next one or two rungs of the ladder.

- Using three point contact, step or climb onto the platform and secure the safety strap to the strand.

TREE TRIMMING

References - 620-310-200, IL 81-05-055

E 79. Who is a qualified tree trimmer?

- Any worker who by reason of training and experience has demonstrated the ability to safely perform the duties in line clearance work (tree trimming) to the supervisor in charge of the work operation.

E 80. What are the restrictions for unqualified trimmers?

- Unqualified trimmers may not bring tools closer than ten feet to an energized conductor while trimming trees.

E 81. What are the approach distances to energized conductors for qualified personnel?

Minimum Approach Distances

Voltages Phase-To-Phase and Phase-To-Ground	Minimum Distances In Inches
0 to 300 Volts	Avoid Contact
300 Volts To 750 Volts	12"
750 Volts To 37,000 Volts	36"
37,000 Volts To 141,000 Volts	54"

Not to be confused with clearance distances

E 82. What are the Telephone Employee trimming restrictions?

- -Telephone employees will trim to clear telephone wires and cables only.

- Employees will not trim to clear electrical conductors.

E 83. What personal protective equipment is to be used while trimming?

- Safety headgear and hearing protection.
- Safety glasses under normal conditions, safety goggles when using a chipper.
- Insulating gloves if electrical hazards exists.
- Note - A second qualified employee is required, within a normal voice communications, when trimming where an electrical hazard of 750 volts exists.
- When sawing overhead wear goggles.

ENCAPSULANTS - PLUGGING AND SEALING COMPOUNDS

References - 628-220-204 B Duct Sealer
637-241-011 Pressure Plugs
081-856-101 Disposable Plastic Gloves
081-020-011 Eye Protection

E 84. What are the safety precautions when using chemical compounds?

- Read and adhere to the danger statement on the container.
- Wear goggles and disposable plastic gloves while mixing and pouring.
- Use in well ventilated areas (fans, MH blowers, etc.).
- Avoid contact with your skin.

E 85. What do you do when the work is complete?

- After the work is completed and the tools are cleaned, thoroughly wash the exposed skin areas with the cleaning agent recommended on the compound container.
- Do not use waterless hand cleaner on the face or neck.

LEAD EXPOSURE

References - 010-170-002 Occupational Exposure to Lead
081-852-127 Lead Particle Entrapment Compound (LEPEC)

620-100-010 Occupational Exposure to Lead, Cable Removal
627-380-240 Aerial Cable Removal
628-240-240 Removing Underground Cable
628-240-242 Removing Underground, High Production Method
632-020-240 Cable Removal, Cutting Splice Closures From Plant
632-315-200 General, Removing Lead Sheath
633-200-201 Lead-Calcium Sleeves, Description and Installation
644-200-005 E Sheath Repair Sleeving, Description and Installation
649-210-132 Cable Removal Unit, Hogg-Davis, Description and Operation
649-210-135 MCV Mobile Cable Salvaging Vehicle, Description and Operation

E 86. How does lead primarily get into the body?

- Inhalation.

- Ingestion.

E 87. Why may high lead levels be injurious to health?

- Lead is a toxic substance. Excessive quantities in the body can cause clinical effects ranging from minor disorders to serious physical damage.

E 88. Which work operations have the greatest potential for excessive lead exposure levels?

- Lead cable removal.

- Reracking underground cables.

- Cable repair using heat shrink sleeving.

E 89. How can you control potential exposures to airborne lead?

- Personal hygiene - keep food, beverages, and tobacco away from work operation.

- Wash hands prior to eating, drinking or smoking.

- Use LEPEC or equivalent (shaving cream).

- For lead cable removal wear specially provided clothing and adhere to the prescribed exposure time limits. See 620-100-010.

- Use lead particle entrapment compound when filing or carding led cable and sleeves.

POLYCHLORINATED BIPHENYLS (PCBS)

References - 010-160-012, II 79-12-050

E 90. What is PCB and where are they found?

- A liquid material present in some electrical power tranformers, florescent light ballasts and capacitors that have been classified to be hazardous to the human health and environment.

E 91. What are the precautions involving suspected PCB leaks from power transformers?

- Have condition reported to the power company and your supervisor. Avoid contacting leak material. Protect the public with barricades.

E 92. What additional precautions are necessary when working near PCB?

- Observe good personal hygiene, wash hands or exposed skin before eating, drinking, or smoking.

ELECTRICAL HAZARDS

References - 081-710-100 Insulating Blankets
081-710-200 Insulating Gloves
081-705-101 B Voltage Tester
081-705-102 188A Test Set
081-705-103 1188 Test Set
081-705-104 193A Test Set
620-105-010 B Voltage Tester - Use on Poles
621-205-010 Placing and Removing Poles Near Power
C-9970 Voltage Detector, Operation and Use
629-100-010 Buried Plant

E 93. When do you test insulating gloves?

- When received.
- Before and after use.
- At least once a month.
- Before sending in for yearly test.

D E 94. In what sequence do you test insulating gloves?

- Visually check return date for testing.
- Pull vigorously between the fingers looking carefully for cracks and inner liner showing through.
- Look for signs of abrasions or deterioration on the palm and back of the thumb side and the little finger side.
- Turn the glove inside out and repeat the stretch test.
- Turn the glove right side out.
- Squeeze the fingers of the glove together, let go quickly. Live rubber will return to normal.
- Fill the glove with air by revolving the glove around the edge of the gauntlet axis, rolling it towards the palm and fingers.
- Place the air filled glove next to your face while squeezing to feel for leaks on both sides. (Caution.- Employees with beards should use areas around the eyes instead of underneath the chin.)

E 95. What do you do if they fail the test?

- Do not use.
- If outdated, return for re-test.
- If damage is found, cut glove, palm side from finger to top of gauntlet.

E 96. When do you wear insulating gloves?

- Whenever there is a possibility of contacting electrical power.
- Placing or removing temporary and permanent electrical bonds.
- Driving a ground rod or trailer stake.
- When using a "B" voltage tester.
- When placing or removing strand, wire or drop wire near power.
- When using the 188A test set at sub-stations and primary distribution systems where the potential hazards could exceed 20,000 volts.

E 97. What items require electrical testing?

- Uninsulated vertical grounds, electrical power guys, conduits.
- Street light fixtures (ungrounded).
- Metal sided buildings, mobile homes and trailers.
- Joint use pedestals.
- Foreign plant in our work space including CATV equipment.
- Ceiling grids.
- Buried metallic facilities.
- Utility poles with unattached primaries.

D E 98. When do you inspect and test the "B" voltage tester and (B) temporary bond?

- When received.
- At least once a month.

- Maintain a record of the monthly tests.

D E 99. When do you inspect and test the 188A test set, B temporary bond and the W1BU cord?

- When first received (188A test set with the 193A test set).
- Self test before and after each use.
- Once a month (188A test set with the 193A test set).
- Test the 188A test set annually with the 1188A test set.

D E 100. How do you inspect and test the "B" voltage tester and temporary bond?

- Inspect the voltage tester and temporary bond for loose connections, loose ferrule, broken probe, defective clip or damaged cord.
- Test and wear insulating gloves.
- Attach the small clamp of the temporary bond to a suitable ground.
- Attach the insulated clip of the voltage tester to the large clamp of the temporary bond.
- Hold the indicator and the red portion of the probe handle in the same hand and in line of sight (gunsight) between yourself and the test plug.
- Touch the ferrule to center of the test plug, the indicator will glow.
- Touch the large clamp of the temporary bond to the small clamp of the temporary bond. The brilliance of the indicator should not change.

D E 101. How do you test any potential with the B voltage tester?

- Wear insulating gloves.
- Connect grounding clip to a suitable ground or metal object laying on the ground 5' from the item to be tested.

- Using the gunsight method, hold red handle and indicator in same hand.

- Touch potential hazard while observing indicator.

D E 102. How do you inspect and test the 188A test set, B temporary bond and the W1BU cord?

- Annually with the 1188A test set.

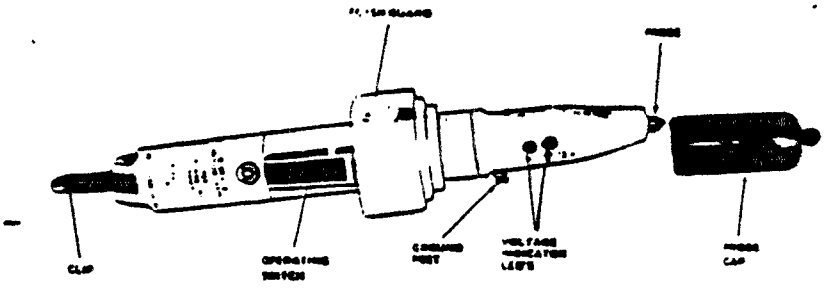
- Inspect the housing for cracks, holes, cuts, decals or unauthorized markings.

- Before and after use, firmly grasp the 188A handle behind the flash guard. Depress the switch, gree LED should light. Place the other hand's index finger on the probe contact and the thumb on the test contact screw. The red LED should light.

- Monthly - depress the switch and touch the probe to the contact point on the 193A test set. The red LED should flash.

- Inspect the cords for loose connections, broken wires and defective clamps.

- Continuity test the temporary bond and the W1BU cord by placing one clamp on the DC ground test post, depress the switch, touch the other clamp to the check contact screw. The red LED should flash.



D 103. How do you test potential hazards?

- Make pre-use test. (Self-test)
- Depress switch, approach object to be tested while observing for red LED lights, buzzing, or any vibrations. If any of these occur, move away and notify your supervisor. If no red LED flashes, continue test by establishing contact between the tip of the 188A test set and the object to be tested. If 188A test set stays green no further tests are required.
- If red LED flashes only when the object is touched, while maintaining contact between the tip of the 188A test set and the object being tested, release the switch, depress for a second time and move the 188A test set away, if red LED continues to flash move away and notify your supervisor. Proceed to next step ONLY if working aloft.
- If red LED flashes from the previous test, connect one end of the W18U cord to ground and the other end to the conductive probe cap on the handle of the 188A test set. While maintaining contact between the tip of the 188A test set and the object to be tested, release the switch and depress a second time. If red LED continues to flash move away and notify your supervisor.

E 104. How do you test at sub-stations and primary distribution systems where the potential hazards could exceed 20,000 volts?

- Pre-test the 188A, test and put on insulating gloves.
- Depress the switch and hold down, approach the object to be tested.
- Observe the 188A housing for buzzing, vibrating or red LED. If any of these occur, move away and notify your supervisor.
- If the red LED does not flash do another test without protective gloves.

E 105. What do you do if an electrical hazard is indicated?

- Identify the Hazard to protect the public and other employees.

- Do not leave an unguarded hazard.
- Notify your supervisor.
- See that the responsible company or owner is notified of the hazard.

D E 106. How do you use a temporary bond?

- The temporary bond is intended to ground a potential hazard which has been tested free of any foreign voltage.
- Test and put on insulating gloves.
- Connect the small clamp of the bond to a known ground source.
- Connect the large clamp of the bond clamp to the fixture last.
- While wearing insulating gloves, remove the large clamp from the fixture first.
- Remove the small clamp from the ground last.

D E 107. What do you do if the bond smokes?

- Leave the bond there.
- Identify the hazard for the public and other employees. Do not leave an unguarded hazard.
- Notify your supervisor.
- See that responsible company or owner is notified of hazard.

D E 108. How do you store insulating gloves?

- A protective glove palm down.
- An insulating glove palm up.
- Both fabric liners.

- The other insulating glove palm down.
- The last protective glove palm up.
- Grasp all gloves together by the gauntlet and insert in bag, fingers up.
- Store in designated area.

FOOT PROTECTION

Reference - 010-110-007 Safety Precautions For Material Management Operations

E 109. Describe appropriate footwear.

- Company approved foot protection must be worn by all personnel whenever there is a reasonable probability of foot injury due to their work environment.
- Appropriate footwear must be worn during materials handling or working in an area where foot injuries may occur.
- Appropriate footwear is footwear which:
  - Completely encloses the foot with leather or material of equivalent resistance.
  - Has slip resistant soles and a 1 inch heel.

E 110. Why wear appropriate footwear?

- To minimize the number and severity of foot injuries.

E 111. When to wear?

- When working aloft.
- While handling cable reels.
- While working in the vicinity of a cable cutting operation.
- While working on a loading-dock.
- Walking across rough terrain or unpaved areas.

- Walking and/or working in debris strewn areas.
- Any work operation which could cause foot injury.

BODY BELTS AND SAFETY STRAPS

References - 081-720-101 Body Belts and Safety Straps
081-720-111 Holsters, Handline Carriers GL 77-03-067

E 112. When do you visually inspect?

- When received and each day prior to use.

D E 113. How do you inspect?

- Fabric and leather
  - burn marks.
  - cuts or cracks which would affect the strength.
  - broken or rotted stitching.
  - contrasting colored marker visible.
  - unauthorized attachments.
- Metal parts
  - badly worn or broken belts.
  - loose or broken rivets.
  - cracks in buckle or snaphook.
  - binding of keeper on snaphook.
  - check D ring for 90 degree rotation.

D E 114. How do you secure yourself to a platform or to a cross-connect box before stepping from a pole or ladder?

- When using the D, E or F belt attach one end of the safety strap to a D ring and the other end to the strand or handle of the BD box.

- With all other body belts pass the free end of the safety strap across the body and thru the other DEE ring and connect the free end of the snaphook onto the strand or handle of the BD box.

SAFETY STRAP MAY BE USED ON ONE DEE RING SOUTHWESTERN BELL D SIZE_____ RIGHT_____ MFD_____ MFR NAME OR TRADEMARK

D AND E BODY BELT NAMEPLATE

MUST NOT BE USED IN LINEWORK SAFETY STRAP MAY BE USED ON ONE DEE RING SOUTHWESTERN BELL F SIZE_____ RIGHT_____ MFD_____ MFR NAME OR TRADEMARK

F BODY BELT NAMEPLATE

NOTE: Padded, semi-floating, and full floating body belts are permitted provided they pass all the applicable tests and are treated as all other body belts when working aloft.

D E 115. How do you attach a hand line to a body belt?

- Use a B-handline carrier as shown in 081-720-111 or slip a loop under the body belt at the rear of the belt so that in the event of a strain it will slip out.

CLIMBERS

References - 081-730-101 Climbers - Description and Use
620-131-010 Precautions Before Working on Poles
Pole Mounted Equipment

E 116. When do you visually inspect?

- When received and each day prior to use.

D E 117. How do you visually inspect

- Gaff guards in place.
- Straps and pads for wear, cut fabric, enlarged holes, broken buckles, loose rivets.
- Sleeve screws for tightness.
- Missing screws or rivets.
- Leg irons for fractures, bends or twists or broken loops, and rings.
- Gaffs for fractures, hairline cracks, distortions, looseness or dullness.
- Gaff ridge for straightness.

E 118. When do you perform the cut-out test?

- When received.
- First time used each week.
- Anytime damage is suspected.
- After honing.

D E 119. How do you perform the cut-out test?

- Put on one climber, fasten the foot strap but not the leg strap.

- Remove the gaff guard and put on your work gloves.

- Place a gloved hand between the leg and the climber pad, palm facing the pole. Place the other hand around the pole for balance.

- With the leg at the normal climbing angle (about 30 degrees), point the gaff at the center of the pole about one foot above ground line.

- Slightly penetrate the pole surface (penetration should not exceed 1/4 inch). Keep enough pressure to hold the gaff in the pole but do not penetrate further.

- Push climber, knee, and hand toward the pole by moving knee until the strap loop is against the pole.

- Maintaining this position, gradually exert full pressure straight down on the stirrup. Do not jerk or jump. Do not raise the other foot off the ground, but do place all of the weight on the gaff.

- A correctly shaped gaff will cut into the pole and hold within a distance of two inches or less.

- After using the gaff guard to check this measurement, replace the guard.

- Check both climbers in this manner.

E 120. How do you hone a gaff?

- Hold the stone on the inner surface of the gaff and as close to the leg iron as possible.

- Using light machine oil, 20 to 25 strokes toward the tip but not over the tip, keeping the stone flat against the surface.

- Stroke outer side to remove burrs.

E 121. When do you wear climbers?

- Only when actually climbing and working on an unstepped pole or on a stepped pole if the work cannot be performed safely from the steps.

CLIMBING SKILLS

D E 122. What do you do in preparing to ascend?

- Check for hazards, pole clear of debris, depth of setting, etc.
- Check climbing obstructions, nails, traffic signs, clothes lines, hooks, antennas, missing or bent steps, etc.
- Unbalanced loading or distribution.
- Prod and sound test.
- Wear eye protection, hardhat, gloves, and proper footwear.
- Inspect the pole for physical and electrical hazards.
- Determine the high side of the pole and inspect the climbing area visually. (Climb the high side).
- Put a body belt and safety strap on and adjust the strap to the proper length.
- Place climbers on at the base of the pole, and remove gaff guards.

D 123. How do you ascend the pole?

- Hands at shoulder height, first raise right hand, then right foot and insert gaff at heart of pole 8 to 12 inches from ground.
- Raise left hand and then transfer weight to the right leg and gaff the pole with the left leg.
- Continue the three point technique to the desired height.

D 124. How do you belt in?

- If you carry the safety strap on the left side, place right foot one step higher than left, center weight on left foot, position right hand around pole.

- Remove top snaphook from carrying DEE ring, position hand with snaphook on back quarter of pole shoulder high, shift body balance to left wrist, transfer snaphook in right DEE ring, visually check that snaphook is engaged.

- Position safety strap to belt height.

- Shift weight to body belt and safety strap.

- Reverse if safety strap is carried on the right side.

D 125. How do you move around the pole?

- Lateral movement from front to back is not permitted on stepped poles unless climbers are used.

- Visually inspect pole.

- Position safety strap at belt-height or higher for maneuver, keep body erect.

- For right maneuver, gaff pole with right foot one-half step higher than left foot and one-half step to the right. Position hands on outside edge of safety strap with fingers and thumbs gripping the inside edge one-half the distance between body belt and pole. Move hips toward pole, push strap with right hand, pull strap with left hand shifting the safety strap in the direction of the lateral step (right). Shift the center body weight over right foot. Reverse procedure for left maneuver.

- Position trailing foot one-half step behind and one-half step below leading foot.

- Shift body weight to trailing foot and continue maneuvering sequence.

D 126. How do you unbelt?

- Visually inspect pole.

- Check feet and legs for circulation and restore if necessary.

- Position right foot higher than left (if safety strap is carried on left side), center and balance weight over left gaff, position left hand around pole.

- Disengage snaphook from right DEE ring, position hand carrying snaphook at shoulder height and transfer snaphook to left hand, transfer body balance to right hand, engage snaphook in left DEE ring.

- Reverse if safety strap is carried on the right side.

127. How do you descend?

- Reposition hands, balancing hand (weight centered side) shoulder high, descending hand one step below balancing hand.

- Break out leading gaff, lock knee, lower 8 to 12 inches and reengage gaff.

- Position the following hand 8 to 12 inches below the balancing hand.

- Disengage the other foot, lock knee, lower and penetrate the pole approximately 8 to 12 inches below the opposite foot.

- Drop the following hand below the balancing hand.

- Continue the 3 point technique to the ground.

D 128. How do you step off a pole?

- Visually inspect the area around the base of the pole.

- Lower the descending foot no more than 12 inches to the ground.

- Lower remaining foot to ground maintaining body balance with both hands on pole until feet are in a stable and balanced position.

- Cover gaffs with guards and remove climbers.

NOTE: For established employees not trained in 3 point climbing method, refer to 620-134-010.

WORKING ALOFT ON POLES

References - 620-040-012 Symbols, Poles and Equipment
620-131-010 Precautions Before Working on Poles or on Pole Mounted Equipment
621-205-010 Placing or Removing Poles Near Electric Power Wires
621-220-200 Pole Removal
462-103-010 Preventing Flip Ups
081-710-100 Insulating Blankets
081-710-200 Insulating Gloves

E 129. What hazards do you look for prior to climbing?

- Base of pole clear of debris, depth of setting.
- Electrical conduits, fixtures, exposed ground wires.
- Climbing obstructions, nails, traffic signs.
- Clothes lines, hooks, antennas, missing or bent steps, etc.
- Unbalanced loading or distribution.

E 130. What causes a hazardous unbalanced condition?

- Unbalanced loading or distribution on a pole.
- Removal of guys.
- Untying wires.
- Releasing wires or strand under tension.
- Placing additional wires or strand attachments.
- Loosening suspension clamps or guy clamps.
- Moving line because of road widening.

E 131. Which poles are to be tested?

- All vacant poles or poles with drop wire only. All other poles must be tested unless all of the following conditions exist:
- The pole is in a straight line section but not a dead end pole.
- The pole is carrying a 6M or larger strand or full arm of open wire which will remain securely clamped throughout the work operation.
- There is no downward grade change at the pole.
- Neither adjacent span is over 165 feet.

D E 132. How do you test poles?

- Pike pole test (not to be used on poles with power attached).
- Place the pike against the pole 12 feet above ground level and at a 45' angle.
- Push the pole at right angles to the strand or from all directions if no strand is attached.
- Hand line test (not to be used on poles with power attached):
- Loop the hand line around the pole about 12 feet above the ground.
- Pull the rope at right angles to the strand or wire or in all directions if strand or wire is not attached.
- Prod and sound test
- Use a prod with a shaft of five inches in length or longer.
- Insert the tool at a 45 degree angle below the ground line. (Most decay occurs between the ground line and 12 inches below ground).

- Wood decay will be evident by the ease with which the tool penetrates the pole.

- Sound the pole by striking with a hammer on all sides from the ground line to as high as can be reached. The presence of advance decay can be recognized by the hollow or dull sound.

E 133. What do you do if the pole does not pass the test?

- Do not climb.

- Tag with the appropriate B or C pole tag per 620-131-010 and notify your supervisor.

E 134. What do you do if pole steps are bent, missing, or loose?

- Bore new lead holes, plug old holes, and replace steps.

E 135. What are the approach distances to maintain from primary and secondary power? (Not to be confused with attachment or clearance distances.)

- Do not come closer than the minimum approach distances listed in Table A.

