PLAINTIFF'S EXHIBIT
WH-795

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CORPORATE INDUSTRIAL HYGIENE
236-5848
July 7, 1981
ASBESTOS PRODUCTS &
EMPLOYE EXPOSURE TO ASBESTOS

WESTINGHOUSE BUILDING - 2016
W. M. Bryant, Director
Property & Casualty Insurance

The attached information is provided in an attempt to comply with the following request that you made to C. W. Bickerstaff, Manager, Industrial Hygiene several weeks ago.

1. List of products manufactured or supplied by (W) which contain asbestos. If possible, please indicate which of these products are no longer manufactured or supplied by (W).

2. Employe exposure to asbestos--current and historical.

At the outset I want to mention that this data is by no means complete, but we are hopeful it will provide some background information.

During the early to mid 1960's, Industrial Hygiene was encouraging the divisions to eliminate the use of asbestos and find suitable substitutes. In February, 1976 an effort was made to gather specific data on the use of asbestos within the corporation, and to alert the divisions to the significance of its continued usage and the problems of compliance with OSHA Regulations. Attachment I is a copy of the letter sent to all Industrial Hygiene and Safety Coordinators, informing them of a one-day seminar on asbestos. A questionnaire was sent with this letter to survey the use of asestos at each location. Attachment II is a roster of those attending the seminar.

Attachment III lists (W) locations that at one time or another used material containing asbestos. In Attachment IV we have summarized the data supplied on the returned questionnaires to indicate some of the Westinghouse products that contain some form of asbestos.

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Since 1976 most of these asbestos products have been replaced with another type of material. Attachment V is a list of some of these substitute materials. We are aware that Trafford PCB has had some difficulty in finding a replacement for the asbestos-neoprene stop gasket material for bushings. At the seminar, the Hampton people announced that a decision was made to stop production on asbestos containing micartas. However, because of the special need at other divisions, they may have some limited production. Bedford does have some limited production of coated asbestos paper.

We cannot answer to which (W) products, that contained asbestos are no longer manufactured or supplied, except to note that the Consumer Products group is no longer part of Westinghouse.

In regards to employe exposure, no monitoring was done prior to 1973. Attachment VI is a summary of asbestos monitoring done from 1973 to 1979, which we prepared for the Legal Department. We can bring it up to date if you need this information. I have also included Attachment VII summarizing data from the questionnaires to show asbestos products, used during plant operations, that are not included in a (W) product.

Hopefully this data will be helpful, and if we can be of any further assistance give us a call.

Zella R. Heasley

Zella R. Heasley
Sr. Industrial Hygiene Engineer

/jmc

QUESTIONNAIRE - ASBESTOS* PRODUCTS

1. Which of the following asbestos containing products are used in your operations:

____ Block	____ Filter Media	____ Rope Packing
____ Board	____ Laminated Conpositions	____ Sheet Packing
____ Brake Lining	____ Micarta Bars	____ Sheet (Asbestos bonded with rubber)
____ Cable & Wire (Asbestos Insul.)	____ Micarta Sheet	____ Sheet (Mill Board)
____ Cement Sheet	____ Molding Mixtures	____ Sleeving
____ Cloth-Treated	____ Molding Compositions	____ Tape
____ Cloth-Untreated	____ Paper-Treated	____ Transite
____ Fibers (Air Floats)	____ Paper-Untreated	____ Yarn
____ Fiber Powder (Resin Grade)	____ Powder	
	____ Pulverized Asbestos	

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List any others not mentioned above.

_____

_____

- If possible bring to the seminar or send in advance a small sample of each product used at your plant. Place each sample in a plastic bag identified by a Westinghouse Material Code Number and/or Supplier and Tradename.

2. Describe application (if more space is needed, use other side).

_____

_____

_____

_____

_____

_____

3. List products that have been investigated and found satisfactory as substitutes for asbestos.

Application	Tradename & Supplier
_____	_____
_____	_____
_____	_____
_____	_____

- Bring or send a small sample of each. Package and mark the same as requested for the asbestos product.

* If you need a copy of the proposed asbestos standard, call Zella Heasley, Industrial Hygiene, WIN: 236-5847.

