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Defendant Dow admits that it now knows that potential health hazards posed by respirable, airborne asbestos was being researched and reported in scientific and medical literature prior to 1935, but until the late 1960's, it was generally accepted that the health hazards of respirable airborne asbestos was restricted to persons who worked in asbestos mines and textile factories handling large quantities of raw asbestos. ✓

5. You instituted a corporate industrial hygiene program prior to:

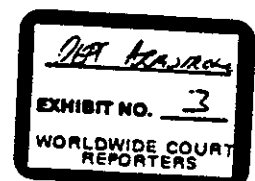
- a) 1985,
- b) 1980,
- c) 1975,
- d) 1970,
- e) 1965,
- f) 1960,
- g) 1955,
- h) 1950,
- i) 1945,
- j) 1940,
- k) 1935.

ANSWER: Defendant Dow admits subsection a) through h) and denies i) through k).

6. You began a corporate asbestos abatement or removal program prior to:

- a) 1985,
- b) 1980,
- c) 1975,
- d) 1970,
- e) 1965,
- f) 1960,
- g) 1955,
- h) 1950,
- i) 1945,
- j) 1940,
- k) 1935.

ANSWER: Defendant Dow admits subparts a) through e) and denies subparts f) through k).



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It has utilized asbestos as a thermal insulator in the magnesium process area and in the diaphragms separating the caustic from the chlorine in the chlorine/caustic process.

7. Describe in detail each ownership interest that you or any related company has ever had in:
- a) an asbestos mine;
 - b) an asbestos manufacturer; and
 - c) an asbestos marketer.

ANSWER:

Dow has never had an ownership of interest of any type in an asbestos mine, an asbestos manufacturer or asbestos marketer.

8. State what your corporate industrial hygiene program required in the way of respiratory protection from dust inhalation injuries since you first began to require or provide respiratory protection, stating:

- a) when you began to require or provide such devices;

ANSWER: Dow has required employees and contractor employees to protect themselves from heavy vapors and/or respirable dust since the 1940s. After Dow learned of the potential hazards of respirable asbestos, it required contractor employers to provide proper respiratory equipment to contractor employees on Dow premises if they had not been doing so previously and that Dow employees follow more rigorous rules regarding use of respiratory protection.

- b) what type of equipment was required or provided;

ANSWER: Dow cannot name each type of respiratory equipment which was available for the last fifty years, but some of the types of respiratory equipment used at Dow are:

- 1. MSA Fasfoe mouthbit respirator
- 2. Acme Duo Seal
- 3. Welsh with dust pad
- 4. Dustfoe 77
- 5. Nose & mouth OVAG
- 6. Dust respirators

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- c) what training programs or literature accompanied such programs;

ANSWER: Contractor employers were required to inform and train their employees on the hazards of the products around which they were working and to train each employee on the proper use of any equipment which the contractor employee was required to have or use on Dow premises. Dow would not have access to such literature or training program conducted by contractor employers. ✓

9. As to the above programs, identify:

- a) the persons primarily responsible for the program:

ANSWER: The contractor employer was responsible for training the contractor employees; the designated safety foreman for each individual block was responsible for training Dow employees.

- b) The persons still living with most knowledge of the programs:

- 1) at the corporate level:

ANSWER: Larry W. Rampy
Midland, Michigan

- 2) at the subject premises:

ANSWER:

Roger Daniel
Freeport, Texas

10. Identify the persons responsible for your industrial hygiene program at the subject premises, stating the years of responsibility for each person and the identity of their superior.

ANSWER:

<u>Individual</u>	<u>Year</u>	<u>Supervisor</u>
Ralph R. Langner	1956-60	D. J. Kilian, MD
Larry G. Silverstein	1961-1962	D. J. Kilian, MD
Donald L. Hyde	1961-66	D. J. Kilian, MD

(c) Respiratory protection: Dow has required its employees and contractors to use proper protection against heavy vapors and respirable dust since 1941 in Texas. Prior to the late 1960's, brickmasons working in the mag areas and insulators were wearing respirators and this became a requirement around this period of time. Although, Dow had implemented safe handling procedures for asbestos, it published a Handbook for Handling Asbestos Materials which was specific regarding the type of respiratory equipment required when handling asbestos. ✓

12. State when and by what means defendant first became aware that asbestos:

a) Caused an irreversible lung disease:

ANSWER: Late 1960's

b) caused cancer in humans:

ANSWER: Late 1960's

c) caused cancer in other animals:

ANSWER: Late 1960's

d) caused mesothelioma:

ANSWER: Late 1960's

13. State when and by what means defendant first began testing in defendant's plants and refineries for asbestos levels in the air.

ANSWER: Corporate: 5/26/55 - Air analysis while mixing asbestos with floor tile vinyl (research project)

Texas Operations: 4/20/68 - Air analysis of Chlor-Alkali area

14. State when defendant began the systematic removal of asbestos from defendant's plants and refineries, and corporate headquarters.

ANSWER: Beginning in 1970, asbestos was not used on Dow premises for the purposes of construction except in areas of greater than 1500 F, and only then until another material could be located in lieu of the asbestos. Any maintenance or scheduled demolition from late 1960's was used as an opportunity to remove the existing asbestos in that specific area safely. Through the years, if the asbestos began to deteriorate, it was removed and replaced and will continue to be replaced. ✓

15. State why defendant began such removal at that time.

ANSWER: See answer to Interrogatory No. 14.

16. State why defendant did not begin the systematic removal of asbestos from its plants, refineries, and corporate headquarters before that time.

ANSWER: The hazards of respirable asbestos were not generally recognized until the late 1960's. When Dow learned of the potential dangers of asbestos fibers, it immediately had all stocks of asbestos it had taken off the premises and returned to the supplier. It was not always possible nor feasible to remove asbestos already in place because in many instances, there was no other material that could be used or the form in which the asbestos was located was not hazardous unless it was disturbed by cutting, etc., which is still true today. As it stated in Interrogatory No. 14, procedures were put into place to eliminate the asbestos at the appropriate time.

17. Identify by date and description of study and results thereof each study made:

- a) by defendant
- b) for defendant
- c) upon any premises controlled by defendant, or
- d) known to defendant:

concerning the

- 1) creation,
- 2) existence,

1 Deft.

2 Armstg. 2 "A Health Survey of Pipe
3 Covering Operations In
4 Constructing Naval Vessels,"
5 Fleischer, Viles, Gade and
6 Drinker, Jrl. Of Ind. Hyg.
7 and Tox., Jan, 1945

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8 Deft.

9 Armstg. 3 Dow's Responses to Requests
10 to Admit, 7/7/90, response to
11 Question No. 4; Dow's Response
12 to Interrogatories, 7/3/90,
13 responses to Question Nos. 8,
14 11C and 14.

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