Table A
Minimum Approach Distances*

Voltage Phase-To-Phase and Phase-To-Ground	Minimum Distances In Inches
0 to 300 Volts	Avoid Contact
300 Volts To 750 Volts	12"
750 Volts To 37,000 Volts	36"
37,000 Volts To 140,000 Volts	54"

E 136. What are the precautions to take when placing or removing strand, wire or drop wire near power?

- Test and wear insulating gloves.
- Ground strand wire or drop.
- Tie down wire or strand where flip-ups might occur.
- Pull in with a hand line if applicable.

E 137. What are the precautions to follow after storms?

- Perform a visual patrol of the lead or line and survey surroundings for any hazards.
- Wear hard hat, safety glasses, test and wear insulating gloves.
- Test all potential electrical hazards.
- Coordinate with power company.

D E 138. How does one person place a drop wire across a road?

- If power is present, ground drop wire, strand, or wire, test and wear insulating gloves, and guard against flip-ups.
- Make the building attachment.
- Leave the drop wire reel at the building side of the road and place a hand line over the strand or pole attachment to acquire road clearance.
- When no traffic is approaching, carry or roll drop wire reel to base of pole or ladder making sure the drop wire lies flat on the roadbed.
- Tie one end of the hand line to the drop wire with a bowline knot and tension the reel brake.
- When no traffic is approaching, pull hand line so that the drop reaches the strand or other attachment and tension the drop enough to provide adequate clearance across the road.

- When raising drop, wire and strand always raise from the ground and never from the pole.

- Secure the hand line to the pole, or ladder.

D E 139. What precautions should be taken when removing a drop wire from a span attachment?

- Always place the ladder against the suspension strand so that your weight, while working from the ladder, will not be supported by the drop wire. If this is not possible, release the drop at the house to relieve the tension.

E 140. How do you raise and lower hand tools and equipment?

- Use a canvas bucket and/or a hand line.

VEHICLES MOUNTED DERRICKS/AERIAL LIFT DEVICES

References - 649-300-021 Corner Mounts
649-351-101 Telsta T-40B
649-351-121 Servi Lift
649-351-141 Servi Lift
010-110-006 Near Power
081-710-100 Insulating Blankets
081-710-200 Insulating Gloves
620-131-010 Precautions Before Working on Poles or Pole Mounted Equipment
621-205-010 Placing or Removing Poles Near Power Wires

E 141. What are the requirements to operate a derrick or an aerial lift device?

- The operator must be thoroughly trained on the particular vehicle being used.

- The operator must be familiar and use the daily check list and have full knowledge of potential hazards.

- The operator should carry an up-to-date card authorizing him/her to operate the equipment. If card is not available, other documentation of training must exist.

D E 142. What precautions do you observe after positioning the vehicle?

- Set parking brake.
- Operate the Mico-Lock (if equipped).
- Set the wheel chocks.

D 143. Where must you stand when operating the controls of derricks?

- Stand in the position provided.
- Never operate from the ground level.

D 144. What to do before extending the digger derrick boom?

- Set the outriggers taking necessary precautions to endure adequate footing.

D E 145. What precautions should you take prior to extending a boom or aerial lift device?

- Check for power.
- If possible power conflict exists, consider replanning the job to eliminate the conflict.

D E 146. What precautions must you take when working near power?

- Be prepared for any emergency.
- The operator must stand on the platform or at the console.
- Make sure insulating gloves and blankets are within reach for all personnel involved in the work operation in the event of an emergency.
- If there is any doubt that electrical contact exists, assume that the truck is energized.
- The derrick shall not come closer than the minimum approach distance listed.

Table A
Minimum Approach Distances*

Voltage	Minimum

Phase-To-Phase and Phase-To-Ground	Distances In Inches
0 to 300 Volts	Avoid Contact
300 Volts To 750 Volts	12"
750 Volts To 37,000 Volts	36"
37,000 Volts To 140,000 Volts	54"

*Not to be confused with clearance distances.

E 147. What do you do if the vehicle is suspected of being energized?

- Stay with the vehicle. Do not leave until power contact has been removed or power has been cut-off.
- If an emergency arises and personnel must leave the vehicle, put on rubber gloves, throw rubber blanket on the ground.
- Jump onto the blanket, do not jump in such a way that you may fall back onto the vehicle. When leaving the area, shuffle your feet to avoid a difference in potential.

E 148. How may a pole truck be moved when derrick is not stowed?

- Have insulating blanket and gloves available in the cab of the truck.
- For short distances, e.g., pole to pole, the auger may be carried suspended as long as it is secured to the derrick, the derrick stinger is retracted and rotated off the rear of the truck.
- The auger must not swing, presenting hazards to pedestrians or other vehicles.
- Speed must not exceed a slow walking pace.

- Ensure that outriggers are retracted before moving.

E 149. What are the restrictions when using boom tip or turret winch in pole removal.

- Never pull poles with the boom tip wrench.
- Always use a pole jack when removing poles.

D 150. What special precautions must be followed when entering a basket?

- Do not exceed the designated basket capacity as stated in the manufacturer.
- Insulating gloves must be in the basket when electrical contact is possible.
- Basket users must wear a suitable body belt and safety strap and be secured to the retaining ring at all times while in the basket.
- Enter or leave the basket only in the manner recommended by the manufacturer or appropriate practice.

D E 151. What are the precautions when moving a vehicle with a person in the basket?

- The vehicle must be equipped with a two-way intercom in good working order.
- The person in the basket is in command of any vehicle movement.
- The vehicle must be moved at a slow walking pace with the driver watching for bumps, soft shoulders or high crowns.
- The vehicle cab and bucket should be equipped with insulating gloves and rubber blanket.
- Must have upper controls in basket and overriding lower controls for use in case of emergency.

VEHICLE TRENCHING/PLOWING/BACK HOEING

References - 649-400-112, 113, 115 Cable Plows

E 152. What are the requirements to operate a trencher or plow?

- Operator must be thoroughly trained on the particular machine.
- The operator must be familiar with and use a daily check list and have full knowledge of potential hazards.
- The operator should carry an up-to-date card authorizing him/her to operate the equipment. If card is not available, other documentation of training must exist.

D 153. What should be done before the start of trenching or plowing?

- The path trencher or plow is to follow, should be walked to check for obstacles that may damage or tilt the machine.
- Such obstacles should be clearly marked with red flags or other highly visible objects.
- Locate or have all underground utilities located and marked.

E 154. Why is a hand signal necessary?

- This will ensure all are aware of the direction of the vehicle, when to stop, start, or turn the trencher, terrain problems, cable problems, etc.
- A hand signal system must be established with other employees before the start of work operations.

E 155. What is the umbrella area of protection?

- The umbrella area of protections is a ten-foot radius around the equipment where no one must enter.
- If anyone enters this area the operator must stop the vehicle.

D 156. Where to walk while working with trencher?

- Walk well ahead or beside trencher and not behind.

- Keep out of the umbrella areas so you are visible to the operator.

D E 157. How and where to park the equipment?

- Park well off the traveled portion of the road.
- Reset the blade on a board or rock to prevent lock up.
- Remove the keys.

MANHOLES

References - 081-310-103 Manhole Tent
081-700-100 105, 106, 107, 110, 120, 122 Gas Indicators
620-140-501 Testing and Ventilating Manholes
620-145-010 Petroleum Products in Underground
620-150-010 Placing and Removing Manhole Covers

D 158. What do you do prior to opening a manhole?

- Place work area protection devices.

D E 159. How do you test the operation of a gas indicator?

NOTE: Failure to pass any of the below tests requires replacement of the meter or parts thereof. Do not enter a manhole with a defective meter.

- Test the battery by squeezing the aspirator bulb five times to clear residual gas and zero in the indicator within the limits prescribed by the manufacturer.
- Using a gas test kit allow the gas to enter the meter per instructions.
- The indicator should register readings as prescribed by the manufacturer.
- Test for tightness by squeezing the aspirator bulb with hose attached and a finger over the hose opening. Bulb should remain deflated at least 10 seconds.

- Test the filter by squeezing the aspirator bulb. After releasing, the bulb should inflate within five seconds.

E 160. When do you test for gas in a manhole?

- Immediately after removing manhole cover.
- After purging and entering a manhole.
- A minimum of every two hours after making initial tests.
- A minimum of one hour if manhole tent is used.
- When opening a duct.
- After removal of water from a manhole.
- After every shift change.
- If gas is detected on initial test, retest every hour without tent, 1/2 hour if tent is being used.

D 161. How do you remove a manhole cover?

- One person can remove the cover by placing the feet solidly clear of the cover bending the knees and keeping the back straight.
- Two persons should first both use their hooks on the same side to break the manhole cover seal. One person then moves to the opposite side of the cover and lifts and assists while the other person pulls.
- Frozen manhole covers should never be thawed with an open flame. Rusty, frozen, or improperly fitting covers can be loosened with a digging bar, hammer or chisel, or by directing a ventilating heater hose at the cover.

162. How do you test manhole atmosphere?

- Lower the free end of the indicator hose to the point where a person's head will be when working in the manhole.
- If sufficient water is present in the manhole to require pumping, hold the sampling hose one foot above the water.

- Draw a sample of the atmosphere through the gas indicator by compressing and releasing the aspirator bulb five times plus one squeeze for each five feet of the sampling hose.

- Observe the meter pointer continuously from the first squeeze of the bulb until the test is completed.

- If the meter pointer moves rapidly to the top of the scale then returns to a point above zero, a heavy concentration of gas is indicated.

E 163. What do the different indicator readings mean?

- An indicator reading 0.1 to 1.0 or 10% to 100% requires purging and retesting with the blower in operation. If a second test still reads .1 to 1.0 or 10% to 100%, do not enter and notify the supervisor.

- An indicator reading below 0.1 or 10% indicates that the manhole may be entered after purging.

E 164. What do you do if gasoline fumes are smelled?

- Use a gas indicator and a crushed inhibitor filter (if required for your indicator) to determine if the atmosphere is safe to work in.

- Notify your supervisor immediately if required.

E 165. Why must a manhole be purged?

- No manhole should ever be entered unless the manhole is purged for the required time to dissipate any stagnant gas, ensure against oxygen deficiency and provide a complete air change in the manhole.

- The purging time requirements can be found in 620-140-501.

- Establish that the blower hose has been installed properly on the blower, and purge the hose for a period of one minute.

- Only one 90 degree bend in the blower hose is permitted while purging.

D E 166. Where do you locate the ventilating equipment?

- The blower intake must be away from exhaust fumes.
- The propane source should be in a secured upright position away from the blower intake and if possible lower than the manhole opening.
- Upon first entering the manhole, clear all corners of the manhole for any pockets of gas.
- Only two 90 degree bends are permitted in the blower hose and the end must be secured in a horizontal position directed toward an end wall of the manhole.

D 167. How do you enter a manhole?

- Facing traffic and maintaining three points of contact.
- Use only an appropriate ladder whose first step is not more than one foot below the ground surface.

D 168. What additional tests are required after entry?

- Duct entrances, corners, and generally throughout the manhole.

BURIED PLANT

References - 620-102-010 Underground and Buried Work
622-020-020 Conduit and Manhole Construction
622-100-010 Conduit and Manholes
629-100-010 Buried Plant
081-710-200 Insulating Gloves

D E 169. What do you do along the route before digging?

- Determine the locations of existing buried or underground telephone cables and foreign plant along the route of work.
- Determine the location of power, gas, CATV, water, sewer and pipe lines.

D E 170. What types of hand tools are used when working on buried plant?

- Digging tools with wooden handles only shall be used.

- No digging bars or all metal tools shall be used.

D E 171. What precautions should be taken while hand digging?

- Do not cut, chop or break underground obstructions until determining what they are.

- Do not disturb, push away, or lift any electrical plant or pipeline.

E 172. What do you do if a gas line is broken?

- Get out of the hole.

- Leave the hole open to allow gas to dissipate.

- Warn residents and the public in the vicinity.

- No smoking or open flames.

- Do not leave the location unguarded.

- See that the fire department is notified.

- See that the gas company is notified.

- Notify supervisor.

E 173. What do you do if a power cable is broken?

- Barricade location until condition has been cleared.

- Keep the public away from the area.

- Do not leave the area unguarded.

- See that the proper utility is notified.

- Notify your supervisor.

D E 174. How do you identify telephone cables in a joint trench?

- Electrically identify exposed telephone plant with an approved test set and approved test methods.

- If ends of cables are exposed and are readily identifiable as telephone, there is no need to electrically test.

- Do Not Look directly into the sharply severed end of cables that may contain lightwave transmissions.

D E 175. Who connects bonds to power company cable sheath?

- Telephone employees do not connect bonds to power company cable sheath.

- Connections to power company cable sheath shall be made by the customer's electrician or the power company personnel.

D E 176. When must shoring be used in a trench?

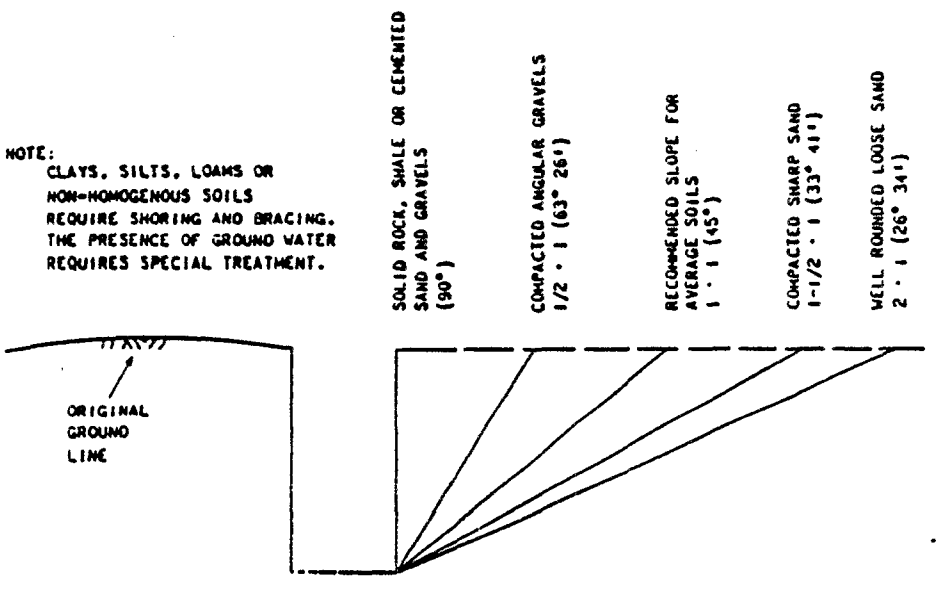
- Shoring is required in all trenches five feet deep or more, unless excavation is in solid rock or the sidewalls are tapered back twelve inches for every twelve inches of depth.

- Do not enter trench unless shoring has been provided as prescribed.

- Ladders must be located so as to require no more than 25 feet of lateral travel.

Figure 2 Picture of the Approximate Angle for Sloping Excavation Sides (See Next Page)

FIGURE 2 PICTURE OF THE APPROXIMATE ANGLE FOR SLOPING EXCAVATION SIDES



D E 177. What precautions should be taken when placing cable terminal posts on joint installations with power?

- The posts should be placed at a minimum of six inches off the trench line before backfilling the trench.

BREAKDOWN TEST SET

References - 634-305-501 L5 Test Set
634-305-502 L6 Test Set

D E 178. What must be done to the cable pair being tested?

- Protective devices must be placed on the C. O. frame.
- Remove all terminated drop wires.

D E 179. Who must be informed that a test is to be made?

- The maintenance center shall assist in alerting all employees who are working in the isolated section.

D E 180. How do you isolate the breakdown test set from a ground source?

- Place in vehicle.
- Place on insulating blanket or other insulated object.
- Secure to a pole off the ground.

D E 181. How do you connect the defective pair to the test set?

- Always connect breakdown test set to both conductors under test or to one side and to another conductor of a crossed pair.
- Never from side to ground.
- Never use 2 test sets connected in series.

D E 182. What is the test interval on 105D, 110A, and similar test sets?

- The test interval is for one year and should be marked on the handle.

LIGHTWAVE TRANSMISSION SYSTEMS

References - RL 82-11-163
Guidelines for Fiber Optic Projects

E 183. What are fiber optic transmission systems?

- Fiber optic transmission systems use semiconductor laser that emit lightwaves into fiber optic cables.

E 184. Who is permitted to work on fiber optic transmission systems?

- Only authorized trained personnel who have had a prior eye examination shall be permitted to install or perform service and maintenance or to use associated fiber optic test equipment.

E 185. What precautions should be taken when working with fiber optic cables and test equipment?

- Employees should not disconnect any fiber optic cable and stare into the optical connector because of the potential for eye damage.

- Do not use optical instruments to view unterminated optical connectors.

- Do not examine or stare into broken, severed, or disconnected fiber optic cables.

- Insure fiber optic sources are de-energized during all splicing or maintenance operations.

- The transmission medium used in fiber optic systems consists of fibers that are hair thin filaments of silica glass. When the outer coating is removed down to the bare fibers, the following precautions should be observed.

  1. Safety glasses must be worn when working with bare fibers.

  2. Avoid rubbing eyes when handling fiber cuttings since small fragmented pieces of glass may adhere to the hand and be transmitted to the eyes. If a fiber cutting is suspected to be lodged in an eye, seek medical help immediately.

  3. All fiber must be disposed of properly (per local instructions). Since fiber cuttings are small and very sharp they can pierce the skin easily.

E 186. What is meant by a medical surveillance requirement program?

- Any employee who is assigned fiber optic duties must undergo a comprehensive eye examination upon assuming those duties, when completing those duties, and anytime the employee suspects that eye damage has occurred.

NITROGEN GAS

References - 637-025-010 Cable Pressure Precautions
637-300-100 Nitrogen Gas Cylinders

E 187. How shall nitrogen gas be stored and transported?

- Stored in a secured upright position with protective caps in place and chained or securely strapped to a fixed wall.
- Temporary field located cylinders, both liquid and dry type must be secured vertically and supported to protect the public.
- Liquid nitrogen cylinders should never be placed in manholes or buildings.
- May be transported in a horizontal position on racks in a vented compartment, or adequately blocked to prevent movement.
- When not in use the regulators shall be removed and protective caps in place.

E 188. What may occur when nitrogen is being used in manholes or to boost air pipe pressure?

- Since nitrogen is heavier than air, it will displace the oxygen in a manhole or splice pit.

E 189. How are nitrogen cylinders identified?

- Each tank has a positive identification on the neck of the tank.
- Aluminum nitrogen cylinders must have a label explaining the heat indicating feature and be painted with a special paint that gives a positive indication if the cylinders have been exposed to temperatures in excess of 350 degrees F.

MAPP GAS

References - RL 82-03-018
Addendum 081-330-105SW

D 190. How shall Mapp gas be stored and transported?

- In an upright position, with regulator and hose removed and secured from tipping.
- Never in a vehicle cab, open van, or passenger area.
- Never more than three disposable cylinders, or 24 lbs., in vented compartments per vehicle.
- Keep cylinders away from fire and heat.
- Cylinders must not be placed or stored in an aerial lift bucket.

D 191. How shall Mapp gas be ignited?

- Wear goggles and gloves.
- Always secure tank in a ventilated upright position.
- Open tank valve 1/2 turn-approximately 10-15 lbs.
- Soap test all fittings.
- Open the on/off handle valve approximately 1/4 turn.
- Cup the tip in the friction lighter and ignite.
- Fully open the on/off handle valve.
- Adjust for the desired flame by turning the regulator control valve.

D E 192. What are the precautions when using Mapp torch?

- Always be aware of the position of the flame tip.
- Ventilate aerial tents but do not use torch in a draft.
- Do not direct torch against strand, flammable objects, or your body.
- Regulate torch only at regulator.

- If necessary to thaw cylinder valve, do not use a flame - place the cylinder in a warm room.

- Do not use in manhole, vaults, or splicing pit at mainframes.

- Test for gas before using in a trench or splice pit (see manholes).

D E 193. What do you do when torch work is completed?

- Extinguish flame by closing torch valve, then close the tank valve and open torch handle allowing gas to vent into the atmosphere, away from flames or sparks.

- Close regulator control valve to limit of its travel.

- Never raise, lower or transport a tank with the valve open.

ACETYLENE GAS

References - 081-330-105 Acetylene Torches

D 194. How do you ignite an acetylene torch?

- Wear goggles and gloves.

- Position the tank in an upright secured position.

- Open the tank valve 1/4 turn.

- Soap test all fittings.

- Turn the regulator control valve clockwise to the desired pressure.

- Open the valve on the torch handle and ignite with a friction type lighter only.

- Adjust the valve in the torch handle to obtain the desired flame size.

D 195. What precautions are required when using a torch?

- Always keep the acetylene tank in an upright position.
- Do not use a torch in a manhole, CEF or splicing pit at main frames.
- When aloft do not allow the flame to contact strand.
- Do not allow torch to contact flammable material such as conductors, muslin, paraffin, etc.
- If used in a tent, the tent must be well ventilated.
- Always extinguish the torch before it is set aside.
- Keep the tank away from fire and heat.

D E 196. What do you do when torch work is completed?

- Extinguish the flame by closing the torch valve, then close the tank valve and reopen the torch valve and allow the gas to vent into the atmosphere, away from flames and sparks.
- Close regulator control valve to limit of its travel.
- Never raise, lower or transport a tank with the tank valve open.
- Cylinders must not be placed or stored in an aerial lift bucket.
- Only two cylinders per vehicle and never in the cab or passenger area.

PROPANE GAS

References - 081-315-101 "C" Manhole Heater
081-315-102 LP Gas
081-330-116 B, C, D, E, LP Gas Cylinders

E 197. What are the dangerous characteristics of propane?

- Propane is highly explosive.
- Propane is heavier than air.

- If a leak exists in a tank or valve, the gas will seek the lowest level, which could be a manhole.

- Propane is stored under pressure. Tanks should be inspected when received and before each use for cracks, leaks, corrosion, dents, bulges, evidence of rough usage and expiration of inspection dates (no more than 12 years from date stamped on tank).

E 198. How should cylinders be stored and transported?

- Store cylinders at locations that will minimize exposure to physical damage. Keep away from fire and heat.

- Never store cylinders below ground level, e.g., in manholes, basements, cable vaults.

- Secured in an upright position, unless stored in container provided by Vendor.