132/4085149

RETURN TO: Zella Heasley, Westinghouse R&D Center, by February 27, 1976

ATTACHMENT 11

ROSTER
ASBESTOS SEMINAR
MARRIOTT MOTOR INN
PITTSBURGH (GREENTREE), PA.
MARCH 5, 1976

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Raymond A. Bleeker
Design Engrg.
Architectural Systems Div.
Grand Rapids, Michigan
WIN: 523-7277

Edward S. Bober
Safety Administrator
Accident Prevention
R&D Center
WIN: 236-7272

J. C. Botts, Manager
Insulation Design Engrg.
East Pittsburgh-LRA
WIN: 236-2823

Phil Chekanski, Safety Engr.
Water Reactors Division
NES Building-Monroeville
412-373-4651

Denese A. Deeds
Industrial Hygienist
Accident Prevention
Buffalo Divisions
WIN: 245-2616

Carol W. Erdley, Engr.
LRAD
Irwin Mica Plant
412-863-7000

Smith Cause
Engineering Manager
Hampton Micarta Divs.
WIN: 422-6343

M. A. Cipko, Envir. Engr.
Plant Services
East Pittsburgh
WIN: 236-2454

John Harrington
General Manager
Hampton Micarta Divs.
WIN: 422-6320

Needham Holden
Accident Prevention
Charlotte Nuclear Turbine Plant
WIN: 422-2454

W. A. Itzel, Staff Asst. Engr.
Industrial Services Division
Greentree, Pa.
412-928-4768

B. A. Kerns, Manager
Environmental Control
Construction Technology, Bldg.
WIN: 235-3616

George E. Laverty, Safety Supvr.
Accident Prevention
Sharon Transf. Divs.
WIN: 224-5316

Norman E. Martello, Engr.
PCB - Trafford
WIN: 236-5316

Gene Martinella, Supvr.
Manufacturing Planning
PCB - Trafford
WIN: 236-5221

Paul Palmieri, Supvr.
Accident Prevention
Control Equipment Group-Beaver
WIN: 222-1371

Larry Rudolph, Manager
Accident Prevention
Industry Services Division
Greentree, Pa.
412-928-4679

C. R. Ruffing, Engrg.
Insulation Development
East Pittsburgh-LRA
WIN: 236-2771

132/4085150

Andy Sabo, Director
Misc., Safeguards & Safety
Nuclear Energy Systems
Monroeville, Pa.
412-373-4645

C. E. Schilling
Accident Prevention
Derry, IMD-Bedford, Manor,
West Mifflin Plants
WIN: 222-7263

R. M. Sexton, Manager
Insulation Development
East Pittsburgh-LRA
WIN: 236-2774

Dr. A. A. Spritzer
Medical Director
Nuclear Center
Monroeville, Pa.
412-373-4649

C. W. Waltz
OSHA Administrator
East Pittsburgh-LRA
WIN: 236-2192

James R. Welshons
Corporate Standards
R&D Center
WIN: 236-7232

Paul Wike, Buyer
East Pittsburgh-LRA
WIN: 236-2234

Richard T. Williams
Division Admin.
Accident Prevention
Bloomfield Lamp Div.
WIN: 326-3338

Eugene W. Wood
Accident Prevention
Baltimore Defense Div.
WIN: 234-2007

C. R. Zimmerman
IMD - Bedford
WIN: 222-6135

Gerald T. Brady, Manager
Accident Prevention
East Pittsburgh
WIN: 236-2823

Industrial Hygiene & Safety Staff

John Adams, Engineer
George Arensman, Administrator
Keith Bodden, Administrator
Zella Measley, Engineer
William Ziefel, Manager

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ATTACHMENT III

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In March 1976, the Corporate Standards Department informed Industrial Hygiene of 42 Westinghouse Manufacturing locations that were using at the time, or were known to have used, asbestos or asbestos containing materials in their operations.

This information was available, because these divisions were participating in the Corporate Standards Material Code System. Following is a list of these locations.

