

~~INTERIM~~ RECOMMENDATIONS FOR WORKING WITH
ASBESTOS-CONTAINING MATERIALS IN ~~OFFICE FACILITIES~~

Several office buildings in which Shell and subsidiary company employees work have asbestos-containing insulation. Buildings which were completed or under construction prior to the 1973 EPA ban may contain such material. It is unlikely that recently-constructed buildings contain asbestos insulation. The following information and recommendations are offered to assist Office Services personnel in minimizing the potential asbestos exposure of Shell employees during maintenance and renovation activities, and to ensure compliance with applicable health, safety, and environmental standards.

APPLICABLE STANDARDS

There are two federal regulatory standards related to maintenance and renovation in office areas:

(A) Occupational Safety and Health Administration (OSHA) Construction Standard for Asbestos 29 CFR 1926.58

The OSHA standard covers activities such as renovation, ceiling tile replacement, encapsulation, communication cable installation, and related tasks. It sets forth requirements that employers must follow for the protection of their workers. The revised OSHA permissible exposure limit (PEL) for asbestos, effective January 16, 1987, is 0.2 fiber per cubic centimeter (f/cc) as an eight-hour time-weighted average (TWA).

(B) Environmental Protection Agency (EPA) National Emission Standard for Hazardous Air Pollutants, 40 CFR 61.140-156

The EPA must be notified if 260 linear feet or 160 square feet of asbestos-containing material are removed within a year. Notification can be made by the contractor*, building management or owner, or Shell office administration. If notification is made, copies of the document should be distributed to all of the above. In addition, the standard sets forth work practice requirements which must be followed during asbestos removal activities, including renovation.

In addition to federal regulations some states, such as Texas, have established separate licensing and training requirements for contractors who remove or encapsulate asbestos insulation in public office buildings.

RESPONSIBILITIES FOR OFFICE SERVICES AND CONTRACTORS*

Some specific actions should be taken by these parties to ensure a safe work environment and achieve compliance with the OSHA and EPA standards. These are listed below.

*As used in these recommendations, "contractor" refers to the party organization engaged to conduct construction activities.

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(A) Office Services

A Contractor Asbestos Program should be established and administered by Office Services. It should include the following:

- 1.) Inform the contractor for maintenance or renovation activities of the location of asbestos-containing material.
- 2.) Inform the contractor that compliance is required with OSHA and EPA standards, state or local government regulations where applicable, and local Shell procedures pertaining to asbestos.
- 3.) Emphasize to the contractor the need to work in a manner which minimizes disturbance of the asbestos-containing material.
- 4.) Coordinate area monitoring for asbestos with Industrial Hygiene Services as follows:
 - ° During major renovation projects
 - ° During asbestos encapsulation and removal
 - ° Annually in randomly selected office environments during normal office operations.
- 5.) Advise the contractor of the work procedures listed below.
- 6.) Provide or require the contractor to provide a high efficiency particulate aerosol (HEPA) vacuum cleaner for use in the following work procedures.
- 7.) Implement an annual inspection program of the insulation throughout the buildings. The program should be conducted and documented by competent personnel to ensure the integrity of asbestos-containing materials. Competent personnel are those who have the expertise to recognize asbestos hazards and take appropriate corrective actions.

(B) Contractor

- 1.) The contractor must comply with OSHA standard, 29 CFR 1926.58, EPA standard, 40 CFR 61.140-156, and any local Shell procedures pertaining to asbestos.
- 2.) The contractor should follow the applicable procedures below.