- Date of initial inspection must be stamped on each cylinder. Twelve years after this date the cylinder must be removed from service and returned for disposition.

- Regulators should be removed and plugs wrench tight.

- They should never be stored or stacked or transported in an enclosure unless the enclosure is ventilated and specifically provided for that purpose.

- Only 80 pounds of propane is permitted on any vehicle (80 pounds per truck or 80 pounds per trailer).

D 199. What precautions do you take when lighting a furnace or heater?

- Inspect the tank for defects (see 197).

- Close the furnace control valve.

- Open the valve on the propane cylinder.

- Soap test all fittings.

- To melt solder or paraffin, set the regulator pressure at 45 PSI.

- When used with a tent heater, set the regulator pressure at 4 PSI and ensure adequate ventilation inside the tent.

ASBESTOS

References - SW 010-100-904
SR 80-11-100
PL 80-07-216

E 200. What is asbestos?

- Asbestos is a general term for a family of minerals which form naturally as a soft material of compressed fibers.

E 201. Where is asbestos most likely to be found?

- In older buildings.
- In the form of fire protection materials (sprayed on).
- As insulating materials (pipe covering).

E 202. When does asbestos become a health hazard?

- Firmly bound asbestos in a finished form does not present a health hazard.
- When asbestos is disturbed by cutting, sawing or otherwise damaged or deteriorated, released fibers may be inhaled and retained in the lungs and become hazardous.

E 203. What should be done if a work place is suspected to have the potential for asbestos exposure?

- Consult with the owner regarding your suspicions and the risk of asbestos exposure.
- If necessary, asbestos can be wet down with water to minimize the health hazards.
- If suspicion of exposure remains, contact your supervisor.

E 204. What are the requirements for respiratory protection?

- As a last resort deemed necessary by management if no alternate means are available.
- Must use company approved Powered Air Purifying Respirator (PAPR).
- Must receive training in Asbestos exposure and procedures.
- Receive physician's opinion of employee's medical condition.
- Receive training on the use and care of the equipment.

CONTROLLED ENVIRONMENT VAULT (CEV)

References - 622-506-226
622-506-225

E 205. What is the procedure prior to entering a CEV?

- Place appropriate work area protection (620-135-010).
- After the entrance cover is opened, deactivate the entry alarm.
- Check the status of the atmospheric condition indicator. A green light indicates a safe atmospheric condition exists in the CEV, a red light indicates an explosive or toxic gas concentration.
- Pull up the aluminum ladder and install the guard assembly.

E 206. What is the procedure when the atmospheric condition alarm indicator is red?

- Do not enter the CEV.
- Follow the procedure described in 622-506-226 and inspect the ventilating system.
- When necessary use a portable manhole blower/ventilator as prescribed in 620-140-501.

D 207. Where are additional tests made after entering the vault?

- Generally throughout the vault and cable ducts.

E 208. When should these tests be made?

- Every two hours.

E 209. What should you do if gas is detected in the vault?

- If gas is detected, follow procedure in 620-140-501 (Ventilating Manholes).
- If gas is still detected, notify your supervisor.

ROLLING LADDERS

References - 010-110-004

D 210. What observations are necessary before using a rolling ladder?

- Inspect to make sure it is not defective.
- Make certain no person, loose tool, material, or equipment is is on the ladder.

D 211. How do you inspect a rolling ladder?

- Visually inspect side rails, handrail and steps for cracks, splinters or defects.
- Check for tightness, including the hardware.
- Check brake locks where equipped by checking for brake lock operation while standing on the 3rd step.

D 212. How do you safely ascend/descend?

- Face the ladder, looking up, grasp handrail before stepping onto first step.
- Place feet carefully on steps, taking one step at a time going up and down.
- On ascending, guard against striking head on ladder track or other overhead metal framework.

- Descending: Face ladder and continue to grasp handrail until both feet are back on floor.

- Do not stand with one foot on the ladder and the other foot resting on the equipment, frame, or other structures.

D 213. Should the ladder be moved while an employee is on it?

- No, employee must descend ladder before moving.

D 214. How do you place and remove a ladder seat?

- Carry the ladder seat in one hand, place the other hand on the hand rail to ascend or descend.

- Tilt the seat in the required manner to engage or disengage on the desired step. On metal seats ensure that the latch has been properly engaged.

D 215. How to get on and off the seat?

- Before sitting on ladder seat, test by hand to see that seat is firmly secured.

- When getting on or off the ladder seat, the weight shall be kept well balanced to prevent tilting of the ladder.

- Refer to 010-110-004 for the two methods of mounting or dismounting the seat.

E 216. Is it permissible to stand on a ladder seat?

- Never stand on the ladder seat.

E 217. When should the wheels be chocked?

- When using the ladder seat unless the ladder is equipped with brakes.

- While performing heavy work.

- While working in one location for an extended period.

E 218. Under which wheel should the chock be placed?

- Under the wheel on the side the worker will be facing when working or sitting on the seat.

E 219. Under what conditions may items be placed on the steps?

- Only after items are securely fastened and the ladder is chocked (if required).
- Hand tools should not be left on the ladder steps.

BATTERY, POWER AND ENGINE ROOM

References - 157-601-701

E 220. What personal protective measures are to be taken in the power room?

- Remove all jewelry.
- Secure long hair and loose clothing.
- Wear eye protection.

E 221. What are the neutralizing agents and why are they used?

- Substances used to counteract the effect of acids or alkaline solution.
- Baking soda solution is used to neutralize sulfuric (battery) acid.
- Boric acid solution for alkaline and nickel cadium battery electrolytes.

NOTE: These neutralizers are never to be used in the eyes.

D 222. What protective equipment should be worn when working with battery solutions?

- Splash proof goggles.
- ACID PROTECTIVE RUBBER GLOVES AND APRON.

D 223. What action is necessary if battery acid gets in the eye?

- Use eyewash provided at various eyewash stations in the power room or flush the eye with water for at least 15 minutes.
- Cover both eyes with a clean dressing.
- Get medical attention immediately.

D 224. What special protective equipment should be worn when working in the engine room with the engine running?

- Ear and eye protection.

E 225. What special feature is required on tools used on battery and power terminals?

- Always us an insulated tool which will not draw ARCS or sparks.

E 226. What must be used to protect battery and power circuits when working above them with hand or other tools?

- Cover them with fiberboard, canvas or insulating blanket. Refer to the practice.

HEARING CONSERVATION

E 227. Who is required to wear hearing protection?

- Any employee exposed to 85dBA of noise for an 8 hour time weighted average.

E 228. What is the OSHA requirement for employees exposed above 85dBA on a time weighted average?

- They must be included in a Hearing Conservation Program according to the OSHA standard.

E 229. What are the two major types of hearing protectors?

- Ear plugs (disposable and reusable).
- Ear muffs.

D E 230. Demonstrate and explain the proper way to insert disposable ear plugs?

a. With clean hands, roll plug into tight cylinder.

b. Reach over head and pull ear upward and outward to straighten ear canal.

c. Insert rolled cylinder into ear canal.

d. Hold plug in place 15-30 seconds to allow plug to expand and fill ear canal.

D E 231. Demonstrate and explain the proper way to insert reusable ear plugs?

a. Ensure hands and ear plugs are clean.

b. Reach over head and pull ear upward and outward to straighten ear canal.

c. Gently push and twist plug into ear canal until a seal is made.

E 232. What are some sources of noise off the job that could effect hearing and when hearing protection should be worn?

- When using firearms, chain saws, loud music, some farm machinery and power tools.

233. When are audiograms required for employees on the Hearing Conservation Program?

- An initial baseline audiogram and then annually.

Southwestern Bell Telephone

Retain Until Superseded
Joint Practice No. 28

Work Observations

Date	Subj. No.	Initials	Mgt. Level	Date	Subj. No.	Initials	Mgt. Level

Date	Subj. No.	Deviation & Corrective Action

Work Observations

Date	Subj. No.	Initials	Mgt. Level	Date	Subj. No.	Initials	Mgt. Level

Work Observations	Record Month And Day (7/12)								
	OK	OK	OK	OK	OK	OK	Dev	Dev	Dev
19 Electrical Hazards									
20 Foot Protection									
21 Body Belt									
22 Climbers									
23 Climbing Skills									
24 Working Aloft									
25 Derricks									
26 Trenching									
27 Manholes									
28 Buried Plant									
29 Breakdown									
30 Light Wave									
31 Nitrogen									
32 MAPP Gas									
33 Acetylene									
34 Propane									
35 Asbestos									
36 C.E.V.									
37 Rolling Ladders									
38 Batt. Power Eng. Rm.									
39 Hearing Conservation									
40 Other									
41 Motor Vehicle									

Date	Subj. No.	Deviation & Corrective Action

SW6726
Page 1 of 2
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Review-Package 6
SAFETY KNOWLEDGE
REVIEW/WORK OBSERVATION CARD

Employee Name

Job Title

Year | Supervisor

Work Observations	Record Month And Day (7/12)								
	OK	OK	OK	OK	OK	OK	Dev	Dev	Dev
1 Work Area Protection									
2 Eye Protection									
3 Hard Hat									
4 Hand Tools									
5 Power Tools									
6 Aerial Platform									
7 Lifting									
8 Stilts									
9 Chain Saws									
10 Rope									
11 Stepladder									
12 Ext./Comp. Ladder									
13 Ladder Supports									
14 Ladder Platforms									
15 Tree Trimming									
16 Encapsulants									
17 Lead Exposure									
18 PCB									

Date	Subj. No.	Deviation & Corrective Action

Official File Cc less reproduced

Subject	OK	Item	Dr.	Follow Up Dr.	Sm Comp	Follow Up Sm Comp
1. Work Area		1 Why Provide WAP				
		2 Factors to Consider				
		3 Location of WAP			C	C
		4 Flagman Required				
		5 Pedestrian Traffic			S	S
2. Eye Prot.		6 When Wear Glasses				
		7 Inspect			C	C
		8 When Wear Goggles				
		9 Inspect			S	S
Hd. Hat		10 Reasons to Wear				
		11 When to Wear			C	C
		12 Inspect			S	S
4. Hand Tools		13 Screwdriver				
		14 Hand Drill				
		15 Diagonal Cutters				
		16 Long Nose Pliers				
		17 Hammer				
		18 Ax			C	C
		19 Masonry Drill				
		20 Brace & Bits				
		21 Saws				
		22 Scissors				
		23 Knives				
		24 Wrenches			S	S
5. Power Tools		25 Purpose of 3rd Wire				
		26 When to Test			C	C
		27 How to Test				
		28 Ground				
		29 Ext. Cords			S	S
Plat.		30 Inspect			C	C
		31 Precautions			S	S
7. Lifting		32 Proper Lifting				
		33 Heavy Objects				
		34 Setting Down			C	C
		35 [illegible]				
		36 Proper Carrying			S	S
8. Stilts		37 How Inspect				
		38 Examine Floor				
		39 Putting On			C	C
		40 Maximum Weight				
		41 Protective Clothing			S	S

Subject	OK	Item	Dr.	Follow Up Dr.	Sm Comp	Follow Up Sm Comp
Cont.		42 Walking Precautions			C	C
		43 How to Remove			S	S
		44 Who May Operate				
		45 Safety Precautions				
8. Chain Saws		46 When Do You Inspect			C	C
		47 What Do You Inspect				
		48 Prior to Operating				
		49 How to Operate				
		50 Store and Transport			S	S
W. Rope		51 Inspect Fiber Rope				
		52 Inspect Wire			C	C
		53 Pulling Line Precautions			S	S
11. Stepladder		54 When to Inspect				
		55 Inspect			C	C
		56 Highest Step				
		57 Reaching Limits				
		58 Positioning			S	S
12. Extension/Combination Ladder		59 Remove				
		60 Carry				
		61 When to Inspect				
		62 Inspect				
		63 Maintenance				
		64 Test Strand				
		65 Extend				
		66 Rungs Above			C	C
		67 Footing				
		68 Angle				
		69 Highest Rung				
		70 Secure Yourself				
		71 Latch to Strand				
		72 Latch to Pole				
		73 Reaching Limit			S	S
L.S.		74 [illegible]				
		75 Inspect [illegible]			C	C
		76 Place & Change			S	S
L.P.		77 Inspect			C	C
		78 [illegible]			S	S
15. Tree Trm.		79 When is Disabled				
		80 Restrictions			C	C
		81 Approach Distance				
		82 Trimming [illegible]			S	S

Subject	OK	Item	Dr.	Follow Up Dr.	Sm Comp	Follow Up Sm Comp
Enc.		83 Personal Protection				
		84 Precautions			C	C
		85 Clean Up			S	S
17. Lead		86 Entering the Body				
		87 Why Hygiene			C	C
		88 Work Operations				
		89 Personal Protection			S	S
18. PCB		90 Definition			C	C
		91 Precautions				
		92 Personal Hygiene			S	S
19. Electrical Hazards		93 When To Test Gloves				
		94 Test Gloves				
		95 What if Glove Fail				
		96 When to Wear Gloves				
		97 Items to Test				
		98 When Inspect B Volt Tester				
		99 How Inspect B Volt Tester				
		100 How to Use B Volt Tester			C	C
		101 When Inspect 186A Test Set				
		102 How Inspect 186A Test Set				
		103 How to Use 186 Test Set				
		104 Testing at Substations				
		105 What if Hazard is Energized				
		106 How to Use B Bond				
		107 What 4 Bond Sources				
		108 How to Store Gloves			S	S
Fl. Prot.		109 Describe			C	C
		110 Why Wear				
		111 When to Wear			S	S
21. B. Belts		112 When Inspect				
		113 Inspect			C	C
		114 [illegible]				
		115 [illegible]			S	S
22. Climbers		116 When Inspect				
		117 Inspect				
		118 [illegible]			C	C
		119 [illegible]				
		120 [illegible]				
		121 When Wear				
C.S.		122 Before Ascend			C	C
		123 Ascending			S	S

Subject	OK	Item	Dr.	Follow Up Dr.	Sm Comp	Follow Up Sm Comp
C.Skills Cont.		124 Belting In				
		125 Lateral Movement			C	C
		126 Before Descent				
		127 Descending				
		128 Stepping Off			S	S
24. Working Aloft		129 Do Before Climbing				
		130 What Hazards				
		131 When Poles to Test				
		132 How to Test				
		133 Don't Pass				
		134 Missing Step			C	C
		135 Clearance Sec. Power				
		136 Precautions Pkg to Pole				
		137 Precautions After Storm				
		138 Drop Across Road				
		139 Drop Removal in Span				
		140 Raise & Lower Tools			S	S
		141 Operating Requirements				
25. Derricks/Aerial Lifts		142 Positioning Vehicle				
		143 Where Stand				
		144 Before Erect Boom				
		145 Precautions Prior to Ext			C	C
		146 Precautions [illegible]				
		147 Energized Vehicle				
		148 Move Veh Boom Ext				
		149 Restrictions Pole Rem.				
		150 Basket Precautions				
		151 Moving Bucket Truck			S	S
26. Trenching		152 Operator Training				
		153 Before Staking				
		154 Hand Signals			C	C
		155 Hydraulic Area				
		156 Where Work				
		157 How and Where Park			S	S
27. Manholes		158 Before Entering				
		159 Testing for [illegible]				
		160 When to Test				
		161 Removing MH Cover			C	C
		162 Initial Testing				
		163 Heating [illegible]				
		164 Test for Combus.			S	S

Subject	OK	Item	Dr.	Follow Up Dr.	Sm Comp	Follow Up Sm Comp
Cont.		165 Purging				
		166 Equipment Location			C	C
		167 Entering Manhole				
		168 Additional Testing			S	S
28. Buried Plant		169 Before Digging				
		170 Type of Tool				
		171 Precautions				
		172 Broken Gas Pipe				
		173 Broken Power Cable			C	C
		174 Identify Tel. Cable				
		175 Bond to Power				
		176 When to Shore				
		177 Placing Tel Terminal Post			S	S
29. Breakdown		178 Isolate Pair				
		179 Who Inform				
		180 Isolate from Ground			C	C
		181 Connect Pair				
30. Lt. Wave		182 Test Interval			S	S
		183 What Are Lightwave				
		184 Who Can Work			C	C
		185 Employee Precautions				
		186 Medical Surveillance			S	S
31. Nitro		187 Storage Transport			C	C
		188 Use				
		189 Precautions			S	S
32. MAPP		190 Storage Transport				
		191 How to Ignite			C	C
		192 Precautions				
		193 When Work [illegible]			S	S
Acetylene		194 How to Ignite			C	C
		195 Precautions				
		196 When Work [illegible]			S	S
Propane		197 Precautions				
		198 Storage Transport			C	C
		199 Lighting Furnace			S	S
35. Asbestos		200 What is Asbestos				
		201 Where Found				
		202 When Is [illegible] Hazard			C	C
		203 Potential Exposure				
		204 Protection			S	S
CEV		205 [illegible]				

Subject	OK	Item	Dr.	Follow Up Dr.	Sm Comp	Follow Up Sm Comp
36. C.E.V.		206 Red Alarm				
		207 Additional Tests			C	C
		208 When Made				
		209 Gas Detected			S	S
37. Rolling ladders		210 Before Using				
		211 Inspect				
		212 Ascend Descend				
		213 Moving				
		214 Place/Remove			C	C
		215 On/Off				
		216 Stand				
		217 Checked				
		218 Which/Where				
		219 Steps			S	S
38. Batt./Eng.Rm.		220 Personal Protection				
		221 Neut. Agents				
		222 Protective Equip			C	C
		223 Batt. Aid				
		224 Eng. Rm. Prot				
		225 Tools				
		226 Protection			S	S
39. Hearing Cons.		227 Requirement to Wear				
		228 OSHA Requirements				
		229 Types of Prot			C	C
		230 Insert Disposable				
		231 Insert Reusable				
		232 Off Job				
		233 Audiogram Req.			S	S
Other					C	
					S	

Other Safety Train.

Subject	Sch.	Comp
First Aid		
M V Insp		
M V Insp		
Tool Insp		
Tool Insp		
Def. Drive Rev		
[illegible]		
[illegible]		

Mgt. S/K Rev.

Date	Subject Matter	Initial	Mgr Level

Southwestern Bell Telephone Company
Joint Practice No. 28
Southwestern Bell Telephone Accident Prevention Plan

Review Package No. 12
January, 1988

ACCIDENT PREVENTION PLAN

NETWORK CENTRAL OFFICE OPERATIONS

Southwestern Bell Telephone

310.0803 - Joint Practice

TO ALL HOLDERS OF
JOINT PRACTICE 28

TYPE OF ACTIVITY

Replace

FILING INSTRUCTIONS

Complete Review Package
12 (1988) new issue

Staff Manager-Safety

Attachments

-

Southwestern Bell Telephone Company
Joint Practice No. 28
Accident Prevention Plan

January, 1988

Southwestern Bell Telephone Company Accident Prevention Plan nas 24 unique review packages. Seven of these packages required updates on safety information due to changes and expansion of OSHA safety regulations and four needed general updating because of environmental changes since 1984. The appropriate changes have been coordinated with each state's area manager-safety. Packages 2, 3, 4, and 17 were modernized for clerical, operator and first aid procedures. Packages 6, 7, 9, 11, 12, 14, and 15 were updated for additional personal safety and recognition of hazarqous substances. Package 22 was updated and includes new price list.

Vice President, General Counsel
and Secretary

Executive Vice President-
Finance and External Affairs

Executive Vice President-
Marketing and Operations

President and Chief Executive Officer

SWBT 001490

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DESCRIPTION OF REVIEW PACKAGE NUMBER 12

1. REFERENCE BOOK 12

1.1 Key Point Reference Book 12 contains the key points for each question and/or demonstration item listed on the Safety Knowledge Review/Work Observation Card 12.

1.2 More detailed information is available by consulting the appropriate Company Practice listed before each subject covered.

1.3 A blue pocket folder is provided with each Key Point Reference Book for use by the supervisor. The folder is intended to carry the Key Point Reference Book and sufficient Safety Knowledge Review/Work Observation Cards for each employee in the supervisor's work group.

2. SAFETY KNOWLEDGE REVIEW/OBSERVATION Card 12 (SW 6739).

2.1 Each Safety Knowledge Review/Work Observation Card 12 is a one year record of one employee's safety knowledge review results and work observations.

(a) Space is provided to schedule and document completion of safety knowledge reviews, follow-up checks and inspections as well as notations of completed work observations.

2.2 The front of Card 12 (Fig. 1) provides space for the employee's name and job title, the year of coverage, the supervisor's name, and review subject schedule for the year.

(a) Documentation of work observations are made in the space provided as noted:

2.201 If the work observation was completely satisfactory, enter the month and day (e.g., 7/14) that the observation was performed. (See Fig. 1)

2.202 For each deviation noted, the date, subject and a brief explanation of the deviation and the corrective action taken should be noted in the identify Deviations space.

2.203 All deviations require immediate, on-the-spot training.

2.204 The required work observation should be recorded for each employee per the district plan. (All deviations must be recorded.)

2.2041 Space is available in the top left corner for upper management to document work observations.

2.3 The back of Card 12 (Fig. 2) provides space for documentation of safety knowledge reviews and follow-up reviews, if applicable.

3. SCHEDULING TECHNIQUES

3.1 At least once a year, each employee shall be covered with each safety knowledge review or appropriate work observation that pertains to the task(s) or work procedure(s) which the employee may be called upon to perform.

3.2 One method of scheduling safety knowledge reviews is listed below:

(a) Beginning with the number 1, assign a consecutive number to each employee in the first level work group.

(b) Using Fig. 3, schedule the safety knowledge review subjects by month as indicated in the schedule/complete column.

(c) The actual schedule for employee No. 1 is shown in Fig. 2.

(d) Schedule the remaining employees in the work group by using this procedure.

NOTE: Supervisors should schedule safety subjects for safety knowledge reviews that specifically pertain to their reporting people.

Safety subjects not applicable to normal work assignments should be marked (NA).

4. SAFETY KNOWLEDGE REVIEWS

4.1 Documentation of safety knowledge reviews is made in the spaces provided on the back of the card. Entries should be made in pencil so changes may be made as required.

(a) OK Column: Place a mark in this space when the employee's demonstration and/or explanation of the specific item is fully correct and no errors are made.