Athens, GA - Overhead Dist. Transformers

Baltimore, MD - Systems Development
Beaver, PA - Control Products
Bedford, PA - Treated Materials
Bloomfield, NJ - Lamp
Bonnington, IN - Dist. Apparatus
Bridgeport, CT - Bryant Electric
Buffalo, NY - General Control
Buffalo, NY - Large Motor
Buffalo, NY - Medium Motor and Gearing
Buffalo, NY - Industrial Equipment

Chestwick, PA - Electro-Mech
Cleveland, OH - Outdoor Lighting

Derry, PA - Industrial Ceramics

East Pittsburgh, PA - LRA & Switchgear

Greenville, PA - Specialty Transformers
Greentree (Pgh), PA - Industry Services

Hampton, SC - Micarta
Horseheads, NY - Electronic Tube
Hunt Valley, MD - Electronics System Supports
Hyde Park (Boston, MA) - Sturtevant

Jefferson City, MO - Underground Dist. Transformers

Lester, PA-Steam Turbine, Gas Turbine

Lima, OH - Appliance Motors
Lima, OH - Aerospace Electrical
Lima, OH - Small Motors

Muncie, IN - Larger Power Transformers

Newark, NJ - Relay Instruments
Norman, OK - Residential Air Conditioning

Raleigh, NC - Meter
Randolph, NJ - Elevators
Roundrock, TX - Heavy Industries Motor

Sharon, PA - Transformers
South Boston, VA - Small Power Transformers
Staunton, VA - Commercial & Ind. Air Conditioning
Sunnyvale, CA - Marine
Sykesville, MD - Industrial Equipment
Sykesville, MD - Welding

Trafford, PA - Power Circuit Breaker

Vicksburg, MS - Interior Lighting

West Mifflin, PA - Transportation

Youngwood, PA - Semiconductor

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ATTACHMENT IV

(W) PRODUCTS CONTAINING ASBESTOS

PLANT	FORM OF ASBESTOS	APPLICATION
Buffalo	Treated and untreated cloth and paper.	Insulation in motors
	Micarta sheet and bars	Wedges in motors
	Cement - filled with asbestos fibers	Baked on wound resistor tubes to keep wires properly spaced
Consumer Products Division	Paper, Cloth	Insulation
East Pittsburgh	Micarta Sheet	Stator slot wedges
	Asbestos paper - treated	Turn insulation on edge wound field coils for large hydro-generators
	Sheet - asbestos bonded	Gasket material
	Cable & wire - asbestos insulation	—
East Pittsburgh --Irwin--	Cloth, Paper	Molded "U" channels and molded shields for insulation
	Powdered asbestos	Filler in resin mixtures supplied to other (W) locations
Grand Rapids	Board and Sheet	Fire retardant office divider panels

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PLANT	FORM OF ASBESTOS	APPLICATION
Greenville	Resin filled with asbestos	Caulking for metal transformer case seams
	Laminated compositions	Insulation
	Micarta sheet	Terminal boards
	Paper (silicone resin treated)	Coils
IMD (Bedford)	Paper	Coat and laminate the paper for electrical insulation for (W) divisions
IMD (Hampton)	Paper	Asbestos filled micartas
IMD (Manor)	Powdered asbestos	Filler in their B-7-365 which is used at Sharon as wet winding resin.
		Filler in epoxy resin (W) MS3533FD used at Trafford PCB as tract resistant coating
IMD (West Mifflin)	Treated paper	Molded part (not certain as to ultimate usage)
Lester	Block	Insulation in turbines
	Asbestos sheet packing	Gasket material
Muncie	Tape	Barrier on shell of transformer gasket material

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PLANT	FORM OF ASBESTOS	APPLICATION
Sharon	Micarta sheet	Terminal boards and core-coil spacers
	Varnished asbestos paper	Wound into coils as fillers
	Transite	Duct spacers and fillers plus reactor disks
South Boston	Rope packing	Used as barrier during welding of covers on top of transformers. Material is caught between top flange of tank and bottom of cover. Transformer is shipped with asbestos packing in position.
Staunton	Micarta sheet (Hampton product)	Terminal supports for CE terminals
Trafford PCB	Micarta sheet	Core washers for current transformers.
	Asbestos-neoprene sheet	Stop gaskets for bushings and EHV columns.
	Asbestos filled epoxy resin (W) M53533FD	Tract resistant coating