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PROCEDURES FOR CONTRACTORS DURING JOBS WHICH MAY INVOLVE ASBESTOS-CONTAINING MATERIALS

There are four jobs commonly encountered in office buildings which may result in airborne asbestos: ceiling tile removal and replacement such as for access to the return air plenum, renovation, communications cable installation, and insulation encapsulation and/or removal. A description of each and the specific procedures for minimizing asbestos exposure are as follows:

- (A) Ceiling Tile Removal and Replacement: Tiles may be replaced for esthetic reasons (discoloration) or removed because access to the plenum is required. Removal should be conducted with care to avoid disturbing dust deposits on top of the tiles. These deposits may contain asbestos from the insulation on the overhead deck. In addition, an opening into the plenum potentially allows suspended material to escape into the office environment. Therefore, the following steps are recommended:
- 1.) Whenever possible, work on the ceiling and in the plenum which lasts more than half the work day should be conducted after hours.
 - 2.) Insofar as possible, Shell employees should remain outside the immediate work area while the task is in progress.
 - 3.) The number of ceiling tiles which are removed should be minimized.
 - 4.) If it appears that residue on top of the tiles could be dislodged and dropped to the floor, a plastic sheet should be spread beneath the area of removal or replacement. Precautions should be taken to avoid slipping hazards.
 - 5.) Handle tiles carefully to avoid disturbing the deposits discussed above. When only access to the plenum is required, set removed tiles inside the plenum.
 - 6.) Replace tiles immediately following completion of a job or at the end of the work day if the job is to last longer.
 - 7.) Although it is unlikely that the ceiling tiles themselves contain asbestos, the presence of asbestos-containing deposits may qualify them as asbestos (0.1%) under the OSHA standard. Unless it can be positively determined that discarded tiles are exempt, as a precaution, they should be disposed of as follows: Place discarded tiles immediately in a labeled plastic bag for disposal; do not store them for later use. Mark the bag as asbestos and dispose of it as asbestos waste per the OSHA standard.

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- 8.) If a plastic sheet is used beneath the work area, it should be carefully picked up and folded such that any residue is contained. Place it in a plastic bag and dispose of it as asbestos. If tiles are being discarded, the disposal bag may be used for both plastic sheet and tiles.
 - 9.) After completion of the job, vacuum the work area with a vacuum cleaner equipped with high efficiency particulate aerosol (HEPA) filters.
- (B) Insulation Encapsulation and/or Removal: Encapsulation and/or removal jobs involve direct work on and contact with asbestos-containing insulation. Therefore, as a precaution, isolate the work area and establish a regulated area per the OSHA standard, 1926.58.

Recommended procedures:

- 1.) Isolate the area in which the work is being conducted completely from occupied areas. This can be accomplished by using plastic sheeting which extends from the floor to the overhead deck. Seal all seams with duct tape or similar. The area should be made essentially air-tight.
 - 2.) Cover the floor with plastic, with seams tightly sealed with tape.
 - 3.) Keep the work area under negative pressure, using air handlers which exhaust outside the work area. These air handlers must be equipped with high efficiency particulate aerosol (HEPA) filters.
 - 4.) Mark the area as a regulated area as specified by OSHA standard, 1926.58, during encapsulation and/or removal.
 - 5.) Following encapsulation and/or removal, the contractor should conduct monitoring to verify the area can be de-regulated.
 - 6.) After encapsulation and/or removal is complete and the area has been de-regulated, any remaining work should be conducted using the procedures described under Renovation.
- (C) Communication Cable Installation: Cable installation normally requires removing a considerable number of ceiling tiles. In addition, the installation may require penetrating the decks, which are covered with asbestos-containing insulation. Penetration normally requires the removal of the insulation prior to drilling through the deck and this can potentially generate airborne asbestos.

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Recommended procedures:

- 1.) For all cable installation jobs, observe the procedures given for Ceiling Tile Removal and Replacement for Plenum Access.
 - 2.) The following refer to jobs which require removal of asbestos-containing material. These requirements are in addition to those in (C)(1).
 - a.) Barricade the area to restrict entry.
 - b.) Wet the insulation before it is removed.
 - c.) Scrape the insulation directly into a labeled plastic bag.
 - d.) Dispose of the insulation in plastic bags and mark the bags as asbestos per the OSHA standard. If several areas are scraped prior to penetration, the waste can be collected in a plastic-lined drum for disposal. The drum must be marked as asbestos. All asbestos waste must be disposed of in a landfill approved for asbestos.
 - f.) Vacuum the floor area beneath a deck penetration with a vacuum cleaner equipped with HEPA filters.
- (D) Renovation and Remodeling: Renovating all or part of a floor can potentially generate airborne asbestos. Besides removing ceiling tiles which accompanies most renovation, activity in the plenum may disturb the asbestos-containing insulation. The term "renovation" used here refers to removal of large numbers of ceiling tiles, removal and installation of wall studs and any associated activity in the plenum which might disturb the insulation. Remodeling refers only to removal and installation of carpet and drapes or blinds, painting and replacement of ceiling tiles. If renovation is preceded by insulation encapsulation, refer to part B also.