If the employee demonstrates safety knowledge by the manner in which a task is performed, the supervisor should consider the demonstration as proof that the employee does have the knowledge to perform the task safely.

(b) DEV Column: Place a mark in this space when the employee does not demonstrate and/or explain the specific item correctly.

4.101 Retrain the employee before concluding the subject being reviewed.

4.102 If, in the judgement of the supervisor, a deviation is minor and can be corrected on-the-spot, place a check mark in the DEV column and a check mark in the FOLLOW-UP OK column after the deviation has been discussed and corrected.

4.103 If, in the judgement of the supervisor, an employee displays an overall low level of safety knowledge and/or ability to demonstrate the safe methods during any Safety Knowledge Review, another Safety Knowledge Review shall be conducted during the following three months to ensure that the on-the-spot training given during the initial Safety Knowledge Review was effective and was retained by the employee.

Schedule a follow-up review in the Follow-Up Sch/Comp. column by recording the month and day.

5. FOLLOW-UP

5.1 A follow-up is a reexamination of a deviated item(s) noted during the initial safety knowledge review.

(a) If an employee correctly demonstrates and/or explains the previously deviated safety item, place a mark in the Follow-Up OK column.

(b) Follow-Up Sch/Comp/ Column: mark the follow-up completion by month and day.

FIGURE 1 (Example)

SW 6739 1-86

Southwestern Bell Telephone

SAFETY KNOWLEDGE REVIEW/OBSERVATION CARD
Inside Craft
Review Package 12

Employee Name: S. WHITE

Job Title: COMM. TECH.

Year: 1988

Supervisor: D. HAWKINS

Ref. JP 28: 3/4 HAND TOOLS - PJB

Retain six years until

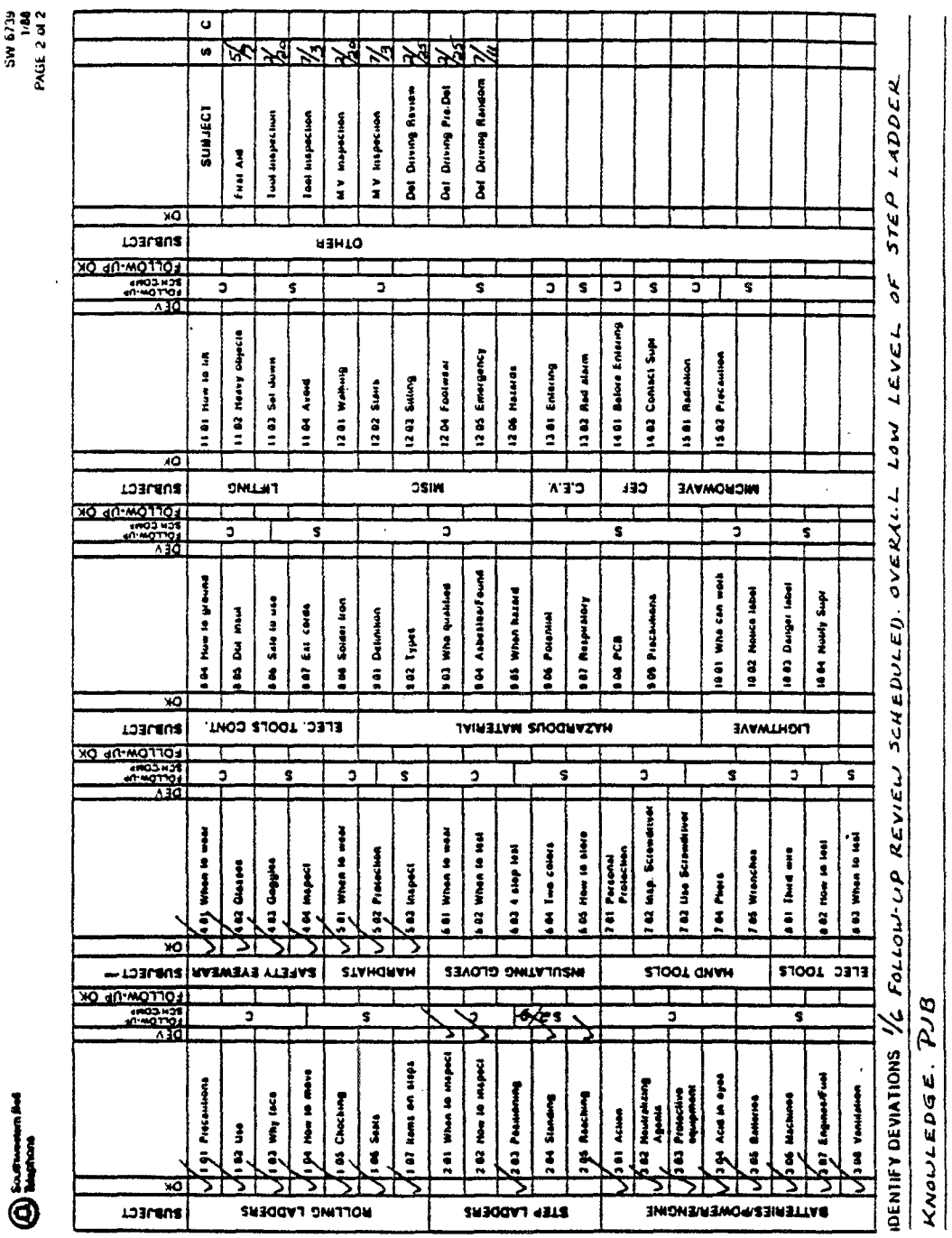
Record Month and Day (4/12)

Date	Subj No	Deviation & Corrective Action	Work Observations	OK	OK	OK	OK	OK	OK	Dev	Dev
3/24	4	NOT WEARING SAFETY GLASSES. REQUIREMENT REVIEWED	1 Rolling Ladders	3/24	3/24						
			2 Step Ladders	3/24							
			3 Battery Power. Engine								
			4 Safety Eyewear								
			5 Hand Mats								
			6 Insulating Gloves								
			7 Hand Tools	3/24							
			8 Electric Tools								
			9 Hazardous Material								
			10 Lightwave								
			11 Lifting								
			12 Miscellaneous								
			13 CEV								
			14 CEF								
			15 Microwave Radiation								

Subject	Sch	Comp
1 Rolling Ladders	1/6	1/6
2 Step Ladders	1/6	1/6
3 Batteries/Power/Engines	2/4	2/4
4 Safety Eyewear	2/4	2/4
5 Hard Mats	3/8	3/8
6 Insulating Gloves	3/8	3/8
7 Hand Tools	4/12	4/12
8 Electric Tools	4/12	4/12
9 Hazardous Materials	5/6	5/6
10 Lightwave	5/6	5/6
11 Lifting	6/7	6/7
12 Miscellaneous	6/7	6/7
13 Controlled Environment Vault	7/11	7/11
14 CEF	7/11	7/11
15 Microwave Radiation	8/4	
16 First Aid	5/13	
17 Tool Inspection	2/20	
18 Tool Inspection	7/13	
19 MV Inspection	2/26	
20 MV Inspection	7/13	
21 Def Driving Review	2/25	
22 Def Driving Pre/Det	2/25	
23 Def Driving Random	7/11	
24		
25		
26		

SWBT 001494

FIGURE 2 (Example)



SAMPLE REVIEW SCHEDULE
FIGURE 3

EMPLOYEE 1 & 7	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	July
EMPLOYEE 2 & 8	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Jan.	Aug.
EMPLOYEE 3 & 9	Mar.	Apr.	May	June	July	Aug.	Sept.	Jan.	Feb.	Sept.
EMPLOYEE 4 & 10	Apr.	May	June	July	Aug.	Sept.	Jan.	Feb.	Mar.	Oct.
EMPLOYEE 5 & 11	May	June	July	Aug.	Sept.	Jan.	Feb.	Mar.	Apr.	Nov.
EMPLOYEE 6 & 12	June	July	Aug.	Sept.	Jan.	Feb.	Mar.	Apr.	May	Dec.

Subject Number	Subject										
1	ROLLING LADDERS	X									
2	STEP LADDERS	X									
3	BATTERY, POWER, ENGINE		X								
4	SAFETY EYEWEAR		X								
5	HARDHATS			X							
6	INSULATING GLOVES			X							
7	HAND TOOLS				X						
8	ELECTRIC TOOLS				X						
9	HAZARDOUS MATERIAL					X					
10	LIGHTWAVE					X					
11	LIFTING						X				
12	MISCELLANEOUS						X				
13	CEV							X			
14	CEF							X			
15	MICROWAVE RADIATION								X		
	—										
	FIRST AID *										
	TOOL INSPECTION		X								X
	MOTOR VEHICLE INSPEC.		X								X
	DEF. DRIVING REVIEW		X								
	DEF. DRIVING PRE/DET.		X								
	RANDOM ROAD TEST										X
	OTHER										

* SCHEDULE PACKAGE 17 FOR ALL EMPLOYEES IN THE SAME MONTH (GROUP SESSION)

OSHA - Exposure to Airborne Asbestos Fibers

[redacted]

Personnel Vice Presidents
Copies to Assistant Vice Presidents - Support Services, Company Medical Directors and Safety Coordinators

Assistant Vice Presidents - Human Resources and Support Services; Corporate Medical Director

Provides guidelines to protect employees from occupational airborne asbestos fibers.

* * *

[redacted]

SWBT 002279

CONFIDENTIAL

AT&T

Subject: Occupational Safety and Health - Exposure to Airborne Asbestos Fibers

SL: SR 80-11-100

type letter: Strong Recommendation

date: November 20, 1980

distribution lists: HRD 003, HRD 020 (Edited), HRD 057, STF 108

American Telephone and Telegraph Company
1776 On the Green
Morristown N J 07960
Phone (201) 540-6300

file no.
- sl: SR 80-11-100
- related letters:
- other:

to: Personnel Vice Presidents
Copies to Assistant Vice Presidents - Support Services, Company Medical Directors and Safety Coordinators

from: Assistant Vice Presidents - Human Resources and Support Services; Corporate Medical Director

description: Provides guidelines to protect employees from occupational exposure to airborne asbestos fibers.

* * *

Section 29 CFR 1910.1001 of Standards issued by the Occupational Safety and Health Administration (OSHA) requires all employers to establish and maintain an effective program for protecting their employees from exposures to airborne asbestos fibers which are above those permitted by this Standard. This letter and its attachment provide guidelines and procedures to assist the Operating Telephone Companies in developing and implementing the programs that are necessary to safeguard the health of their employees and to assure compliance with the current OSHA Standard for asbestos.

In recent years, the Bell System has made substantial progress toward eliminating the purchase and use of buildings, products and other materials which contain asbestos. Unfortunately, the elimination of asbestos in new production processes, products, and materials, and in the construction of new buildings and other facilities, does not guarantee that all potential exposures to asbestos have been eliminated in the existing work environment. Baseline environmental studies conducted by the Environmental Health and Safety Department of Bell Telephone Laboratories show that Bell System workplaces generally do not expose employees to hazardous concentrations of asbestos fibers. Where exposures do occur, they are generally well below those permitted by the current OSHA standard. However, these studies have identified several potential sources of contamination which result either from earlier use of asbestos (i.e., fireproofing and insulation for buildings, steam pipes, boilers, air plenums, etc.) or from existing uses of asbestos for which no suitable substitutes have yet been found (i.e., motor vehicle brake shoes and clutches).

GL 77-07-024, Motor Vehicle Maintenance - Brakes and Clutches, and GL 78-08-054, Motor Vehicle Maintenance - Protection Against Exposure to Asbestos Fibers, provided recommendations and procedures for protecting employees from exposure to airborne asbestos fibers while performing maintenance operations on brake and clutch assemblies in Company-owned motor vehicles. When properly implemented, these procedures will reduce asbestos exposure levels below those allowed by the present Standard.

SR 79-05-398, Occupational Safety and Health - Exposure to Airborne Asbestos Fibers - Request for Survey requested the Operating Telephone Companies to initiate a comprehensive survey to identify Company-owned and leased facilities in which sprayed-on asbestos was used for fireproofing and heat insulation. RL 79-07-254, Asbestos Hazards in Leased Buildings, recommended that facilities under consideration for lease be reviewed for potential hazards caused by the use of building materials that contain asbestos. SR 80-06-010, Occupational Safety and Health - Sprayed-on Asbestos in Company-owned and Leased Buildings, recommends procedures that should be followed in buildings identified by this survey to minimize the risk of exposing employees to asbestos fibers which are potentially harmful to their health.

Station and PBX installation, rearrangement, and repair operations require employees to enter and work in buildings owned or leased by customers in which sprayed-on asbestos may have been used for general fireproofing or heat insulation. Where exposures to asbestos fibers jeopardize the safety or health of company employees who must enter these workplaces to conduct company business, the Companies should follow policies and procedures included in PO 80-07-216.

Detailed information is included in the attached "Guidelines for Controlling Occupational Exposure to Asbestos Fibers" to assist the Companies in developing and implementing a program for identifying, evaluating, and controlling potential sources of exposure found in their work environments. Copies of all pertinent documentation are included in the Appendix. Estimated costs for implementing this program in Company-owned and leased buildings were included in SR 80-06-010. Estimated costs for customer premises have not been provided since estimates of the frequency and severity of asbestos hazards on customer premises are not available.

An information package is being developed to assist the Companies to inform their employees about the nature and source of potential exposure to asbestos in their workplaces and work environments. Information concerning cost and availability of this package will be available later this year.

Questions regarding this letter, or its attachment, should be referred to the following persons:

Medical	J. P. Dunn, M. D.	(201) 221-2445
Safety	J. M. Degen	(201) 540-6510
Support Services	N. J. DeCapua	(201) 221-4984

Assistant Vice President
Human Resources

Assistant Vice President
Support Services

Corporate Medical Director

Attachment

EXECUTIVE OVERVIEW

The guidelines provide the basic information needed by the Operating Telephone Companies to develop, introduce and maintain a comprehensive program for protecting employees from occupational exposure to airborne asbestos fibers.

The hazards of asbestos are well documented and universally recognized. Asbestos has been long known to cause asbestosis, and is also implicated as a cause of lung cancer. In recognition of the serious health hazards associated with this substance, the Occupational Safety and Health Administration (OSHA) has imposed strict regulations designed to protect employees from exposure to asbestos in their workplaces and work environments. Issued as Section 29 CFR 1910.1001 of the Code of Federal Regulations, the standard establishes permissible exposure limits for airborne asbestos fibers. It also specifies the methods, work practices, monitoring and recordkeeping procedures, and medical surveillance programs which employers must establish to protect employees from excessive exposure to this substance.

The OSHA Standard for Asbestos requires each employer to cause every place of employment where asbestos fibers are released to be monitored in such a way as to determine whether any employee's exposure to asbestos fibers is above permissible exposure limits established by the Standard. If these limits are exceeded, the employer must immediately undertake a compliance program to protect employees from exposure.

In this connection, each Operating Telephone Company must undertake a program of visual inspection and personal and environmental monitoring to determine whether its workplaces are in compliance with the provisions of this Standard. This program must include Company-provided workplaces in Company-owned or leased buildings. It may also include specific telephone company work operations in customer-provided workplaces where asbestos has been used for general fireproofing and heat insulation.

In all situations where personal and environmental monitoring results indicate that employee exposures exceed the limits established by the Standard, the Operating Telephone Company must immediately initiate a compliance program to protect employees from these exposures.

Each Operating Telephone Company should identify the department and organization which is responsible for the development and implementation of company policy with respect to asbestos. In most Companies, this responsibility has already been assigned to the Personnel Department where it is currently shared by the Medical and Safety organizations.

(1) The Company Safety Coordinator is normally the primary contact for information concerning standards, sampling and analytical procedures, and maintaining results. Interpretation of results should be a joint function of the Safety and Medical organizations in consultation with the Bell Laboratories Environmental Safety and Health Department.

(2) The Company Medical Director provides technical support and directs the development and implementation of the medical surveillance program for asbestos.

(3) In some Companies, these activities may be coordinated and directed by an Occupational Health Working Group (OHWG) as recommended in General Letter (GL 75-02-130) dated February 19, 1975.

These guidelines are intended to assist Company Medical Directors, Safety Coordinators, and others responsible for employee safety and health in developing the policies and programs needed to comply with specific requirements of the "Asbestos" Standard. They provide:

- Basic procedures for assessing the safety of the work environment.

- Specific engineering controls and administrative procedures for controlling asbestos when found in employees' workplaces.

- Details concerning the personal protective equipment (respirators and clothing) which must be provided to employees exposed to potentially harmful concentrations of airborne asbestos fibers.

- Information needed to develop training programs for familiarizing employees with the hazards of asbestos and with procedures that have been initiated to protect them from harmful exposure.

- Details concerning the medical surveillance programs and recordkeeping procedures that must be implemented for employees who have been exposed to potentially hazardous levels of asbestos fibers.

GUIDELINES FOR EVALUATING AND CONTROLLING OCCUPATIONAL EXPOSURES TO ASBESTOS

1. INTRODUCTION

1.01 The hazards of asbestos are well documented and universally recognized. Asbestos has long been known to cause asbestosis, a disease characterized by scarring and thickening of lung tissue. Today it is implicated as a cause of lung cancer. The early detection and subsequent treatment of these diseases is usually difficult because the symptoms may not be clinically evident until 20 years after the first exposure. Additionally, there is no agreement on safe exposure levels. In recognition of the serious health hazards associated with asbestos, the Occupational Safety and Health Administration (OSHA) has imposed strict regulations designed to protect employees exposed in the workplace.

1.02 The deluge of information about this proven cause of cancer has produced understandable concern among many employees about the possibility of hazardous exposures to this substance in the Bell System work environment. These guidelines are intended to assist the Operating Telephone Companies in recognizing and evaluating exposures to asbestos fibers which may be found in the work environment, and in developing and implementing programs for insuring that employees are protected from harmful exposure to this substance.

2. SCOPE AND LIMITATIONS

2.01 In recent years, the Bell System has made substantial progress toward eliminating the purchase and use of buildings, products and other materials which contain asbestos. Unfortunately, the elimination of asbestos in new production processes, products, and materials, and in the construction of new buildings and other facilities, does not guarantee that all exposures to asbestos have been eliminated in the existing work enviroment. Baseline environmental studies conducted by the Environmental Health and Safety Department of Bell Telephone Laboratories show that Operating Telephone Company workplaces generally do not expose employees to hazardous concentrations of asbestos fibers. Where exposures do occur, they are generally well below those permitted by the current OSHA standard. However, these studies have identified several potential sources of contamination which result either from earlier use of asbestos (i.e., fireproofing and insulation for buildings, steam pipes, boilers, air plenums, etc.) or from existing uses of asbestos for which no suitable substitutes have yet been found (i.e., motor vehicle brake shoes and clutches).

How do we know? Testing?

2.02 Until such time as appropriate substitutes are found for all applications, and materials which contain asbestos are eliminated from the Operating Telephone Company work environment, suitable engineering controls, personal protective equipment, and other work practices must be used to minimize the risk of exposing employees to potentially harmful concentrations of asbestos fibers. In this connection, these "Guidelines for Controlling Occupational Exposure to Asbestos Fibers" have been prepared to assist the Operating Telephone Companies in developing and implementing a general program for identifying, evaluating, and controlling potential sources of exposure found in their work environments.

2.03 Section 29 CFR 1910.1001 of Standards promulgated by the Federal Occupational Safety and Health Administration contains regulations for protecting employees from harmful exposures to asbestos which may be found in their workplaces. This standard establishes permissible exposure limits for airborne concentrations of asbestos fibers. It also specifies the methods, work practices, monitoring and recordkeeping procedures,and medical surveillance programs which employers must establish to protect employees from excessive exposure to this substance.

include all employees

2.04. These guidelines are intended to assist Company Medical Directors, Safety Coordinators, and others responsible for employee health and safety in developing the policies and programs needed to comply with specific requirements of the "Asbestos" Standard. They provide:

- Basic procedures for assessing the safety of the work environment.
- Specific engineering controls and administrative procedures for controlling asbestos when found in certain workplaces.
- Details concerning the personal protective equipment (respirators and clothing) which must be provided to employees who are exposed to potentially harmful concentrations of airborne asbestos particles.
- Information needed to develop training programs for familiarizing employees with the hazards of asbestos and with the programs that have been initiated to protect them from harmful exposures.
- Details concerning the medical surveillance programs and recordkeeping procedures that must be implemented for employees who have been exposed to potentially hazardous levels of asbestos fibers.

3. BACKGROUND

3.01 The unique combination of properties of fibrous asbestos minerals has been recognized and valued by mankind since the days of the early Greeks. Asbestos is resistant to heat and chemical attack, and possesses high tensile strength and flexibility.

3.02 The term asbestos does not describe a specific mineral. It is a generic term for a group of hydrated mineral silicates which can appear in a fibrous crystal form (asbestiform) and when crushed can separate into flexible fibers. The two most common types of asbestos are the serpentine and amphibole mineral groups. Chrysotile asbestos is the only common type of asbestiform serpentine and comprises 95% of the world's production and use. The amphibole asbestos varieties in decreasing quantity of usage are amosite, crocidolite, anthophyllite, tremolite, and actinolite.

3.03 Almost one million tons of asbestos are used in the United States each year. In 1974, approximately 70-80 percent of the asbestos produced was used in the construction industry while 20-30 percent was used in non-construction industries. Approximately 92 percent of the half million tons used in the construction industry is firmly bonded, i.e., the asbestos is "locked in" in such products as floor tiles, asbestos cements, and roofing felts and shingles; while the remaining 8 percent is friable or in powder form present in insulation materials, asbestos cement powders, and acoustical products. As expected, these latter materials generate more airborne fibers than the firmly bonded products. The 220,000 tons of asbestos used in non-construction industries in 1974 were utilized in such products as textiles, friction material including brake linings, and clutch facings, paper, paints, plastics, roof coatings, floor tiles, and miscellaneous other products.[1]

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1. Asbestos: An Information Resource. U.S. Department of Health Education and Welfare, DHEW Publication Number (NIH) 79-1681, May 1978, 9-15.

