

THE MEAD CORPORATION

MEMORANDUM

April 26, 1973

TO: MEAD MANAGEMENT

FROM: Richard E. Lowe

SUBJECT: EPA SETS FINAL AIR STANDARDS FOR ASBESTOS, MERCURY, BERYLLIUM

The Environmental Protection Agency has set national emission standards for three hazardous air pollutants: asbestos, beryllium and mercury.

These pollutants are the first to be designated as hazardous to health under the Clean Air Act amendments of 1970. The Act defines hazardous air pollutants as those which "may cause, or contribute to, an increase in mortality or an increase in serious irreversible or incapacitating reversible illness."

The hazardous to health designation requires EPA to set national emission standards for the affected air pollutants.

A large number of studies have shown an association between occupational exposure to asbestos and a higher-than-expected incidence of bronchial cancer. Asbestos also has been identified as a causal factor in the development of cancers of the membranes lining the chest and abdomen.

The new asbestos standards prohibit visible emissions from asbestos mills, selected manufacturing operations, and spray-on applications. The use of asbestos tailings for roadway surfacing generally is prohibited. Certain work practices are specified for the demolition of buildings in order to control asbestos emissions. These practices generally prohibit the dropping of asbestos debris from buildings and require the wetting of asbestos materials before removal.

The demolition standards apply to all structures except homes and apartment buildings with four units or less.

The proven effects of beryllium on health include both acute and chronic lethal inhalation effects as well as skin and eye effects.

THE MEAD CORPORATION

The beryllium standards cover extraction plants, foundries, ceramic manufacturing plants, machine shops, disposal of beryllium-containing wastes, and rocket testing facilities.

Beryllium emissions from stationary sources will be limited to 10 grams of beryllium over a 24-hour period. As a substitute for this standard, an owner or operator may request approval from the EPA Administrator to meet an ambient concentration limit of beryllium in the vicinity of the stationary source of 0.01 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) averaged over a 30 day period, provided that three years of data are available to demonstrate that the average ambient concentration levels will not be exceeded.

The burning of beryllium waste is prohibited except in incinerators. Incinerator emissions must comply with the 24-hour standard.

Exposure to metallic mercury vapors may cause central nervous system injury and kidney damage. Laboratory data from animal tests indicate a risk of accumulation of mercury in body systems that could result in brain damage. Prolonged exposure involves a definite risk of mercury intoxication.

The mercury standard applies to stationary sources which process mercury ore to recover mercury, and to those which use mercury chlor-alkali cells to produce chlorine gas and alkali metal hydroxide. The standard limits emissions from these facilities to not more than 2300 grams per day.

A summary of the specific regulations for each of the pollutants is attached.

REL:gjk

Enclosure

SUMMARY OF NATIONAL EMISSION STANDARDS

FOR

ASBESTOS, MERCURY AND BERYLLIUM

The asbestos standards are:

--There shall be no visible emissions to the outside air from any asbestos mill except when a specified method of air cleaning, also part of these standards, is used before the emissions escape to the outside air. In general, these air-cleaning systems filter asbestos emissions to the point that visible emissions would not be produced anyway.

--The surfacing of roadways with asbestos tailings is prohibited, except for temporary roadways on an area of asbestos ore deposits.

--There shall be no visible emissions to the outside air, unless the specified air cleaning methods are used, from any operation which manufactures: cloth, cord, wicks, tubing, tape, twine, rope, thread, yarn, roving, lap, other textile products, cement products, fireproofing and insulating materials, friction products, paper, millboard, felt, floor tile, paints, coatings, caulks, adhesives, sealants, plastics and rubber materials, and chlorine.

--The regulations covering demolition of buildings are:
(1) asbestos materials used to insulate or fireproof any boiler, pipe, or structural member shall be wetted and removed from any building before the wrecking begins. The asbestos debris shall be wetted at all stages of demolition and related handling operations. (2) No pipe or structural member covered with asbestos insulating or fireproofing material shall be dropped or thrown from any building but shall be carefully lowered to ground level. (3) No asbestos debris shall be dropped or thrown to the ground or from one floor to another. For buildings, 50 feet or greater in height, asbestos debris shall be lowered to the ground via dust-tight chutes or containers.

Certain demolition operations are exempt from the regulations, except for the wetting of asbestos debris, if a building has been declared to be structurally unsound and in danger of imminent collapse.

--There shall be no visible emissions from the spray-on application of materials containing more than one percent asbestos, on a dry weight basis, used to insulate or fireproof equipment and machinery. Spray-on materials used to insulate or fireproof buildings, structures, pipes and conduits must contain less than 1 percent asbestos dry-weight basis.

The beryllium standards apply to extraction plants, ceramic plants, foundries, incinerators, and propellant plants which process beryllium ore, beryllium, beryllium oxide, beryllium alloys, beryllium-containing waste, and machine shops which process beryllium, beryllium oxides, or any alloy when such alloy contains more than 25 percent beryllium by weight.

The beryllium standards are:

--Emissions from stationary sources shall not exceed 10 grams of beryllium over a 24-hour period. As a substitute for this standard, an owner or operator may request approval from the EPA Administrator to meet an ambient concentration limit on beryllium in the vicinity of the stationary source of 0.01 micrograms per cubic meter (ug/m3).

--The burning of beryllium and/or beryllium containing waste is prohibited except in incinerators. Incinerator emissions must comply with the above 24-hour standard.

Beryllium emission standards for rocket-motor firings at test sites are:

--Emissions to the atmosphere from rocket motor test sites shall not cause time-weighted atmospheric concentrations of beryllium to exceed 75 microgram minutes per cubic meter of air within the limits of 10 to 60 minutes, accumulated during any 2 consecutive weeks, in any area in which an effect adverse to public health could occur.

--If combustion products from the firing of beryllium propellant are collected in a closed tank, emissions from the tank shall not exceed 2 grams per hour and a maximum of 10 grams per day.

The mercury standard applies to stationary sources which process mercury ore to recover mercury and to those which use mercury chlor-alkali cells to produce chlorine gas and alkali metal hydroxide.

The mercury standard is: Emissions shall not exceed 2,300 grams of mercury per 24-hour period.