

SHELL OIL COMPANY

SHELL CHEMICAL COMPANY

REFERENCE

NORCO MANUFACTURING COMPLEX

DATE FEBRUARY 14, 1978

TO PROCESS MANAGERS
MANAGER ENGINEERING FIELD
MANAGER MAINTENANCE - PLANT

FROM MANAGER SAFETY AND
INDUSTRIAL HYGIENE

SUBJECT TOPIC FOR SAFETY TALK

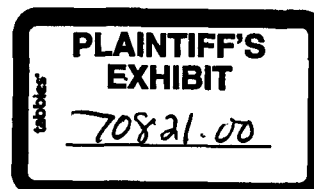
Recently, Corporate Manufacturing Safety and Health passed on information updating Shell policy in regard to the asbestos medical surveillance and health program. It was suggested that the information be passed on to our employees. Consequently, the attached material on the topic, Update on Asbestos, has been prepared for your information and/or use. Accordingly, a brief presentation on this subject should be presented to all employees in your department's regularly scheduled safety talks.



H. M. Miller

Attachments

cc - Superintendents Operations
Manager Employee Relations
Employee Relations Representative - Plant
Senior Industrial Hygienist



NOR-007797

UPDATE ON ASBESTOS

Recently, our corporate office in Houston reclarified the policy for the Shell asbestos program. While Norco Complex has banned the use of asbestos containing materials including asbestos insulation for several years now, there are areas where the old asbestos type insulation still exists and it is an opportune time to review Norco's policy and program.

Because of the possibility of medical problems arising from prolonged exposures to high concentrations of asbestos fibers, asbestos free materials are being used for all new insulation work at Norco Complex. However, removal of old insulation materials that may contain asbestos fibers should be handled in a manner to avoid the release of dust. This is especially true when old insulation is handled in some of the older operational units such as DU-4. Procedure to avoid the release of dust and minimize exposures include:

- 1) Old asbestos containing insulations should be handled and worked in a wet state whereby a fine water spray is applied to the insulation before and as it is removed. It will be placed directly into a plastic bag and will not be dropped on the ground.
- 2) Respirator protective equipment is required. This may be either an approved dust mask or pressure-demand air line respirator.

- 3) Power tools will not be used to cut old insulation because excessive airborne asbestos fibers would be created by the power tool.
- 4) Old insulation, containing asbestos, will be disposed of in the sealed plastic bags to prevent disbursement of the fibers. The sealed containers will be labeled:

Caution
Contains Asbestos Fibers
Avoid Opening or Breaking Container
Avoid Creating Dust
Breathing Asbestos Dust May Cause
Serious Bodily Harm

What is the health hazard which necessitates such detail procedures? Inhaled asbestos fiber dust works its way into the lung and remain imbedded for life. The danger varies depending upon

- the number of fibers in the air
- kind of fibers where fine, short fibers are most highly cancer-causing
- the individual's own tolerance, and,
- presence of other pollutants such as cigarette smoke which increases the risk of disease.

Asbestos-related diseases develop over a long period of time. Symptoms may first appear many years after exposure. Some diseases are:

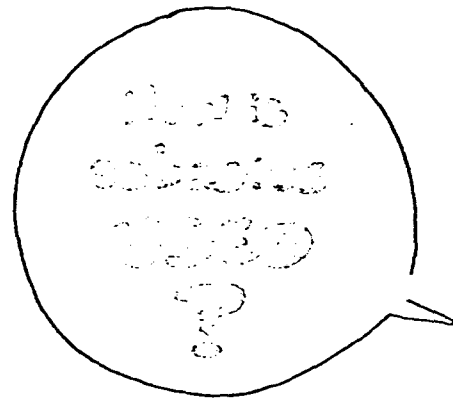
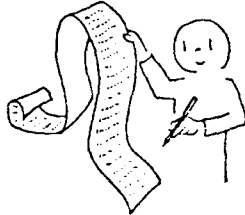
- Asbestosis - a lung disease that begins with irritation of the lungs by inhaled asbestos dust. It causes seaming and thickening of the lung wall. Breathing becomes difficult and thus causes a strain on the heart.
- Cancer of the chest or abdominal lining. This is a rare disease except for people exposed to high levels of asbestos on a regular basis.
- Cancer of the lungs and respiratory system is eight times as common in asbestos workers as in the general public. Additionally, it has been shown that people who both smoke and work with asbestos are several times more at risk to develop lung cancer than those who work with asbestos but don't smoke. Cancer of the digestive system is also a higher rate amongst asbestos workers.

- Dermatitis called asbestos corns or warts, result from chronic irritation caused when asbestos fibers penetrate the skin.

A medical surveillance program has been in effect since 1973 for all employees assigned as insulators. The medical examination is repeated annually even though these employees now only use asbestos free insulation and asbestos-free materials. Currently, no one else at Norco has worked on a regular basis with asbestos and was potentially exposed to airborne asbestos in excess of Corporate Medical Guidelines.

Finally, air monitoring to determine the airborne asbestos concentration, is conducted periodically during the removal and/or demolition of insulation in the older units which might still have asbestos insulation.

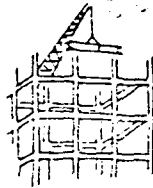
This concludes the update on the Asbestos Medical Surveillance and Industrial Hygiene Program at the Norco Manufacturing Complex.