4. DEFINITIONS:

4.01	OSHA -	Occupational Safety and Health Administration.
4.02	NIOSH -	National Institute for Occupational Safety and Health.
4.03	Asbestos -	A group of hydrated mineral silicates which can appear in a fibrous crystal form (asbestiform) and when crushed can separate into flexible fibers. Examples included in OHSA standards include chrysotile, amosite, crocidolite, tremolite, anthophyllite, and actinolite.
4.04	Asbestos Fibers -	Asbestos fibers longer than 5 micrometers with a 3 to 1 length/diameter ratio.
4.05	Permissible Exposure - Limit (PEL)	The maximum 8-hour time-weighted average airborne concentrations of asbestos fibers to which any employee may be exposed: (two fibers longer than 5 micrometers per cubic centimeter of air).
4.06	Ceiling Concentration -	The maximum concentration of airborne asbestos fibers to which an employee can be exposed at any time: (10 fibers longer than 5 micrometers per cubic centimeter of air).

5. EXPOSURE MECHANISMS

5.01 When asbestos dust enters the air, it is in the form of fine fibers. The fine dimensions of the fibers make them readily airborne and are therefore easily inhaled.

5.02 Inhalation is the most serious biological route of entry for asbestos fibers. The most important factor in the deposition of inhaled asbestos in the human lung is fiber diameter. Asbestos fibers with small diameters, approximately 0.5 micrometer, may be deposited according to airflow patterns in pulmonary spaces.

Fibers may then embed themselves in the airways or lung tissues or may penetrate by unknown means the pleural and peritoneal cavities. Although many fibers are eliminated via the normal lung clearance mechanisms, there is evidence from human autopsy of numerous fibers in the pleura (the serous membrane covering the surface of the lungs), the thoracic diaphram and the inner chest wall.

5.03 Although fibers may also enter the body through ingestion, this route of entry does not appear to pose the serious health hazard that inhalation does.

6. EFFECTS OF EXPOSURE

6.01 The inhalation of asbestos fibers may result in a chronic respiratory disease, asbestosis, characterized by interstitial pleural fibrosis of the lungs. As the disease progresses the obliterative changes which occur include thickening or fibrosis about the alveoli. Fibrous and calcified pleural plaques may be found in individuals exposed to asbestos fibers. Increased risks of developing pleural or peritoneal mesothelioma are also associated with exposures to airborne respirable asbestos fibers. Asbestos has been linked moreover, with gastro-intestinal, oropharyngeal and laryngeal cancer. Other adverse health effects such as pleural mesothelioma however, appear to have no relationship to smoking habits.[2]

6.02 The clinical manifestations of pulmonary asbestosis include shortness of breath, rales at the lung bases and frequently clubbing of the fingers. Breathing is restricted, and a decrease in vital capacity is evident. These clinical signs and the changes in pulmonary function may be present before roentgenologic signs of asbestosis are detected.

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2. Smoking and Health, a report of the Surgeon General. U.S. Department of Health, Education and Welfare, DHEW Publication Number (PHS) 79-50066, p. 7-11-7-13.

6.03 Other functional disorders encountered in asbestosis include reduction of pulmonary diffusing capacity and impairment of gas exchange.

6.04 The respiratory disability of asbestosis is severe, progressive, and irreversible. It is characterized by progressive changes on chest roentgenograms, increasing exertional dyspnea and disability.

Changes on chest roentgenograms may appear after 10 years of exposure to asbestos but more typically appear after 20 years. Serial chest roentgenograms will show progressive pulmonary reactions and pleural thickening. Neoplastic changes generally occur after 20 years of continuous exposure or 20 years after the original exposure as in those who develop mesothelioma.[3]

7. EXPOSURE CRITERIA AND STANDARDS

7.01 When the first asbestos criteria document was published in 1972, the National Institute for Occupational Safety and Health (NIOSH) recommended a standard of 2.0 asbestos fibers per cubic centimeter of air based on a count of fibers greater than 5 micrometers in length. This standard was recommended with the stated belief that it would "prevent" asbestosis and with the open recognition that it would not "prevent" asbestos-induced neoplasms. Furthermore, data were presented which supported the fact that technology was available to achieve that standard and that the criteria would be subject to review and revision as necessary.

7.02 On June 7, 1972, the Occupational Safety and Health Administration (OSHA) promulgated a standard for occupational exposure to asbestos containing an 8-hour time-weighted average (TWA) concentration exposure limit of 5 fibers longer than 5 micrometers per cubic centimeter of air, with a ceiling limitation against any exposure in excess of 10 fibers per cubic centimeter. The standard further provided that the 8-hour TWA was to be reduced to 2 fibers per cubic centimeter on July 1, 1976. This is the current standard which is found in 29 CFR 1910.1001.

7.03 On October 11, 1978 OSHA issued Program Directive #300-16 to provide uniform inspection and compliance procedures for the medical examination requirement in the current asbestos standard, 1910.1001(j)(2), or (3) or (4). Under this directive the term " exposed to airborne concentrations of asbestos fibers " is administratively interpreted to mean exposed to a minimum of 0.1 asbestos fibers longer than 5 micrometers per cubic centimeter of air. Medical examinations will be required for any 7 to 8 hour time-weighted average concentration of asbestos fibers above this level.

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3. Asbestos: An Information Resource, 35-37.
4. Ibid., p. 1.

8. SOURCES OF EXPOSURE

8.01 In the Bell System, there are various sources of exposure to airborne asbestos fibers. Many buildings constructed between 1958 and 1972 were insulated for fire protection purposes with a sprayed-on asbestos coating. These are light weight construction buildings and are basically limited to administrative offices, not equipment buildings.

8.02 An AT&T company-wide survey has been conducted (SR 79-05-398) to determine which buildings have sprayed-on asbestos insulation. In addition to sprayed-on insulation on structural members of buildings, duct work and piping are commonly insulated with asbestos sheeting. Asbestos work gloves, drop cloths and insulating tape, brake shoes and clutch plates are all potential sources for asbestos exposure.

8.03 Of particular concern are exposures to employees who work within hung ceilings, doing such work operations as installing or removing telephone cable, and electrical wiring. Factors affecting the extent of exposure include:

(1) the type of sprayed-on material, i.e. percent asbestos

(2) friability of the surface of the sprayed-on material

(3) proximity of work performed to sprayed-on material

(4) duration of work performed

(5) use of hung ceiling as return air plenum

(6) type of work being performed i.e. major renovation vs routine maintenance.

(7) other work operations in the area

In addition, during cable installation the following factors affect employee exposure:

(8) point of cable lashing

(9) point of cable placement

(10) cable size

8.04 The extent of exposure to employees working in buildings containing sprayed-on material who perform tasks which in no way affect the sprayed-on material is typically quite low (less than 0.1 fibers per cubic centimeter of air). SR 80-06-010 presents guidelines to be followed in buildings with sprayed-on asbestos.

8.05 Vehicle maintenance workers involved with the inspection and changing of brake shoes and clutch plates have been studied to determine the extent of their exposure to asbestos fibers liberated during these work tasks. Effective measures have been developed for controlling these exposures, and were transmitted to the Operating Telephone Companies in GL 77-07-024 and GL 78-05-045.

9. CORPORATE RESPONSIBILITIES

9.01 OSHA Standards for Asbestos require each employer to cause every place of employment where asbestos fibers are released to be monitored in such a way as to determine whether any employee's exposure to asbestos fibers is above permissable exposure limits established by the Standard. If the limits are exceeded, the employer must immediately undertake a compliance program to protect employees from these exposures.

9.02 In this connection, each Operating Telephone Company must undertake a program of visual inspection and personal and environmental monitoring to determine whether its workplaces are in compliance with the provisions of this Standard. This program must include:

(1) Company-provided workplaces in company-owned or leased buildings.

(2) Specific work operations performed in both company-provided and customer-provided workplaces where asbestos or products containing asbestos, have been used for general fireproofing and heat insulation. These work operations include:

(a) motor vehicle maintenance operations on brake systems and clutch assemblies,

(b) building maintenance and repair operations,

(c) major building repairs, rearrangements, and renovations,

(d) station installation, rearrangement, and repair operations.

9.03 In all situations where personal and environmental monitoring results indicate that employee exposures exceed the limits established by the Standard, the Operating Telephone Company must immediately initiate a compliance program to protect employees from these exposures. This program may include any or all of the following:

(1) Feasible technological (Engineering) controls. These controls include but are not limited to:

(a) isolation of processes utilizing asbestos

(b) enclosure

(c) exhaust ventilation and dust collection

(2) Work practices

(3) Material substitution to minimize or eliminate the use of asbestos and asbestos containing materials.

(4) Personal protective equipment including approved air purifying respirators and protective clothing for those employees who are exposed to airborne concentrations of asbestos fibers which exceed 2 fibers per cubic centimeter of air based on an 8-hour TWA.

(5) Change rooms

(6) Periodic personal and environmental monitoring of employee exposure in areas where asbestos fibers are released.

(7) Caution signs and labels

(8) Recordkeeping systems for personal and environmental monitoring results.

(9) Medical examinations and records.

9.04 Each Operating Telephone Company should identify the department and organization which is responsible for the development and implementation of company policy with respect to asbestos. In most Companies, this responsibility has already been assigned to the Personnel Department where it is currently shared by the Medical and Safety organizations.

(1) The Company Safety Coordinator is normally the primary contact for information concerning standards, sampling and analytical procedures, and maintaining results. Interpretation of results should be a joint function of the Safety and Medical organizations in consultation with the Bell Laboratories Environmental Safety and Health Department.

(2) The Company Medical Director provides technical support and directs the development and implementation of the medical surveillance program for asbestos.

(3) In some Companies, these activities may be coordinated and directed by an Occupational Health Working Group (OHWG) as recommended in General Letter (GL 75-02-130) dated February 19, 1975.

9.05 Overall direction of compliance activities for the Bell System is assigned to the Bell System Occupational Health Working Group. This Group is composed of Safety, Health, and other technical representatives from the AT&T General Departments, Bell Telephone Laboratories, Western Electric, and the OTCs. The Bell System Occupational Health Working Group is responsible for:

(1) Coordinating the evaluation of the Bell System work environment and assessing the impact of health regulations and standards.

(2) Recommending appropriate action to the AT&T General Departments concerning compliance with all mandated health standards.

(3) Coordinating the development of training for company medical and safety personnel in the recognition and evaluation of occupational health hazards.

(4) Assisting the Operating Telephone Companies in their efforts to identify, evaluate, and control occupational health hazards found in the workplace.

9.06 Technical assistance to the Operating Telephone Companies is provided by the Bell System Services Group of the Environmental Health and Safety Department of Bell Telephone Laboratories. The Bell System Services Group provides the following services:

(1) Advice and assistance in identifying, measuring, and evaluating specific hazards to health found in the workplace.

(2) Assistance in measuring and evaluating employee exposure to hazardous substances.

(3) Advice and assistance regarding the equipment, processes and methods used to protect employees from excessive exposure to hazardous substances.

10. EVALUATION OF EXPOSURE

RECOGNITION

10.01 Initial determination to evaluate possible sources of exposure should be based on the following:

(1) AT&T surveys of buildings with sprayed-on insulation including bulk sample analysis. (SR 79-05-398 and SR 80-06-024)

(2) AT&T guidelines, including work practices and engineering controls, to prevent asbestos exposure to employees engaged in the maintenance of brakes and clutch plates. (See GL: 78-08-045 and GL: 77-07-024)

(3) Measurements of exposure to airborne asbestos fibers in various work environments due to employee complaints or customer concerns.

Personal Monitoring

10.02 Personal monitoring is completed by placing a small filter cassette on an employee's shirt collar. Air is pulled through the filter by a battery powered sampling pump worn on the employee's belt and attached to the filter cassette with a piece of plastic tubing. The sampling equipment is worn during the entire work shift so the total employee exposure may be assessed. The samples are then sent to a laboratory for analysis by the technique of phase contrast microscopy as required by OSHA. The airborne fiber concentration is calculated by dividing the number of fibers on the filter by the volume of air pulled through the pump.

10.03 Each Operating Telephone Company should be capable of performing airborne asbestos sampling. Safety supervisors in Operating Telephone Companies who have completed the AT&T course on the "Recognition and Evaluation of Occupational Health Hazards" should be able to perform this type of sampling. The Bell Laboratories Environmental Health and Safety Department is available to assist in any aspect of this work.

10.04 The eight-hour time weighted averages are calculated from the following formula:

$$\frac{C_1T_1 + C_2T_2 + \ldots CnTn}{480 \text{ minutes}}$$

where C = Airborne fiber concentration in fibers per cubic centimeter

T = Time period of sample in minutes.

10.05 If the sampling period is less than 480 minutes, the eight hour time weighted average is extrapolated from the available data and industrial hygiene professional judgment.

10.06 These values are then compared with the OSHA Standard for asbestos which is 2 fibers per cubic centimeter of air. If the fiber concentration [illegible] exceeds 0.1 fibers per cubic centimeter, medical examinations are required.

Instrumentation

10.07 There are a variety of analytical techniques for determining asbestos in air as well as in other forms such as bulk insulation samples. These techniques include optical and electron microscopy, x-ray diffraction, and differential thermal analysis. Asbestos fiber identification and quantitation in occupational and environmental air samples is difficult for a variety of reasons:

(1) Asbestos fibers are generally present in low mass quantities even though fiber number concentrations may be high.

(2) Many instrumental analytical techniques cannot differentiate asbestos fibers from their nonfibrous mineralogic polymorphs.

(3) Many airborne asbestos fibers are generally below resolution limits of the optical microscope. These fibers may only be detected by using electron microscopic methods.

(4) For identification of the various asbestos fiber types by electron microscopy, electron diffraction and microchemical analyses must be performed which require expensive instrumentation and analysis time.

Analytical Techniques

10.08 Phase contrast optical microscopy is the analytical technique specified by OSHA for determining compliance with the Occupational Safety and Health Administration asbestos standard. The method consists of collecting breathing zone samples during 7 to 8-hour periods on membrane filters (millipore AA). These filters have a nominal pore size diameter of 0.8 micrometer. Air is pulled through the filters using battery powered pumps manufactured by Bendix, Mine Safety Appliance or Dupont at a flow rate of 2.0 liters per minute. The pumps are calibrated by the soap bubble flowmeter technique.

10.09 Samples are analyzed by first clearing the membrane filter to make it optically transparent, then by fiber counting at 400-500X magnification by phase contrast optical microscopy. Asbestos fibers are defined as those particles with a length greater than 5 micrometers and a length-to-diameter ratio of 3:1, or greater. This technique, by which only fibers longer than 5 micrometers are counted, is recognized as only an index of total fiber exposure and does not imply that shorter fibers do not pose a health hazard.

The relative proportion of airborne fibers longer than 5 micrometers has been shown to vary from 1 to approximately 50% depending on the industrial operation and asbestos fiber type. In addition to problems of detecting short fibers, phase contrast microscopy may not be specific for asbestos fibers in industrial operations where mixed fiber types are encountered.

10.10 The technique of transmission electron microscopy (TEM) is used to identify and differentiate asbestos fibers from their nonfibrous polymorphs. This analytical technique is able to detect fibers whose diameters are below the resolving power of the light microscope.

10.11 In addition to superior resolution capabilities, most modern transmission electron microscopes are equipped with electron diffraction facilities. Crystalline materials scatter electrons in regular patterns related to their crystal structure. Visual observation of single fiber (single crystal) electron diffraction patterns may be used to differentiate chrysotile fibers from amphibole fibers.

10.12 To identify bulk samples of asbestos, the techniques of x-ray diffractometry in conjunction with optical microscopy are used. X-ray diffractometry is one of the standard mineralogic techniques used in the analysis of solid crystalline phases. Using the polarizing microscope, various optical crystallographic measurements such as refractive index, extinction angles, and sign of elongation may be measured and compared with data reported for standard asbestos reference samples.

10.13 Dispersion staining with polarized light is becoming a widespread technique for identifying asbestos fibers from bulk samples. With this technique, the fibers are immersed in a mounting medium with a steeper dispersion curve than the fibers. Using plane polarized light, asbestos fibers show two characteristic dispersion staining colors; one for the light vibration parallel to and the other for that perpendicular to the fiber length. The dispersion colors depend on the refractive index media in which the fibers are mounted. Dispersion staining colors may change slightly depending on the geographic area from which the asbestos was mined and subsequent treatment. Fibers less than 0.5 micrometer in diameter may not be identified by this technique because of difficulities in distinguishing colors.

11. METHODS OF COMPLIANCE

GENERAL

11.01 Provisions for compliance with the Standard include a number of measures designed to control occupational exposures to asbestos fibers and to protect employees who are exposed to airborne asbestos fibers in their workplaces.

Engineering Controls and Work Practices

11.02 The Standard requires feasible technological (Engineering) controls and appropriate work practices as the primary means of compliance. These controls are required when the 8 hour TWA is greater than 2 fibers per cubic centimeter of air. They include but are not limited to the following:

(1) Engineering Controls

(a) Isolation of processes utilizing asbestos

(b) Enclosure of dry operations

(c) Use of local exhaust ventilation and dust collection systems. Systems should be designed and maintained in accordance with ANSI Z9.2-1971.

(d) Ventilation of hand and power operated tools which may produce or release asbestos fibers in excess of prescribed exposure limits.

(2) Work Practices

(a) Thorough wetting of asbestos when it is handled, mixed, applied, removed, cut or scored in order to prevent the emission of airborne fibers. Wetting usually requires the addition of a penetrant to the water solution.

(b) When removing asbestos from pipes or other structures the material should not be dropped or thrown but carefully lowered to the floor in order to prevent the emission of asbestos fibers.

(c) Controls to prevent the release of asbestos fibers, such as wetting, enclosure or ventilation, should be used when removing asbestos containing materials from shipping containers.

(d) Employees engaged in the removal or demolition of pipes, structures, or equipment covered or insulated with asbestos, and in the removal or demolition of asbestos insulation or covering should be provided with approved respiratory equipment and special clothing.

Note: The OSHA Standard requires the use of Type "C" supplied - air respirators continuous flow or pressure demand class when exposure is expected to exceed 100 times allowable concentrations.

11.03 Compliance with the standard may not be achieved through the use of administrative controls (i.e. rotating employees to shorten exposure time) or the use of respirators, except during the time required to install engineering controls and institute work practices in situations where engineering or work practice controls are either technically not feasible or feasible to an extent insufficient to reduce fiber concentrations below acceptable limits, (i.e. spraying, demolition or removal of asbestos insulation) and during emergencies.

11.04 It is company policy to minimize and/or eliminate the use of asbestos and asbestos containing materials to the maximum extent possible via material substitution. The ideal substitute is one which has no health hazard associated with it and does the job just as well. The location of substitutes should be given priority consideration.

Personal Protective Equipment

11.05 Respiratory Protection:

Where air purifying respirators are permitted, they should be selected from those approved by NIOSH. The selection of respirators will depend on the exposure. The following types are prescribed in the standard.

(1) Air purifying respirators. These are to be used when the ceiling or 8-hour time weighted average concentration of asbestos is reasonably expected to exceed no more than 10 times the prescribed limits. Examples of approved equipment are:

Mine Safety Appliance Co. 400 Penn Center Blvd. Pittsburgh, PA 15235	MSA No. 459440 Comfo II Type F TC-21, C-133
3M Company Occ. H/S Products Dept. 1201 Hudson Road St. Paul, MN. 55101	No. 8710 Disposable type

(2) Powered air purifying respirators. These are to be used when the ceiling or 8-hour time weighted average concentration of asbestos is reasonably expected to exceed 10 times but not 100 times the prescribed limits.

The units are expensive and complex to maintain. If the concentration of asbestos is expected to exceed 10 times the prescribed limits, consideration should first be given to supplied air devices with hood and protective clothing.

Manufacturers of powered air purifying respirators include:

3M
Occupational Health and Safety Products
3M Center
St. Paul, Minn. 55101

Racal Airstream Inc.
5 Research Place
Rockville, MD 20850

(3) Type "C" supplied-air respirators continuous flow or pressure demand class. These are to be used when the ceiling or 8-hour time weighted average concentration of asbestos is reasonably expected to exceed 100 times the prescribed limits and during, demolition or removal operations involving asbestos.

The type "C" respirator is an air line respirator for entry into and escape from atmosphere not immediately dangerous to life or health, which consists of a source of respirable breathing air, a hose, a detachable coupling, a control valve, orifice, a demand valve or pressure demand valve, an arrangement for attaching the hose to the wearer and a face piece, hood, or helmet.

Manufacturers of air line respirators include the following:

Mine Safety Appliances Co.
400 Penn Center Blvd.
Pittsburgh, PA 15235

Willson Safety Products
P.O. Box 626
Reading, PA 19603

American Optical Corporation
Southbridge, MA 01550

11.06 Whenever respiratory protective equipment is provided all provisions of OSHA 1910.134 "Respiratory Protection" must be complied with. See the Appendix for the "Requirements for a Minimal Acceptable Respiratory Program."

11.07 Protective Clothing

The standard requires the employer to provide and require the use of special clothing for any employee exposed to airborne concentrations of asbestos fibers which exceed the prescribed ceiling level and for those employees involved in the demolition or removal of asbestos. The special clothing required include the following:

(1) Coveralls or similar whole body clothing. Resin-impregnated paper or similar disposable clothing may be used to avoid laundering problems associated with fabric type clothing.

(2) Head covering - a hard hat or bump cap is adequate.

(3) Gloves - any hard-finished impermeable glove.

(4) Foot covering - rubber boots or disposable foot covering such as the Edmont Poly-D boots are recommended.

Change Rooms

11.08 The employer must provide change rooms at places of employment where employees are regularly exposed to concentrations of asbestos fibers in excess of the prescribed exposure limits. Additionally, the employer must provide two separate lockers or containers for each employee so separated or isolated as to prevent the contamination of the employee's street clothes from his work clothes.

Laundering of Asbestos Contaminated Clothing

11.09 The standard requires that laundering be done in such a way as to prevent the release of airborne asbestos fibers in excess of prescribed limits. If clothes are sent out for laundering, the employer must inform the person doing the work of the aforementioned requirement. Contaminated clothing must be transported in labeled impermeable bags or other sealed containers. See labeling section for specific label required.

Note: The laundering requirements could be avoided through the use of disposable clothing.

Monitoring

11.10 Personal and environmental monitoring must be conducted in every place of employment where asbestos fibers are released. See Section 10 for details regarding sampling and analytical methodologies.