Recommended procedures:

- 1.) If only part of a floor is being renovated, isolate that part from the rest of the floor. This is especially important if the other parts of the floor are occupied. Barriers of plastic sheeting may be used for this, but it is important that the sheeting extend from the floor or wall to the overhead deck or closest beam and not just to the suspended ceiling. Isolate the air conditioning system to the extent feasible. If the entire floor is being renovated and the air conditioning is turned off, it is only necessary to isolate the elevator lobbies.

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- 2.) If an entire floor is being renovated, isolate the floor from casual traffic by using barricade tape at the elevator lobby and stairwell doors in conjunction with signs indicating construction is in progress.
- 3.) If ceiling tile replacement is part of a remodeling job, refer to the procedures described in Ceiling Tile Removal and Replacement.
- 4.) If the carpet is not removed as part of a renovation job, cover it with plastic prior to the job. Appropriate precautions should be taken to avoid slipping hazards. Dispose of the plastic afterwards using the procedure described in Ceiling Tile Removal and Replacement for Plenum Access.
- 5.) Dispose of discarded ceiling tiles as described in Ceiling Tile Removal and Replacement for Plenum Access.
- 6.) After the plastic is picked up, vacuum the area with a vacuum cleaner equipped with HEPA filters.
- 7.) On completion of a renovation project (one which required isolation from occupied areas) the contractor who performed the renovation should engage competent personnel to conduct clearance air sampling. The results should be reviewed with Office Services before the area is reoccupied by Shell employees. Competent personnel are those who have expertise in industrial hygiene practice. They are capable of using the sampling techniques recommended by the EPA and specified by OSHA and interpreting the results.

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(P R O T O T Y P E)

HAZARD COMMUNICATION PLAN
FOR (REPRODUCTION) DEPARTMENT

To comply with the Occupational Safety & Health Administration (OSHA) Hazard Communication Standard, 29 CFR 1910.1200, this written plan is established for the _____ location of Shell Oil Company. This plan applies to the (Reproduction) Department.

Container Labeling

The (Receiving Department) for this location will verify that all containers of photocopier chemicals received for use will:

- Be clearly labeled as to contents,
- Have appropriate hazard warnings, and
- Give the name and address of the manufacturer.

Any labeling deficiencies will be brought to the attention of the supplier. No labels will be removed or defaced.

Material Safety Data Sheets (MSDS)

The (Purchasing Department) will be responsible for obtaining MSDS for copier chemicals and providing the MSDS to the (Supervisor of Reproduction). The (Supervisor of Reproduction) will be responsible for reviewing new MSDS to see if new information appears which should be passed along to the copier operators.

Copies of the MSDS will be kept in the work area, specifically at _____ and may be examined by employees at any time.

Employee Information & Training

The (Supervisor of Reproduction) is responsible for employee training, including keeping records of the dates and attendees. The following must be included in the training:

- Overview of the Hazard Communication Standard
- Chemicals used in this area and their hazards
- Location & availability of this plan and the MSDS
- How to read MSDS and labels and whom to contact about questions
- Cautions regarding normal care in using the chemicals
- How to clean up spills & any needed personal protective equipment

List of Hazardous Chemicals

The following is a list of hazardous chemicals used in the (Reproduction Department):

Trade name	Manufacturer	MSDS Number or ID
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Informing Contractors

Any contract employees (e.g. temporary employees) will be informed by (Reproduction Supervisor) of the location of the MSDS and this plan.

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