There are almost 3000
asbestos products manufactured today!

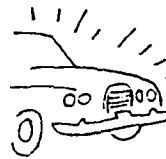
MAJOR USES OF ASBESTOS

CEMENT INDUSTRY



Uses about 2/3 of all asbestos produced for cement production, roofing, plastics, insulation, floor tiling.

Automotive Industry



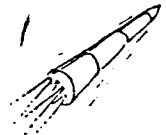
Widely used as friction material in brake and clutch linings... also as undercoating to protect against corrosion.

Public Buildings



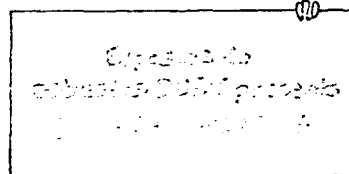
Fireproof clothing and safety equipment, fire-resistant curtains for theatres, schools.

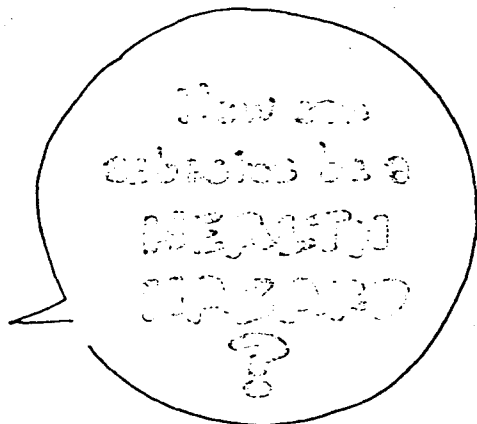
Space Vehicles



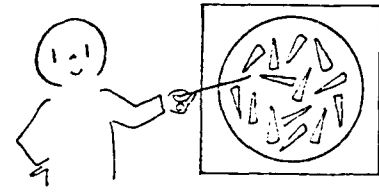
Asbestos is used to strengthen metals exposed to heat - e.g., in the nose cones of space vehicles.

Asbestos is very useful BUT...





If air containing asbestos dust is inhaled, the small, sharp fibers may work their way into the lung tissue and remain imbedded for life...a constant source of irritation.



Asbestos bodies
(fibers covered with protein)
as they appear in the lungs

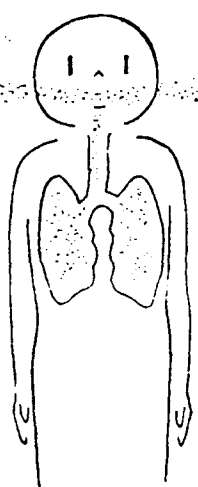
The danger VARIES depending upon...

① **Intensity of exposure**
(number of asbestos fibers in the air within a given space)

② **Individual susceptibility**
Some people are more likely to develop asbestos-related diseases than others.

③ **Fiber size and shape**
Very fine, short fibers are most highly cancer-causing.

④ **Other factors**
-- such as cigarette smoke can increase the risk of disease.



Asbestos-related diseases

DEVELOP OVER A LONG PERIOD OF TIME

Symptoms may first appear 30 years after exposure!

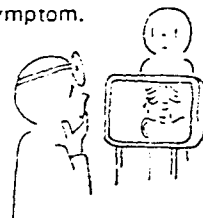
● PNEUMONIOSIS

A lung disease that begins with irritation of the lungs by inhaled asbestos dust, causes scarring and thickening of the lung wall. Breathing becomes difficult, thus causing a strain on the heart. Usually appears 10 - 20 years after exposure.

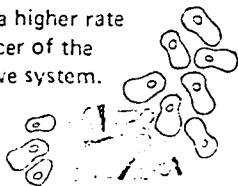


● MESOTHELIOMA

A cancer of the chest or abdominal lining, which is rare except in people exposed to asbestos. Usually fatal within one year of the first symptom.

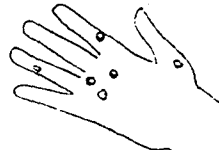


● ~~CANCER~~ of respiratory system is eight times as common in asbestos workers as in the general public.
-- also a higher rate of cancer of the digestive system.



● ASBESTOS ~~CANCER~~ or warts result from chronic irritation caused when asbestos fibers penetrate the skin -- usually the hands.

Not believed to lead to skin cancer.



All the hazards of asbestos are not yet fully understood...much research is needed.

RESEARCHERS ARE TRYING TO FIND THE DANGERS OF ASBESTOS



PROPER MEDICAL SURVEILLANCE

Proper medical surveillance can show whether employees are receiving adequate protection from the dangers of asbestos.

Surveillance includes...

PHYSICAL EXAM AND VENTILATION

... on a regular basis. Annual check-ups for everyone; more frequent attention recommended for those with heart and lung trouble or those who are exposed to levels in excess of 2 fibers per cc.



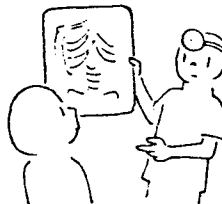
PHYSICAL HISTORY RECORDS

Medical history of each employee working with asbestos should be carefully kept. Includes history of exposure to asbestos and other contaminants.



PHYSICAL ASSESSMENT

Employees should be informed when dangerous signs appear on tests, or when any job-related problems threaten health.



Results of medical surveillance can result in new job placement, shift rotation, improved work practices, other measures.