(1) Personal monitoring. Samples must be collected from within the employee breathing zone in order to determine his 8-hour time weighted average and ceiling exposure to asbestos fibers. The frequency and pattern of monitoring should be such that it represents with reasonable accuracy the levels of employee exposure. In cases where employee exposures are reasonably expected to exceed the prescribed exposure limits, sampling must be repeated at least every six months.

(2) Environmental Monitoring. Samples must be collected from areas of a work environment which are representative of the airborne concentration of asbestos which may reach the breathing zone of employees. Samples should be collected for the determination of eight-hour time weighted average and ceiling concentrations of asbestos fibers. The frequency and pattern of monitoring should be such that it represents with reasonable accuracy the level of employee exposure. In cases where employee exposures are reasonably expected to exceed the prescribed exposure limits, sampling must be repeated at least every six months.

Note: Personal monitoring must be accomplished whenever asbestos demolition or removal work is done. OSHA compliance officers have interpreted that, because work of this nature is done intermittently, and because the concentration of asbestos fibers may vary over wide limits, monitoring must be conducted each time a demolition or removal job involving asbestos is performed, and that monitoring must be conducted irrespective of the provision and use of respiratory protective equipment. Their position is further supported by the employee notification requirment of the standard.

11.11 Employeee observation of monitoring. The standard requires that affected employees or their representatives be given a reasonable opportunity to observe any monitoring required.

11.12 Exposure Records. All records of the work, monitoring, employees involved, results of sampling and related informations must be kept in a plant OSHA file on this subject. These records must be maintained for at least twenty years and should be made available upon request to the Assistant Secretary of Labor for Occupational Safety and Health, the director of the National Institute for Occupational Safety and Health and to authorized representatives of either. Additionally, every employee and former employees shall have reasonable access to any record required to be maintained which indicates the employees' own exposure to asbestos fibers.

11.13 Employee Notification. Any employee found to be exposed to concentrations of asbestos in excess of the prescribed limits must be notified in writing within five days of the finding. The employee must also be notified of the corrective action being taken.

Caution Signs and Labels

11.14 Caution signs. Each work area where airborne concentrations of asbestos fibers may be in excess of the prescribed exposure limit must be posted with a precautionary warning sign. The signs shall display the following legend:

Asbestos

Dust Hazard

Avoid Breathing Dust

Wear assigned protective equipment

Do not remain in area unless your work requires it

Breathing asbestos dust may be hazardous to your health

For sign specifications see 1910.1001 (g) (1) (ii)

11.15 Caution labels shall be placed on all raw materials, mixtures, scrap, waste, debris, and other products containing asbestos fibers. Their containers shall also be labeled. Labels are not necessary if the asbestos fibers have been modified so that, during reasonable use and handling, no airborne concentrations in excess of prescribed limits are released. Modifiers include bonding agents, coatings, and binders. The label shall state the following:

Caution
Contains Asbestos
Avoid Creating Dust
Breathing Asbestos May Cause
Serious Bodily Harm

For label specifications see 1910.1001(g) (2) (ii)

Housekeeping

11.16 The standard requires that all surfaces be maintained free of accumulations of asbestos fibers, if the dispersion of such accumulations would result in excessive concentrations.

11.17 All cleanup of asbestos dust should be performed by approved vacuum cleaners equipped with special absolute filters, or wet methods in order to prevent the dispersion of asbestos fibers. Under no circumstances shall compressed air or dry brushing be permitted. Additionally, employees should be instructed to vacuum off protective clothing with approved vacuum cleaner at the end of work periods so that movement and activity will not cause asbestos fibers to become airborne and spread the contamination.

Waste Disposal

11.18 All asbestos waste scrap, debris, bags, containers, equipment and asbestos-contaminated clothing, consigned for disposal must be collected and disposed of in sealed impermeable bags or containers bearing caution labels.

11.19 EPA requirements for disposal of hazardous solid waste materials have become very strict. Only approved hazardous material landfill sites may be used for such disposal. Companies are advised to check with the State Waste Management Agency for compliance with local disposal regulations.

Medical Examinations

11.20 The employer must provide or make available medical examinations to employees exposed to asbestos fibers. See Sections 13, 14 and 15 for details.

11.21 Types of examinations

(1) Preplacement examinations are to be provided within 30 days of a worker's first employment in an occupation exposed to airborne concentrations of asbestos fibers.

(2) Annual examinations are to be provided to all workers exposed to airborne concentrations of asbestos fibers.

(3) Termination of employment examinations are to be provided within 30 days before or after the employee's last day of employment in an occupation exposed to airborne concentrations of asbestos fibers.

11.22 Medical Records. The employer must maintain complete and accurate records of the medical examinations required. These records must be maintained by the employer for at least 30 years.

Additionally, these records must be made available to the Assistant Secretary of Labor for Occupational Safety and Health, the Director of NIOSH, to authorized physicians or medical consultants of either, and upon the request of an employee or former employee, to his physician. Notification of requests by OSHA or NIOSH for records should be provided to the AT&T Safety and Medical organization.

11.23 In addition, on October 11, 1978, an OSHA Program Directive was released which established a minimum airborne fiber concentration for initiating and continuing medical examinations. This level is equal to a minimum exposure of 0.1 asbestos fibers longer than 5 micrometers in length per cubic centimeter of air as 7- to 8-hour time weighted average concentration. Additional requirements concerning sampling techniques were included in the directive. These requirements specify how often a filter must be changed during a 7 or 8 hour sampling period.

(1) Exposure to asbestos dust with low levels of contamination (e.g., mixed with other minerals):

For exposures to dust that are mostly asbestos and are expected to be below the permissible exposure limit, the same filter should be used for the entire shift, but no longer than 8 hours.

For exposures expected to be at or above the permissible exposure limit, several samples may be required during the shift to avoid overloading the filters.

(2) Exposures to asbestos dust with high levels of contamination:

Several samples may be required during the shift to avoid overloading the filter.

Filters should be changed only after a minimum of 1 hour of sampling time for exposures expected to be close to 0.1 fibers per cubic centimeter of air. Seven or eight 1-hour samples can be collected during the day.

12. EMPLOYEE INFORMATION AND TRAINING

GENERAL

12.01 As part of the overall program for controlling occupational asbestos exposures, it is necessary that each Operating Telephone Company implement a program to provide training and information to each employee who is or may become exposed to asbestos. All employees will not necessarily need to receive the same training - some information is appropriate to all while other information should be tailored to the specific job situation.

12.02 A basic booklet on asbestos exposure written in layman's language is available from the U. S. Department of Health and Welfare. Operating Telephone Companies may desire to make this booklet available to their employees as part of the information and training program.

Practical Interpretation of Exposure Criteria

12.03 The exposure criteria presented elsewhere in these Guidelines, as well as that found in the OSHA Standard, tends to be misleading to those individuals not familiar with the details of asbestos fiber monitoring and analysis. In order to put these criteria into an understandable perspective, several fundamental points should be emphasized:

(1) The analytical method for counting asbestos fibers only counts those fibers that have a length to width ratio of at least 3:1 and are at least 5 micrometers in length. This does not imply that fibers of other dimensions are either not present or that they are not harmful. It is merely a standard method of counting.

(2) The breathing of one or two fibers, or a low level, short term exposure, does not mean ultimate asbestos-related disease. The current allowable airborne concentration for an 8 hour day is 2 fibers per cubic centimeter of air, which is 2 million fibers per cubic meter. The average worker breathes 10 cubic meters of air during 8 hours, thus, the total countable fibers allowed are approximately 20 million for the 8 hour day.

(3) All fibers that are inhaled do not remain in the body. In fact, most inhaled fibers are either exhaled directly or removed by the lung's natural cleansing mechanism.

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1. Asbestos Exposure - U. S. Department of Health and Welfare Publication No. (NIH) 78-1594.

(4) Asbestos fiber exposure is not confined solely to occupational situations. Samples taken of ambient air in a variety of locations indicate a general background level of countable fibers - as high as 0.02 fibers per cubic centimeter (20,000 fibers per cubic meter) of air sampled on city sidewalks.

Sources of Employee Exposure

12.04 All employees who may potentially be exposed to asbestos fibers in the course of their regular job assignments should be trained to recognize those situations where asbestos may be encountered and those work operations that can cause asbestos fibers to become airborne. The mere presence of asbestos does not present a health hazard. The asbestos-containing materials must be disturbed in some manner to cause fibers to become airborne, where they subsequently can be inhaled or deposited on clothing and the body for a potential exposure at a later time.

12.05 In addition to understanding where asbestos may be encountered and the work actions that may create airborne asbestos fibers, all employees should be instructed on procedures to follow when they suspect asbestos in a situation that is non-routine or does not conform to those operations where proper work methods have been established..

Engineering Controls and Work Practices

12.06 Every employee who is assigned to work in an environment that may result in exposure to airborne asbestos fibers should be thoroughly familiar with the engineering controls and work practices applicable to that particular job. Particular attention must be given to those specific control and practice functions that minimize or eliminate the generation of airborne fibers.

Personal Hygiene and Protective Clothing

12.07 Good personal hygiene habits should be practiced whenever employees may work in the vicinity of asbestos and asbestos-containing materials whether or not there is an actual exposure situation.

12.08 If employees will be assigned to tasks where the permissible exposure level (PEL) may be exceeded, protective clothing, respiratory protection, and adherence to good personal hygiene measures become mandatory. Appropriate hygiene practices include the following:

(1) Prohibition of eating, drinking, and smoking in the exposure area.

(2) No food, beverages or smoking materials may be stored in the exposure area.

(3) Hands, face, and forearms should be washed prior to eating, drinking or smoking.

In situations where protective clothing is provided for employees, they should be instructed on the procedures for proper handling of contaminated clothing at the end of the work shift.

Respiratory Protection

12.09 Before employees may be assigned to tasks where respirators are required, the employees shall be trained in the specific instructions applicable to the respirator that will be worn. In addition to adequate instruction concerning use and care of the respirator, employees may not be issued respirators unless it has been determined by medical evaluation that they are physically capable of wearing the respirator. Details of the complete respirator requirements may be found in BSP 010-170-001 (see Appendix).

Medical Surveillance Program

12.10 Any employees who may be candidates for the medical surveillance program (required for exposures at or above 0.1 fiber per cubic centimeter of air) should be provided information relative to the program. This information should include a description of the surveillance program and the purpose of the surveillance.

12.11 The format for providing education on the medical surveillance program may be divided into a pre-examination introduction followed by more detailed information on specific aspects at the time of the first examination.

13. MEDICAL SURVEILLANCE

BIOLOGICAL MONITORING

13.01 Not Applicable To Asbestos

Medical Examinations

13.02 Eligibility

(1) Bell System employees shall be offered medical examinations and their records included as part of the record-keeping program required by OSHA CFR 1910.1001, when they have had a demonstrated Bell System work-related exposure to a 7 to 8-hour TWA concentration of 0.1 fibers per cubic centimeter of air of asbestos fibers longer than 5 micrometers (action level).

(2) Bell System employees shall have a medical examination prior to assignment on any job in which there is a probable exposure to asbestos at or above the action level as defined above.

(3) Bell System employees may be offered a medical examination (which should include the required elements of the asbestos surveillance examination), when one of the following criteria is met:

(a) individual has a past history of exposure in the Bell System to asbestos or to material suspected, but not proven to be, asbestos.

b) individual has symptoms which are attributed to working in a dusty environment in the Bell System and there is a work history as in (a) above.

(4) Any Bell system employee assigned to tasks requiring the use of respirators shall be given a medical examination in order to determine if that employee will be able to function normally wearing a respirator.

13.03 Frequency of Examinations

(1) Annually for individuals with recurring exposure(s) to asbestos at or above the action level at any time during the 12 month period since previous examination.

(2) Medical examinations should be provided to all individuals within 30 days after any repeat exposure at or above the action level when the exposure occurs more than 12 months after their previous asbestos medical surveillance examination.

13.04 Content of Examinations

Refer to Medical Surveillance Directive 1.00 for details (Section 14).

(1) Physical examination

(2) History (including a specific respiratory occupational exposure).

(3) X-ray - 14" X 17" PA chest roentgenogram

(4) Pulmonary function tests
FVC
$FEV_{1.0}$

(5) Other tests and procedures as appropriate.

13.05 Medical Removal

OSHA 1910.1001 (d)(2)(iv)(c) states that "No employee shall be assigned to tasks requiring the use of respirators if, based upon his most recent examination, an examining physician determines that the employee will be unable to function normally wearing a respirator, or that the safety or health of the employee or other employees will be impaired by his use of a respirator. Such employees shall be rotated to another job or given an opportunity to transfer to a different position whose duties he is able to perform with the same employer, in the same geographical area and with the same seniority, status, and rate of pay he had just prior to such transfer, if such a different position is available".

14. MEDICAL SURVEILLANCE DIRECTIVE FOR OCCUPATIONAL EXPOSURES ASBESTOS (MSD 1.00)

14.01 General: Employees who are exposed to concentrations of asbestos fibers exceeding 0.1 fibers greater than 5 microns in length per cubic centimeter on an 8 hour time weighted average (TWA) basis shall be given medical examinations as described below.

14.02 Specific: Motor vehicle mechanics performing work operations described in GL 77-07-024 and their immediate supervisors shall be given medical examinations as described below.

14.03 Medical Examination Content: A comprehensive medical examination shall include, as a minimum, a chest roentgenogram (posterior - anterior 14 x 17 inches), a history to elicit symptomatology of respiratory disease and smoking habits, and pulmonary function tests to include forced vital capacity (FVC) and forced expiratory volume at 1 second ($FEV_{1.0}$).

14.04 Medical Equipment: A single breath wedge bellows spirometer of at least 7.5 liter capacity and equipped with the means to produce a permanent record is minimally adequate for the measurements of FVC and $FEV_{1.0}$. Periodic calibration techniques for all spirometers are recommended.

14.05 Frequency: Medical examinations shall be made available as follows:

(1) PREPLACEMENT: Preplacement examinations shall be made available to each employee within 30 calendar days following his first employment as a mechanic or supervisor.

(2) ANNUAL: At least annually thereafter a comprehensive medical examination shall be offered to each mechanic or supervisor.

(3) TERMINATION OF EMPLOYMENT: Within 30 days before or after the termination of employment (or change of job assignment) of any employee engaged as a mechanic or supervisor, a comprehensive medical examination shall be made available.

14.06 Record Retention: Complete and accurate records of all such medical examinations (including x-rays and specific test results) shall be retained for at least 30 years.

14.07 Access to Records: The results of the medical examination should be discussed with the employee.

The contents of the records of the medical examinations required by this section shall be made available pursuant to 29 CFR 1910.20 - OSHA Standard on Access to Employee Exposure and Medical Records.

15. RECORDKEEPING REQUIREMENTS

15.01 Exposure Monitoring:

1 Source (bulk, air)

2 Number of samples

3 Location and date

4 Personnel exposed - name, SS#

5 Environmental conditions

6 Extent and type of respirators used

7 Laboratory performing analysis

8 Results - by duration of sample and 8-hour TWA by individual

15.02 Medical Records:

1 Name and SS#

2 Job Code(s) and location(s) in which exposure(s) occurred

3 Details of Bell System, work-related exposure(s) - Date(s) and measurement(s) of specific exposure(s) (cross-reference to 15.01) and duration of general exposure(s).

4 History of Non-Bell System exposures

5 Chest X-ray - date and interpretation

6 Pulmonary function tests - date and results.

15.03 Retention:

Exposure and Medical Records to be retained for 30 years after individual's last examination or as the law may require.

15.04 Access To Exposure Records:

Reasonable access by employees to their own personal exposure records must be allowed, as required by OSHA 29 CFR 1910.1001 and 1910.20.

15.05 Medical Records:

Medical records pertaining to asbestos exposures must be made available as follows if authorized by the employee:

(1) Assistant Secretary of Labor for Occupational Safety and Health.

(2) Director of NIOSH.

(3) An authorized representative.

(4) A physician authorized by the employee.

16. APPENDIX

16.01 Relevant Standards

(1) OSHA Asbestos Standard 29 CFR 1910.1001

(2) OSHA Program Directive #300-16

16.02 Relevant Letters

(3) GL: 77-07-024 Motor Vehicle Maintenance - Brakes and Clutches

(4) GL: 78-08-045 Motor Vehicle Maintenance - Protection Against Exposure to Asbestos Fibers

(5) SR: 79-05-398 Occupational Safety and Health - Exposure to Airborne Asbestos Fibers - Request For Survey

(6) RL: 79-07-254 Asbestos Hazards in Leased Buildings

(7) SR: 80-06-010 Occupational Safety and Health - Sprayed-on Asbestos in Company-owned And Leased Buildings

(8) P : 80-07-216 Occupational Safety and Health - Hazards in Customer Premises or Workplaces.

16.03 Other Information

(9) Requirements For A Minimal Acceptable Respiratory Program

(10) USPHS/NIOSH Membrane Filter Method For Evaluating Airborne Asbestos Fibers

(11) BSP 010-170-001 (Provisional)

1910.1001—ASBESTOS

(a) **Definitions.**

For the purpose of this section.

(1) "Asbestos" includes chrysotile, amosite, crocidolite, tremolite, anthophyllite, and actinolite.

(2) "Asbestos fibers" means asbestos fibers longer than 5 micrometers.

(b) **Permissible exposure to airborne concentrations of asbestos fibers.**

(1) **Standard effective July 7, 1972.** The 8-hour time-weighted average airborne concentrations of asbestos fibers to which any employee may be exposed shall not exceed five fibers, longer than 5 micrometers, per cubic centimeter of air, as determined by the method prescribed in paragraph (e) of this section.

(2) **Standard effective July 1, 1976.** The 8-hour time-weighted average airborne concentrations of asbestos fibers to which any employee may be exposed shall not exceed two fibers, longer than 5 micrometers, per cubic centimeter of air, as determined by the method prescribed in paragraph (e) of this section.

(3) **Ceiling concentration.** No employee shall be exposed at any time to airborne concentrations of asbestos fibers in excess of 10 fibers, longer than 5 micrometers, per cubic centimeter of air, as determined by the method prescribed in paragraph (e) of this section.

(c) **Methods of compliance.**

(1) **Engineering methods.**

(i) **Engineering controls.** Engineering controls, such as, but not limited to, isolation, enclosure, exhaust ventilation, and dust

respirator described in subdivision (ii) or (iii) of this subparagraph, shall be used to reduce the concentrations of airborne asbestos fibers in the respirator below the exposure limits prescribed in paragraph (b) of this section, when the ceiling or the 8-hour time-weighted average airborne concentrations of asbestos fibers are reasonably expected to exceed no more than 10 times those limits.

(ii) *Powered air purifying respirators.* A full facepiece powered air purifying respirator, or a powered air purifying respirator, or a respirator described in subdivision (iii) of this subparagraph, shall be used to reduce the concentrations of airborne asbestos fibers in the respirator below the exposure limits prescribed in paragraph (b) of this section, when the ceiling or the 8-hour time-weighted average concentrations of asbestos fibers are reasonably expected to exceed 10 times, but not 100 times, those limits.

(iii) *Type "C" supplied-air respirators, continuous flow or pressure-demand class.* A type "C" continuous flow or pressure-demand, supplied-air respirator shall be used to reduce the concentrations of airborne asbestos fibers in the respirator below the exposure limits prescribed in paragraph (b) of this section, when the ceiling or the 8-hour time-weighted average airborne concentrations of asbestos fibers are reasonably expected to exceed 100 times those limits.

(iv) *Establishment of a respirator program.*

(a) The employer shall establish a respirator program in accordance with the requirements of the American National Standard Practices for Respiratory Protection, ANSI Z88.2–1969, which is incorporated by reference herein.

(b) See § 1910.6 concerning the availability of ANSI Z88.2–1969 and the maintenance of an historic file in connection therewith. The address of the American National Standards Institute is given in § 1910.100.

(c) No employee shall be assigned to tasks requiring the use of respirators if, based upon his most recent examination, an examining physician determines that the employee will be unable to function normally wearing a respirator, or that the safety or health of the employee or other employees will be impaired by his use of a respirator. Such employee shall be rotated to another job or given the opportunity to transfer to a different position whose duties he is able to perform with the same employer, in the same geographical area and with the same seniority, status, and rate of pay he had just prior to such transfer, if such a different position is available.

(3) Special clothing: The employer shall provide, and require the use of, special clothing, such as coveralls or similar whole body clothing, head coverings, gloves, and foot coverings for any employee exposed to airborne concentrations of asbestos fibers, which exceed the ceiling level prescribed in paragraph (b) of this section.

(4) Change rooms:

(i) At any fixed place of employment exposed to airborne concentrations of asbestos fibers in excess of the exposure limits prescribed in paragraph (b) of this section, the employer shall provide change rooms for employees working regularly at the place.

(ii) Clothes lockers: The employer shall provide two separate lockers or containers for each employee, so separated or isolated as to prevent contamination of the employee's street clothes from his work clothes.

(iii) Laundering:

(a) Laundering of asbestos contaminated clothing shall be done so as to prevent the release of airborne asbestos fibers in excess of the exposure limits prescribed in paragraph (b) of this section.

(b) Any employer who gives asbestos-contaminated clothing to another per-

at all approaches to areas containing excessive concentrations of airborne asbestos fibers.

(ii) **Sign specifications.** The warning signs required by subdivision (i) of this subparagraph shall conform to the requirements of 20" x 14" vertical format signs specified in § 1910.145(d)(4), and to this subdivision. The signs shall display the following legend in the lower panel, with letter sizes and styles of a visibility at least equal to that specified in this subdivision.

Legend	*Notation*
Asbestos	1" Sans Serif, Gothic or Block.
Dust Hazard	3/4" Sans Serif, Gothic or Block.
Avoid Breathing Dust	1/4" Gothic.
Wear Assigned Protective Equipment.	1/4" Gothic.
Do Not Remain In Area Unless Your Work Requires It.	1/4" Gothic.
Breathing Asbestos Dust May Be Hazardous To Your Health.	14 point Gothic.

Spacing between lines shall be at least equal to the height of the upper of any two lines.

(2) **Caution labels.**

(i) **Labeling.** Caution labels shall be affixed to all raw materials, mixtures, scrap, waste, debris, and other products containing asbestos fibers, or to their containers, except that no label is required where asbestos fibers have been modified by a bonding agent, coating, binder, or other material so that during any reasonably foreseeable use, handling, storage, disposal, processing, or transportation, no airborne concentrations of asbestos fibers in excess of the exposure limits prescribed in paragraph (b) of this section will be released.

(ii) **Label specifications.** The caution labels required by subdivision (i) of this subparagraph shall be printed in letters of sufficient size and contrast as to be readily visible and legible. The label shall state:

CAUTION

Contains Asbestos Fibers
Avoid Creating Dust
Breathing Asbestos Dust May Cause
Serious Bodily Harm

(h) Housekeeping.

(1) **Cleaning.** All external surfaces in any place of employment shall be maintained free of accumulations of asbestos fibers if, with their dispersion, there would be an excessive concentration.

(2) **Waste disposal.** Asbestos waste, scrap, debris, bags, containers, equipment, and asbestos-contaminated clothing, consigned for disposal, which may produce in any reasonably foreseeable use, handling, storage, processing, disposal, or transportation airborne concentrations of asbestos fibers in excess of the exposure limits prescribed in paragraph (b) of this section shall be collected and disposed of in sealed impermeable bags, or other closed, impermeable containers.

SWBT 002325

(i) Recordkeeping.

(1) **Exposure records.** Every employer shall maintain records of any personal or environmental monitoring required by this section. Records shall be maintained for a period of at least 20 years and shall be made available upon request to the Assistant Secretary of Labor for Occupational Safety and Health, the Director of the National Institute for Occupational Safety and Health, and to authorized representatives of either.

[41 F.R. 11504, March 19, 1976.]

(2) **Employee access.** Every employee and former employee shall have reasonable access to any record required to be maintained by subparagraph (1) of this paragraph, which indicates the employee's own exposure to asbestos fibers.

(3) **Employee notification.** Any employee found to have been exposed at any time to airborne concentrations of asbestos fibers in excess of the limits prescribed in paragraph (b) of

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration
WASHINGTON, D.C. 20210

OCT 11 1978

STD 1-17

OSHA PROGRAM DIRECTIVE #300-16

TO: REGIONAL ADMINISTRATORS/OSHA

THRU: DONALD E. MACKENZIE
Field Coordinator

SUBJECT: 29 CFR 1910.1001(j)(2) or (3) or (4), Minimum Airborne Fiber Concentration for Initiating and Continuing Asbestos Medical Examinations

1. Purpose

The purpose of this directive is to provide uniform inspection and compliance procedures for the medical examination requirement in the asbestos standard, 29 CFR 1910.1001(j)(2), or (3) or (4).

2. Documentation Affected

This directive supplements and provides reference for the OSHA Industrial Hygiene Field Operations Manual (IHFOM) and the OSHA Field Operations Manual (FOM).

3. Background

In 29 CFR 1910.1001(j)(2), or (3) or (4), Medical examinations, the term "... exposed to airborne concentrations of asbestos fibers...." has been the subject of considerable discussion and debate as to the meaning or interpretation of "airborne concentrations."

4. Action

a. Definition.

In 29 CFR 1910.1001(j)(2), or (3) or (4), Medical examinations, the term "... exposed to airborne concentrations of asbestos fibers...." is administratively interpreted to mean exposed to a minimum of 0.1 asbestos fibers longer than 5 micrometers per cubic centimeter

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CONFIDENTIAL

d. Examples of types of violations.

(1) Where an employer does not provide the required medical examinations, and an employee is exposed to 0.1 or more fibers/cc, it would be considered a "serious" violation of 29 CFR 1910.1001(j)(2), or (3) or (4).

(2) For definitions and guidance on "repeated," "willful," or a "failure to correct" violation, see the FOM, Chapter VIII.

5. Effective Date

This directive is effective immediately and will remain in effect until further notice.

Bruce Hillenbrand
Acting Director, Federal
Compliance and State Programs

Distribution:

A-1	E-1
B-2	HEW-1
C-1	NIOSH Regional Directors-1
D-4&5	NACOSH-1

Training Institute-4

(Originator: OCCH)

Subject: Occupational Safety and Health

SL: PL-80-07-2

AT&T

American Telephone & Telegraph Company
195 Broadway
New York, N. Y. 1000
Phone (212) 393-9800

type letter: Policy Letter

date: July 7, 1980

distribution lists: EXE 001, EXE 002

file no.
- sl: PL-80-07-216
- related letters: None
- other: None

to: Company Presidents and AT&T Vice Presidents

from: Vice Chairman

description: States System policy regarding hazards in customer premises or workplaces that could expose telephone company personnel to substantial risk of injury or illness.

* * *

The Bell System has long accepted a basic responsibility for employee safety and health. It has endeavored to provide and maintain safe and healthful workplaces. It has provided safety devices, methods, and equipment to enable employees to perform their assigned work safely and without risk to their health. For many and obvious reasons, however, the Bell System can not readily extend these obligations, commitments, and programs to workplaces and environments which it does not own, operate, or otherwise control.

Recently, several Bell Operating Companies have been notified by customers of hazards on customer premises that could expose telephone employees to substantial risk of injury or illness. In some instances, these Companies were asked to comply with detailed safety and health regulations specifically applicable to customer premises. Included, were requirements to furnish and maintain special safety and health equipment in order to gain access and to perform work.

In responding to these issues, the Companies should undertake to assure that employees are provided with safe and healthful working conditions in all assigned workplaces and work environments. The Companies should also undertake to assure that employees conduct themselves in non-company workplaces while conducting company business so they do not constitute a hazard to non-company personnel or property. In discharging these responsibilities, the Companies should comply with all applicable provisions of Federal, State, and Local Laws and regulations that mandate standards and practices for safety and health, as well as those established by their own organizations.

AT&T

October 30, 1981

Mr. G. C. Amrhyn
17-1239K3

Chuck:

The instructions provided to the BOCs regarding modification of C Manhole Heaters should contain sufficient detail to ensure compliance with both OSHA and EPA requirements. Based on my perception of the construction of the heater and the friable nature of the asbestos tape, I would recommend the following precautionary measures:

1. Wet the asbestos tape prior to removing the rivets and tape.

2. If any of the asbestos tape sticks to the heater, wet the stuck residue prior to scraping.

3. All removed tape, scrapings, and any contaminated rags or debris should be placed in sealed impermeable bags or containers labelled as follows:

CAUTION

Contains Asbestos
Avoid Breathing Dust
Breathing Asbestos May Cause
Serious Bodily Harm

4. Personnel performing the modifications should wash their hands prior to eating, drinking, or smoking.

5. The sealed bags must be disposed of in accordance with state and local regulations for asbestos containing waste.

In those BOCs that perform their own vehicle maintenance, it should be possible to obtain bags and labels from the garage forces, as similar

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requirements exist for the handling of dust removed from brake drums and clutch assemblies. Disposal of the filled bags could also be consolidated with the same garage forces.

Please advise if additional assistance is required. When the final product is ready for distribution, I would like to include the Company Safety Coordinators.

James M. Degen
District Manager - Occupational
and Environmental Safety

Case: 48106-3

Bell Laboratories
600 Mountain Avenue
Murray Hill, New Jersey 07974
Phone (201) 582-3000

January 28, 1982

Mr. L. Bennett
Southwestern Bell Telephone
Rm 459, 1111 W. Capitol Street
Little Rock, Arkansas 72202

Dear Larry:

This is in response to your inquiry whether heat shield pads contain asbestos. The Bell System Practice "E Sheet Repair Sleeving" (BSP-644-200-005) recommends that heat shield pads (AD-1460) be used to protect workers who apply heat shrink sleeves. Raychem Corporation, the manufacturer of the heat shield pad, claims their pad contains an asbestos substitute, thermoglass, which replaced their former asbestos containing pads over two years ago.

A problem may arise, however, in the operating telephone companies where some asbestos heat shield pads (older than two years) are still used. To identify the older asbestos pads vs. the newer non-asbestos pads, a few differences exist. The new pads are smaller in size with these dimensions: (12" x 40" x 0.125"), shinier, and less fibrous than the older heat shrink pads. The other method to identify whether a pad contains asbestos is to analyze it, but this method is time-consuming and more expensive. If you locate any asbestos heat shrink pads, they should be properly disposed of in accordance with state and federal regulations. A replacement pad may be purchased from Raychem Corporation at a cost of $48.40.

If you have any other questions, please call me.

Sincerely,

Patricia C. Payne

MH-78691-PCP-jjc

Patricia C. Payne

Copy to
L. C. Smith - SWBT
R. E. Eberhart
J. W. Berry, M.D.

J. M. Degan - AT&T
R. W. Stone, M.D.

W. J. Schreibeis
G. M. Wilkening

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RESPIRATORY PROTECTION

1. GENERAL

1.01 This practice describes the selection and use of respirators where air quality is a potential hazard. This practice also describes procedures to be followed to ensure that the user is medically qualified, instructed and trained in the proper use of respirators and that the respiratory equipment utilized is properly fitted, OSHA approved, and maintained and repaired in accordance with OSHA requirements.

1.02 The telephone company Occupational Safety and Health coordinator is normally responsible for establishing and administering the company's respiratory program. Specific responsibilities include:

1. Investigating all situations where there is a possibility of exposing employees to harmful airborne contaminants and determining requirements for the use of respiratory protection.

2. Conducting periodic surveys of work areas to assure that appropriate respirators are used, when and if required.

1.03 Both supervisors and craftpeople shall be instructed in the proper use of respirators by a competent person.

2. PRECAUTIONS

2.01 Respiratory protective masks have distinct limitations. The most prominent being:

1. They do nothing to reduce the hazard in the atmosphere.

2. If the device fails to provide adequate protection, there may be an immediate exposure to the hazard.

2.02 Airborne contaminants can enter the body in three ways:

1. Through the respiratory system when air is inhaled during the breathing process.

2. Through the digestive system where it can be absorbed and picked up by the bloodstream.

3. Through skin absorption.

c. Thoroughly review the capabilities of the respirator, its construction; operating principles and limitations.

d. Instruction in the care of the respirator, cleaning methods, inspection prior to use, changing canisters and filters, and proper storage.

e. Instruction and training in actual use of the respirator (especially a respirator for emergency use) and close and frequent supervision to assure that it continues to be properly used.

f. Classroom and field training to recognize and cope with emergency situations.

5.02 The trainee should be provided an opportunity to handle the respirator, have it fitted properly, test its facepiece-to-face seal, wear it in normal air, and wear it in a test atmosphere.

5.03 All training courses should be fully documented as to the dates of training, information covered, names of trainees, and names of the instructors.

5.04 All respiratory protection devices including those kept for emergencies shall be inspected monthly. (Those used daily shall be cleaned and inspected daily.)

5.05 The inspection shall include a check of the tightness of connections and the condition of the facepiece, headbands, valves, connecting tube, gasket and canisters and proper component labeling conspiciously designed on each component of the complete respirator assembly. Rubber or elastomer parts shall be inspected for pliability and signs of deterioration.

5.06 A complete record shall be kept of inspection dates and findings. Leak testing shall be done by both of the following methods:

a. Positive pressure test - close the exhalation valve and exhale gently into the facepiece. The face fit is considered satisfactory if a slight positive pressure can be built up inside the facepiece without any evidence of outward leakage of air at the seal.

b. Negative pressure test - close off the inlet opening of the canister or cartridge by covering with the palm of the hand or by replacing the seal, inhale gently so that the facepiece collapses slightly and no inward leakage of air is detected; the tightness of the respirator is satisfactory.

g. Insert filters, cartridges, make sure seal is tight.

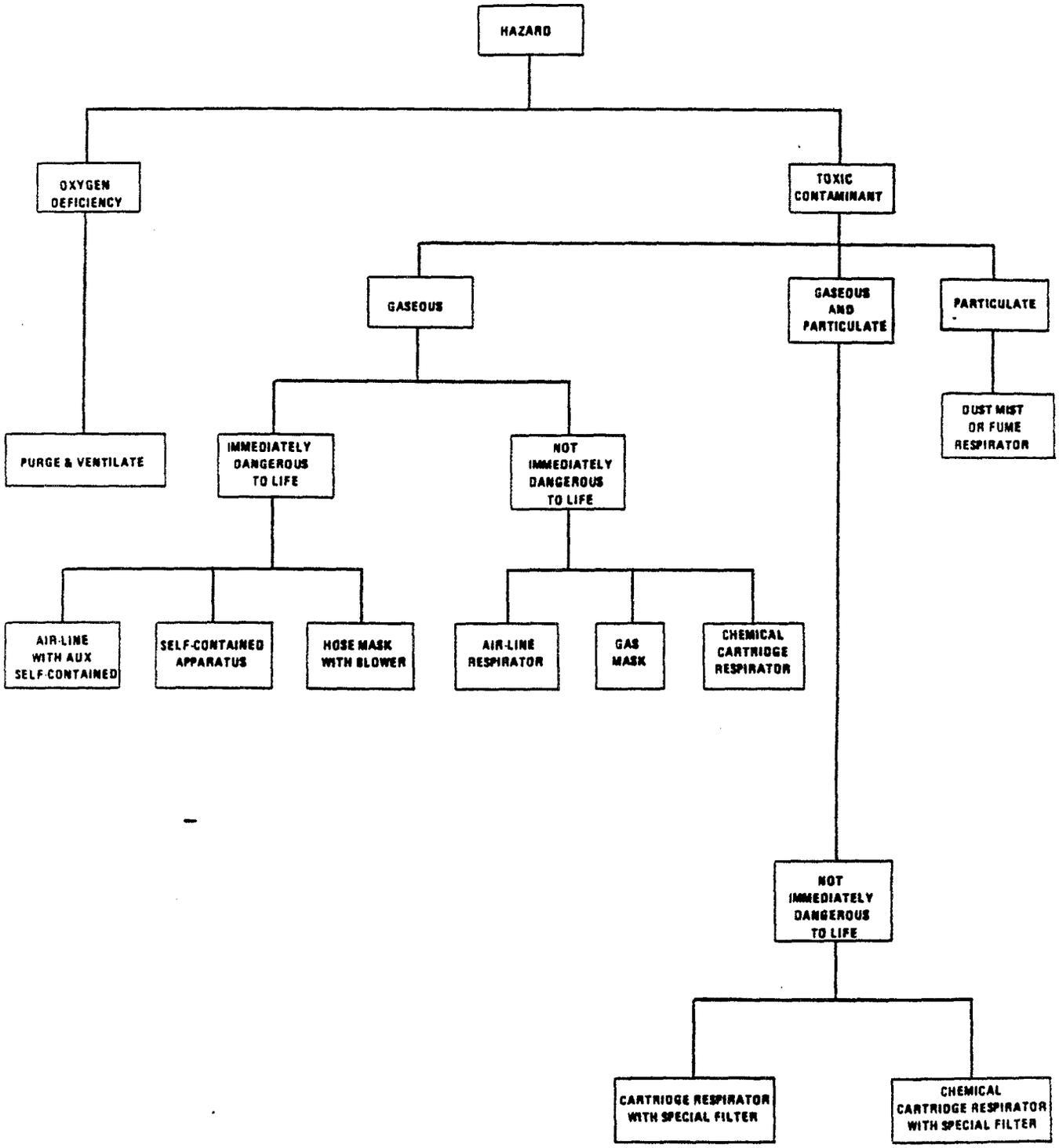
h. Place in plastic bag or container for storage.

i. Never use oil as lubricant on self-contained respiratory protection.

6.05 After inspection, cleaning, and necessary repair, respirators shall be stored to protect against dust, sunlight, heat, extreme cold, excessive moisture, or damaging chemicals. Respirators placed at stations and work areas for emergency use should be quickly accessible at all times and should be stored in compartments built for the purpose. The compartments shall be clearly marked, to identify the type of equipment (i.e.: Dust Respirators, Chemical Masks). Routinely used respirators shall be placed in plastic bags. Respirators should not be stored in such places as lockers or tool boxes unless they are in carrying cases or cartons. Storage compartments shall be routinely checked to determine that respirators are available for use.

6.06 Respirators shall be placed or stored so that the facepiece and exhalation valve will rest in a normal position.

GUIDE FOR SELECTING RESPIRATORY DEVICES



LEADER'S GUIDE

FIELD ADMINISTRATION

ASBESTOS CONTROL PROGRAM

SNET

SNET CORPORATE SAFETY OFFICE

JUNE 1984

CONFIDENTIAL

ASBESTOS CONTROL PROGRAM

SNET

FIELD ADMINISTRATION

The Asbestos Control Training Program is designed to explain the potential chronic health effects associated with working in an asbestos atmosphere, and to instruct employees in the proper procedures to follow when working with asbestos. The Program gives specific instructions on the use of protective clothing and equipment and motivates employees to follow prescribed hygiene procedures.

The video tape portion of the presentation is only one part of the comprehensive training program in the handling of asbestos. It must be augmented by the additional instructions as well as by "hands-on" training to fully prepare the trainee to recognize the potential hazards of asbestos and to handle asbestos in a safe manner.

INSTRUCTIONS

* Select the time and date of the meeting, notify participants and reserve a conference room.

* You are responsible for securing a video tape player. These are usually available locally.

* Before conducting the training session, review all training material that you have been provided with.

* Document Fit/Test - Respiratory Training for each participant (Management/Non-Management).

* Document employee attendance check-off list.

INTRODUCTION

LEADER	ACTION
In recognition that exposure to asbestos fibers can be or is a significant source of risk to American workers, OSHA issued an Emergency Temporary Standard effective November 4, 1983.	READ
It significantly reduced the exposure level that employees can be exposed to over an 8-hour time weighted average and secondly incorporated into the Asbestos Standard the requirement of employee information and training.	
The Emergency Temporary Standard has been stayed by the courts, however, the new proposed standard is also to include a significantly reduced exposure level as well as the requirement of employee information and training.	

PURPOSE

The purpose of today's meeting is therefore to adhere to the, or what will be the requirement of the employee information and training sections of the Asbestos Standard.	READ

BACKGROUND

Today's program is the cumulative work and efforts of SNETs Safety/ Medical staff in association with Methods Groups representatives from each of the affected field work forces.	READ

LEADER	ACTION
We will begin today's program by viewing a videotape presentation on asbestos and related work procedures that are to be followed when working with asbestos. It is general in nature with significantly more detailed information to be covered later in our program.	READ
	Show video tape entitled "Asbestos Wire and Cable Work"
I will now cover a synopsis of the "SNET Asbestos Policy". This will cover or highlight the OSHA STANDARD, Methods of Compliance and Departmental as well as individual responsibilities.	Read Attachment A "SNET Asbestos Policy"
At this point, let me cover briefly the subject of air sampling i.e. Personal and/or environmental that is conducted by Safety Staff Personnel.	Read Attachment B "Air Sampling - Personal and Environmental (Area)
As was shown in the film, exposure to asbestos may increase the risk of 4 serious diseases. I will now cover in greater detail the Medical Aspects of Asbestos.	Read Attachment C "Medical Aspects of Asbestos"
	Read Attachment D "Factors affecting Extent of Asbestos Exposure"
Next on the agenda are the detailed work procedures which will cover customer Guide Lines, Options, Responsibilities, Field Force Guide Lines and Responsibilities.	Read Attachment E General, Customer Responsibilities/ Procedures.

The video tape seen earlier in the program made references, as you recall to the use of a non-conductive liquid when spraying near electrical wiring or equipment. This was also covered in the detailed work procedures which I just reviewed with you. Let me give you specific information concerning non-conductive liquid, what it is, how to order, etc.

Read Attachment F
Non-Conductive
Liquid

When a "sprayed-c " insulation or substance is unknown, as covered in the work procedure the supervisor or the technician is responsible for obtaining a "bulk" sample. Let me now go into what this is, how to go about it and precautions to follow when obtaining a sample.

Read Attachment G
Bulk Asbestos Sample
Collection - Friable
Materials

There are five SNET facilities that have been identified with sprayed-on asbestos insulation, two leased and three owned.

Read Attachment H
SNET Buildings-Sprayed-
on asbestos

A procedure has also been established for recordkeeping purposes on non-SNET buildings identified with sprayed-on asbestos.

Read Attachment I
Sprayed-on Insulation
Non-SNET Locations
Asbestos/Non-Asbestos

The disposal of asbestos contaminated equipment and material is extremely important and must be followed.

Read Attachment J
Disposal of Asbestos
Contaminated Equipment/
Material

Asbestos Caution Signing is our next topic for review.

Read Attachment K
Asbestos Caution Signs.
Posting Work Area as ar

Also of interest and a point of information let's review briefly regulatory actions pertaining to asbestos

Read Attachment L Asbestos-Regulatory Actions.

I will now cover a synopsis of SNET's Respirator Program and requirements

Read Attachment M Respiratory Protection

We will now commence Respirator Training and a qualitative Fit Test.

Show Video Tapes
1. "Respirator Training"
2. "Qualitative Fit Test"

Distribute Respirators Conduct Fit Test with Nebulizer

Document Fit/Test Respirator Training & Route copies as indicated.

I have also for each of you a U. S. Department of Labor pamphlet pertaining to asbestos.

Distribute U. S. Department of Labor pamphlet "Asbestos Worker Health Alert"

That concludes our program for today. Are there any questions?

If unable to answer-record question(s); employee's name, title telephone number or mail code and refer these questions to your Departmental Asbestos Coordinator. Ensure that a reply to the question(s) is made.

SNET ASBESTOS POLICY

I. Current OSHA Standard - Effective July 1, 1976

- Permissible Exposure Level (PEL) - Exposure level 2 fibers/cc - 8-hour TWA
- Ceiling Concentration (CL) - Exposure level at no time to exceed 10 fibers/cc
- Action Level (AL) - Medical Surveillance - 0.1 fibers/cc for any 7-8 hour TWA

II. Emergency Temporary Standard - Effective November 4, 1983

- Stayed - pending judicial review
- Reduced the PEL to 0.5 fibers/cc

III. Proposed Standard

- Establish PEL to either 0.2 f/cc or 0.5 f/cc

IV. Methods of Compliance - ETS & Proposed Standard

- Exposure limit achieved by combination of:
  - Engineering Controls
  - Work Practices
  - Personal Protective Equipment
- Employee Information and Training
  - Health Effects
  - Relationship/Asbestos and Smoking
  - Nature of Asbestos Work Operations - Steps to minimize exposure
  - Respirator Training
  - Review of OSHA Asbestos Standard

V. Responsibility

A. Safety Department

- Coordinate and audit
- Personal/Environmental Monitoring and Recordkeeping

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B. Medical Department

- Offer Medical Exams as required
- Maintain Records
- Review of Employee Medical History - Respirator

C. Departmental Supervisors

- Ensure initial training - prior to exposure
- Annual training thereafter:
  - Asbestos Awareness
  - Departmental Procedures
  - Requirements - Respiratory Protection
- Document

MONITOR COMPLIANCE

D. Employees - Personal Hygiene and Protective Clothing

- Adhere to Corporate Policy
  - Work Procedures
  - Protective Clothing
  - Respiratory Protection
  - Personal Hygiene
- Appropriate Hygiene Practice:
  - No eating, drinking and smoking
  - No food, beverage or smoking material stored in area
  - Hands, face and forearms washed prior to eating, drinking or smoking
  - Good housekeeping
  - Proper handling and disposing of protective clothing

VI. Procedures

Asbestos known or suspect in work place.

Supervisor, prior to starting job, shall:

- Review departmental asbestos safety procedures
  - IF PROCEDURES CANNOT BE FOLLOWED, CONTACT THE CORPORATE SAFETY OFFICE

AIR SAMPLING

PERSONAL AND ENVIRONMENTAL (AREA)

Collection Method - Analytical Results

- Air drawn through membrane filter
- Battery powered sampling pump
- Sample to laboratory - assess exposure
- Fibers sized/counted - phase - contrast microscope - 400 - 450x magnification
- Concentration calculated - divide number of fibers by volume of air pulled through pump

MEDICAL ASPECTS OF ASBESTOS

AS WAS SHOWN IN THE FILMS, EXPOSURE TO ASBESTOS MAY INCREASE THE RISK OF 4 SERIOUS DISEASES:

1. ASBESTOSIS
2. LUNG CANCER
3. MESOTHELIOMA
4. OTHER CANCERS

ASBESTOSIS IS A CHRONIC DISEASE OF THE LUNGS. A MINIMUM OF 10 YEARS OF EXPOSURE IS USUALLY REQUIRED FOR DISEASE TO DEVELOP. THE TYPE OF ASBESTOS FIBER AND THE SIZE IS IMPORTANT, ALSO THE MORE EXPOSURE THE GREATER THE RISK OF DEVELOPING DISEASE. MESOTHELIOMAS ARE TUMORS ASSOCIATED WITH ASBESTOS EXPOSURE THAT AFFECT THE LINING OF THE LUNGS OR THE ABDOMEN. DEVELOPMENT OF THIS DISEASE CAN OCCUR FROM ONLY 1-2 YEARS OR LESS OF EXPOSURE, BUT THE ILLNESS DOES NOT SHOW UP UNTIL 20-25 YEARS AFTER THE EXPOSURE. THERE IS NO ASSOCIATION WITH SMOKING.

LUNG CANCER RISK IS INCREASED IN THE ASBESTOS-EXPOSED WORKER. THERE IS A MINIMUM OF 15-20 YEARS BETWEEN FIRST EXPOSURE AND DEVELOPMENT OF DISEASE. IF YOU WORK WITH ASBESTOS AND SMOKE YOU INCREASE YOUR RISK 5 TIMES MORE THAN IF YOU JUST SMOKE. AN EXPOSED SMOKER IS 30-90 TIMES MORE LIKELY TO DEVELOP LUNG CANCER THAN NONEXPOSED, NONSMOKERS.

STUDIES ALSO INDICATE A LINK BETWEEN ASBESTOS EXPOSURE AND INCREASED OCCURRENCE OF CANCERS OF ESOPHAGUS, STOMACH, COLON, AND RECTUM.

THE MAJOR METHODS OF PREVENTION OF ANY OF THE ABOVE ILLNESSES ARE:

1. TO USE ALL PROTECTIVE EQUIPMENT, WORK PRACTICES, AND SAFETY PROCEDURES PROVIDED:

2. IF YOU SMOKE CIGARETTES, STOP;

3. DO NOT EAT, DRINK, OR SMOKE ON THE JOB WHERE ASBESTOS IS PRESENT.

FACTORS AFFECTING EXTENT OF ASBESTOS EXPOSURE

1. PERCENT ASBESTOS
2. FRIABILITY OF SPRAYED-ON MATERIAL
3. PROXIMITY OF WORK TO MATERIAL
4. DURATION OF WORK
5. USE OF HUNG CEILING AS RETURN AIR PLENUM
6. TYPE OF WORK BEING PERFORMED
7. OTHER WORK OPERATIONS IN AREA

I. General

1.01 - This practice contains the policies, responsibilities and procedures for Telephone Company employees working in areas with sprayed on asbestos.

1.02 - Whenever this section is reissued the reason for reissue will be listed in this paragraph.

1.03 - Field supervisors at times are faced with a need to know whether a material in the work place is asbestos and if it represents a health hazard. The following procedures will help make these determinations with minimal delay.

Customer Responsibilities

2.00 - All employers have an obligation under law to provide and maintain a safe healthful work place based on provisions of the Occupational Safety and Health Act (OSHA).

2.01 - When work is to be performed and where exposed asbestos is present, alternate ways of performing the work must be considered to avoid exposure.

If no alternative is acceptable, the customer will be responsible for:

a - Opening of ceiling tiles.

NOTE: See General Exchange Tariff Part II, Section 3, Sheet 1 & 4.

b - Vacuum the ceiling tiles along the general area of the intended cable/wire run. The customer should be reminded that special High Efficiency Particulate Air (HEPA) filter vacuums should be used when cleaning up asbestos.

NOTE: A HEPA filter has a retention efficiency to absolute standards of 99.97% at 0.3 microns.

c - Closing of ceiling tiles.

d - Clean up of the work area (fallen debris from hung ceilings) etc.

e - The customer has an obligation to its employees under the (OSHA) act to protect them or remove them from the area that the Telephone Company will be working.

2.02 - Customer has the option of:

. Customer Provided Premise Wire

- Customer Time and Material plus Premium Over Time (POT) if job has to be worked beyond normal hours.

Note

If non-acceptance or compliance of these responsibilities by a customer is encountered, refer to your asbestos coordinator within your Staff Methods group, who in turn will call the Corporate Safety Office if necessary, for assistance. The Supervisor of the Technician must notify the Control Supervisor of the non-acceptance and that the due date may be in jeopardy.

Field Responsibilities/Procedures

3.00 - If work is to be performed where exposed asbestos is present, the following procedures must be followed.

3.01 - A presurvey should be made of the route of the planned cable/wire run(s). Prepare Job Field Survey or Field Job Plan Report (Attachment 1). Use the Environmental or Safety section to evaluate environmental hazards. Alternate ways of performing the work must be considered.

3.02 - Where sprayed-on insulating substance is present, contact the building owner or his agent, (this includes company owned or leased buildings or facilities) and determine if the substance is asbestos. If it is not asbestos, work can be performed following standard safety precautions.

3.03 - When the substance is unknown, the supervisor or the technician is responsible for obtaining a "bulk" sample for analysis by Safety department (see Attachment 2). The "bulk" sample and a copy of the Job Field Survey or Field Job Plan Report shall be sent to the Corporate Safety Office. The Supervisor or technician will notify the Dispatch or Control Supervisor of the job status.

3.04 - Prior to starting the job, the supervisor of the technician should determine whether the sprayed-on material has fallen onto the hung ceiling along the planned wire/cable route.

3.05 - Work can be performed by following the steps outlined below while waiting for results of the analysis.

3.06 - If the sprayed on substance is asbestos or unknown the cable/wire should be placed in the following manner.

3.07 - Certain small areas, such as places where a beam clamp must be placed, may be worked safely if the insulating material is sprayed with water.

3.08 - When spraying near electrical wiring or equipment non-conductive liquid will be used. Contact Corporate Safety Office if non-conductive liquid is required.

RESPIRATORY PROTECTION

SYNOPSIS - OSHA STANDARD

- Written operating procedures
- Selection on the basis of hazard
- User trained - use and limitations
- Assigned for individual personal use
- Non-disposable type - cleaned and disinfected
- Stored - clean/sanitary location
- Routinely inspected
- Appropriate surveillance - work area
- Continued evaluation of Program
- Medical clearance
- Approved respirators only

RESPIRATORY PROTECTION

EMPLOYEE RESPONSIBILITY

- Use respirator as instructed
- Guard against damage
- Leave work area immediately if the respirator fails to provide proper protection
- Report any respirator malfunction to supervisor

RESPIRATORY PROTECTION

SYNOPSIS - OSHA STANDARD

- Written operating procedures
- Selection on the basis of hazard
- User trained - use and limitations
- Assigned for individual personal use
- Non-disposable type - cleaned and disinfected
- Stored - clean/sanitary location
- Routinely inspected
- Appropriate surveillance - work area
- Continued evaluation of Program
- Medical clearance
- Approved respirators only

RESPIRATORY PROTECTION

PRECAUTIONS

1. Distinct Limitations
   - Do not reduce hazard in atmosphere
   - Inadequate protection - exposure
2. Not Worn When Conditions Prevent a Good Face Seal
   - Growth of beard
   - Sideburns
   - Projection of temple pieces on glasses projected under facepiece
   - Scars, hollow temples, unusual facial configuration
3. Contact Lenses Prohibited
4. Absence of One of Both Dentures

STATE OF INDIANA)
) SS:
COUNTY OF MARION)

IN THE MARION COUNTY SUPERIOR COURT

CAUSE NO. _____ ROOM NO. ___

S287 1049

GEORGE F. BROWN, DONALD C. ADAMS, STEVE C. ANDERSON, GARY W. BADGER, ARLIE S. BROCK, JENNIFER F. BROWN, RICHARD G. CAYLOR, EDDIE L. DEWITT, ROBERT A. EAST, II, DON R. HELTON, ROBERT L. HERZOG, PAUL T. HOLLAND, THOMAS J. HUDSON, LINDA A. JOHNSTON, ROBERT K. KELLAR, DAVID H. MCGLOTHIN, DAN W. MONROE, MICHAEL T. O'MALIA, DIANE PACZESNY, THOMAS R. PARKER, MICHAEL R. SAYLOR, LARRY D. SCOTT, MICHAEL C. SCOTT, CLARENCE THOMPSON, HUGH R. WAGONER and PAUL WHITNEY,

Plaintiffs,

v.

INDIANA BELL TELEPHONE COMPANY, INDIANA BELL COMMUNICATIONS, INC., INDIANA UNIVERSITY, and THE TRUSTEES OF INDIANA UNIVERSITY,

Defendants.

COMPLAINT

The above plaintiffs for their cause of action against defendants Indiana Bell Telephone Company (Indiana Bell), Indiana Bell Communications, Inc. (IBC), Indiana University (University), and The Trustees of Indiana University (Trustees), allege and say as follows:

COUNT I

1. Plaintiffs are residents of the State of Indiana. At all times material hereto, plaintiffs George F. Brown, Donald C. Adams, Steve C. Anderson, Gary W. Badger, Arlie S. Brock, Richard G. Caylor, Eddie L. DeWitt, Robert A. East, II, Don R. Helton, Robert L. Herzog, Paul T. Holland, Thomas J. Hudson, Linda A. Johnston, Robert K. Kellar, David H. McGlothin, Dan W. Monroe, Michael T. O'Malia, Diane Paczesny, Thomas R. Parker, Michael R. Saylor, Larry D. Scott, Michael C. Scott, Clarence Thompson, Hugh R. Wagoner and Paul Whitney (hereinafter employee plaintiffs) were employees of defendant Indiana Bell. At all times material hereto, plaintiff Jennifer F. Brown (hereinafter bystander plaintiff) was the wife and a member of the household of previously-listed employee plaintiff, George F. Brown.

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2. Defendant Indiana Bell is an Indiana corporation headquartered in Indianapolis, Indiana, and engaged in business throughout the State of Indiana.

3. Defendant IBC is an Indiana corporation headquartered in Indianapolis, Indiana, and engaged in business throughout the State of Indiana. IBC is a wholly-owned subsidiary of Indiana Bell.

4. Defendant University is a state university and a political subdivision of the State of Indiana within the meaning of I.C. 34-4-16.5-2. The University maintains offices and campuses in Indianapolis, Indiana, and at various other locations through the State of Indiana. Defendant Trustees is a corporate body politic with power to manage, control and operate said University and with the power to sue or be sued.

5. All prerequisites for the filing of this suit against the University and Trustees have been made in accordance with the Indiana Tort Claims Act, I.C. 34-4-16.5-1, et. seq.

6. Beginning in approximately mid-November, 1985, Indiana Bell commenced work on a project at the University's Indianapolis campuses involving, inter alia, rewiring various University locations for a new telephone system (hereinafter referred to as the "University project"). Indiana Bell was performing this work because IBC, which had successfully bid for the University project, subcontracted the work to Indiana Bell. The employee plaintiffs were assigned by Indiana Bell to work on the University project for various periods of time during the period from mid-November, 1985, through early May, 1986.

7. During the course of their work on the University project the employee plaintiffs worked in close proximity to and came in contact with asbestos and asbestos-containing products and materials (hereinafter referred to as "asbestos"), and were exposed to asbestos on their skin, hair and clothing and inhaled and ingested asbestos fibers. The bystander plaintiff, as a result of her contact with employee plaintiff George F. Brown who was living in the same household during the period of work on the University project, was exposed to the asbestos and inhaled asbestos fibers.

8. Before and during plaintiffs' exposure to asbestos, the defendants, and each of them, knew, or in the exercise of ordinary care should have known and/or anticipated, that:

(a) buildings, tunnels and other areas on the Indianapolis campuses of the University contained asbestos;

(b) such asbestos was in a deteriorating condition, which caused asbestos dust and fibers to become airborne, especially when the asbestos-containing areas were disturbed in any way;

(c) employee plaintiffs would be required in the course of their work on the University project to come in to contact with, work in close proximity to and otherwise disturb the asbestos;

(d) in the course of such work, asbestos dust and fibers would become airborne and be inhaled and ingested by persons in proximity thereto;

(e) employee plaintiffs would carry asbestos dust and fibers with them on their bodies and clothing away from the work place and thereby expose members of their households to the asbestos; and

(f) such asbestos was unreasonably dangerous to plaintiffs and was deleterious, poisonous and highly harmful to plaintiffs' bodies, lungs, respiratory systems, skin and health.

9. Despite defendants' knowledge alleged in Paragraph 8, defendants nonetheless:

(a) deliberately, intentionally and purposefully failed and refused to warn or advise plaintiffs of the existence and locations of the asbestos;

(b) failed to advise plaintiffs of the dangerous characteristics of the asbestos;

(c) failed to advise plaintiffs as to what would be reasonably safe and sufficient wearing apparel and proper protective equipment and appliance and failed to provide them with such apparel and equipment;

(d) failed to place any warnings in the areas where the asbestos was located to warn plaintiffs of the dangers to health in coming in contact with said asbestos;

(e) failed to take reasonable precautions or to exercise

reasonable care to publish, adopt and enforce a safety plan and safe method of handling and working with and in proximity to said asbestos.

(f) inadequately warned, if in fact they warned at all, plaintiffs of the dangers to their health in coming in contact with and breathing said asbestos; and

(g) failed to recommend methods to improve the work environment or otherwise prevent and minimize plaintiffs' exposure to the asbestos.

10. Despite their knowledge described in paragraph 8, defendants actively concealed and denied the existence and dangers of the asbestos to plaintiffs and others, and deliberately, intentionally and purposefully withheld such information from plaintiffs.

11. During, before and after plaintiffs' exposure to the asbestos, the defendants falsely represented facts, including facts relating to the existence of the asbestos and the dangers of asbestos exposure to plaintiffs in the particulars alleged in the paragraphs above, while defendants each had actual knowledge of said existence of the asbestos and dangers of asbestos exposure to persons such as plaintiffs. Defendants each knew of the falsity of their representations and made the representations in reckless disregard of their truth or falsity. Defendants' false representations were deliberate and intentional and made in a wanton and willful manner.

12. The foregoing representations were material conditions precedent to plaintiffs' exposure to the asbestos, and defendants each intended that plaintiffs act upon such representations by continuing their exposure to the asbestos. Plaintiffs were ignorant of the falsity of defendants' representations and rightfully relied upon the representations.

13. Employee plaintiffs herein have not suffered disablement or death by occupational disease arising out of and in the course of employment and are not seeking remedies on account of any such disablement or death within the meaning of I.C. 22-3-7-6, nor are such plaintiffs seeking remedies on account of any injury or death by accident arising out of and in the course of employment within the meaning of I.C. 22-3-2-6.

14. As a direct and proximate result of plaintiffs' reliance upon defendants' false representations, plaintiffs have suffered the injuries and damages hereinafter described.

15. As a direct and proximate result of defendants' conduct described above, plaintiffs have inhaled and ingested asbestos fibers which fibers, once so inhaled and ingested, remain in plaintiffs' bodies and cause repeated and continuing injury to plaintiffs. Although plaintiffs are not presently disabled by such repeated and continuing injury from the asbestos fibers, the fibers' presence in the plaintiffs' bodies creates an increased risk that plaintiffs will develop disabling and terminal disease in the future.

16. As a direct and proximate result of defendants' conduct described above and the physical injuries plaintiffs have thereby incurred, plaintiffs have suffered and will continue to suffer severe emotional stress and mental anguish.

17. As a direct and proximate result of the repeated and continuing injury and the increased risk of future disease caused by plaintiffs' exposure to the asbestos, plaintiffs must undergo periodic medical testing, surveillance and monitoring for the remainder of their lives. Such medical monitoring is not only a medical necessity, but is costly to the plaintiffs and can involve intrusive and discomforting procedures which result in pain and suffering, emotional stress and mental anguish.

18. Plaintiffs verily believe that their injuries are permanent in nature and that they will be forced to suffer same for the remainder of their lives, that their enjoyment of life has been greatly impaired and, further, that their expected life spans have been greatly shortened.

WHEREFORE, plaintiffs pray for the following relief:

A. Judgment against the University and the Trustees for compensatory damages for the injuries plaintiffs have suffered, the costs of lifetime medical monitoring, pain and suffering and emotional stress;

B. Judgment against Indiana Bell and IBC for compensatory and punitive damages for the injuries they have suffered, the costs of

lifetime medical monitoring, pain and suffering and emotional stress; and

C. All other just and appropriate relief.

COUNT II

19. Plaintiffs repeat and reallege all portions of the above paragraphs which are relevant.

20. By the above-alleged conduct, defendants, and each of them, knowlingly, intentionally and purposefully, and in reckless disregard of the consequences, sent the employee plaintiffs, and/or caused them to be sent, into contact with the asbestos, which constituted an abnormally dangerous and hazardous condition, and thereby committed battery upon the employee plaintiffs and the bystander plaintiff. By this conduct defendants intended to injure the employee plaintiffs, and by defendants' acts and conditions under their control, defendants caused the employee plaintiffs to be exposed to, injured by and suffer the risks of future harm created by the asbestos.

21. By the above-described battery upon the employee plaintiffs, Indiana Bell intentionally injured said employee plaintiffs.

22. As a direct and proximate result of the above-alleged conduct, plaintiffs have suffered the injuries and damages described herein.

WHEREFORE, plaintiffs pray for the following relief:

A. Judgment against the University and the Trustees for compensatory damages for the injuries plaintiffs have suffered, the costs of lifetime medical monitoring, pain and suffering and emotional stress;

B. Judgement against Indiana Bell and IBC for compensatory and punitive damages for the injuries plaintiffs have suffered, the costs of lifetime medical monitoring, pain and suffering and emotional stress; and

C. All other just and appropriate relief.

COUNT III

23. Plaintiffs repeat and reallege all portions of the above paragraphs which are relevant.

24. By the above-alleged conduct, the University and the Trustees maintained on their property an abnormally dangerous and hazardous condition inappropriate to the surroundings and are therefore strictly liable for the harm caused to plaintiffs by the asbestos.

25. The University and the Trustees maintained such aforesaid abnormally dangerous condition knowingly and intentionally and in reckless disregard of the consequences.

26. As a direct and proximate result of the maintenance of such abnormally dangerous condition by the University and the Trustees, plaintiffs have suffered the injuries and damages described herein.

WHEREFORE, plaintiffs pray for the following relief:

A. Judgment against the University and the Trustees for compensatory damages for the injuries plaintiffs have suffered, the costs of lifetime medical monitoring, pain and suffering and emotional stress; and

B. All other just and appropriate relief.

COUNT IV

27. Plaintiffs repeat and reallege all portions of the above paragraphs which are relevant.

28. By the above-alleged conduct, the University and the Trustees failed to provide reasonably safe premises for the employee plaintiffs and failed to exercise reasonable care to warn the plaintiffs of the concealed asbestos hazard. Such failures were intentional, wanton and willful, and in reckless disregard of the consequences.

29. As a direct and proximate result of the failure by the University and the Trustees to provide a safe premises and failure to warn the plaintiffs, the plaintiffs have suffered the injuries and damages described herein.

WHEREFORE, plaintiffs pray for the following relief:

A. Judgment against the University and the Trustees for compensatory damages for the injuries plaintiffs have suffered, the costs of lifetime medical monitoring, pain and suffering and emotional

stress; and

B. All other just and appropriate relief.

COUNT V

30. Plaintiffs repeat and reallege all portions of the above paragraphs which are relevant.

31. By the above-alleged conduct, defendants negligently, in breach of their duty to exercise reasonable care, and with reckless disregard of the consequences, caused plaintiffs to be exposed to the asbestos.

32. As a direct and proximate result of such negligence by defendants, plaintiffs have suffered the injuries and damages described herein.

WHEREFORE, plaintiffs pray for the following relief:

A. Judgment against the University and the Trustees for compensatory damages for the injuries plaintiffs have suffered, the costs of lifetime medical monitoring, pain and suffering and emotional stress;

B. Judgment against Indiana Bell and IBC for compensatory and punitive damages for the injuries plaintiffs have suffered, the costs of lifetime medical monitoring, pain and suffering and emotional stress; and

C. All other just and appropriate relief.

Respectfully submitted,

Barbara J. Baird

Neil E. Gath

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