ATTACHMENT V

SUMMARY

ASBESTOS SUBSTITUTES PRESENTLY USED 1976

PLANT	APPLICATION	SUBSTITUTE MATERIAL
Bloomfield	Curtains-glare and heat shield	Fiberglass Cloth (Pais Mfg. Co.)
Buffalo	Insulation	Nomex (DuPont) Micarta Silicone Sheet Glass Doryl Glass Melamine } ☺
E. Pgh.	Protective Blankets for Soldering	Nomex (DuPont)
	Blankets	Refrasil (Hitco) ☺ M 41514GC
Lester	Insulating Blanket Filler	Kaowool (Babcock & Wilcox) ☺ M 41414AD
		Temp Mat (Pgh. Corning) ☺ M 41414AD
	Pipe Insulation	Flame Safe (Johns-Manville) ☺ M 41424JC (fiberglass)
	Block Insulation and Pipe	Thermo 12 (Johns-Manville) ☺ M 46102BB
	Cement for Block	Super Power House Cement (Keene Ind. Insulation Corp.)
	Insulating Blanket Cover	Textoglass 1925/9383 Glass Cloth (Pocar, Philadelphia, Pa.)
Sharon	Tank Cover Gaskets	Fiberfrax Rope (Carborundum) Glass Sleeving
	Heat Trap for Brazing	Wet Cheese Cloth Fiberfrax Rope (Carborundum)
	Stop Gasket for Bushings	Duroid 900 (Rogers Corp.)
	Shielding for Weld-Braze	Aluminum Sheet Nomex (DuPont) Fiberfrax (Carborundum)
South Boston	Weld Barrier (Blankets)	Textoglass S/192-/9383 (J.P.Stevens)
	Weld Barrier (Sheet)	Textoglass S/84205/9383 (J.P.Stevens)

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ATTACHMENT VI

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ASBESTOS AIR SAMPLE RESULTS 1973-1979

PLANT	YEAR SAMPLES WERE TAKEN	NUMBER TAKEN THAT YEAR	RANGE OF RESULTS (FIBERS/cc)	NUMBER ABOVE PEL
Asheville	1979	3	< 0.01 to 0.013	0
Baltimore	1976 (Before July)	3	< 0.2 to 2.0	0
Bedford	1976 (Before July)	15	< 0.02 to 0.04	0
	1978	3	0.04	0
Bettis (West Mifflin)	1979	2	0.02 to 0.33	0
Bloomington	1976 (After July)	3	< 0.01 to 0.04	0
Buffalo	1975	3	< 0.5	0
	1977	19	< 0.01 to 0.22	0
	1978	3	0.06 to 0.09	0
Canada LTD Burlington	1979	14	< 0.01 to 0.2	0

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ASBESTOS AIR SAMPLE RESULTS 1973-1979

PLANT	YEAR SAMPLES WERE TAKEN	NUMBER TAKEN THAT YEAR	RANGE OF RESULTS (FIBERS/cc)	NUMBER ABOVE PEL
Chestwick	1976 (After July)	2	6.2 to 9.4	2
Derry	1976 (Before July)	2	< 0.1 to 0.2	0
East Pittsburgh	1973	20	< 0.1 to 110	4
	1974	3	< 0.1 to 1.4	0
	1975	10	< 0.3 to 0.48	0
	1976 (After July)	18	< 0.01 to 3.8	2
	1977	2	0.5 to 2.1	1
	1978	3	< 0.01 to 0.16	0
	1979	23	< 0.01 to 1.5	0
Elmira	1976 (After July)	2	0.7 to 1.7	0
	1978	26	< 0.01 to 0.18	0
Fairmont	1978	2	0.09 to 0.11	0
Forest Hills	1978	2	< 0.01	0

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ASBESTOS AIR SAMPLE RESULTS 1973-1979

PLANT	YEAR SAMPLES WERE TAKEN	NUMBER TAKEN THAT YEAR	RANGE OF RESULTS (FIBERS/cc)	NUMBER ABOVE PEL
Greentree	1978	2	0.12 to 0.22	0
Lester	1977	8	0.9 to 6.3	3
	1979	6	< 0.01 to 0.53	0
Manor	1977	6	< 0.01 to 95	0*
Newark	1978	6	< 0.01	0
Norman	1979	2	< 0.01	0
O'Hara Township	1977	5	< 0.01	0
Pittsburgh KDKA-TV	1979	5	< 0.01	0
Puerto Rico	1979	1	< 0.01	0

*Two air samples taken for a short time period along with OSHA Industrial Hygienist resulted in high concentrationsof Asbestos-like fibers. Over an 8-hour period the results did not exceed the PEL.

132/4085159

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ASBESTOS AIR SAMPLE RESULTS 1973-1979

PLANT	YEAR SAMPLES WERE TAKEN	NUMBER TAKEN THAT YEAR	RANGE OF RESULTS (FIBERS/cc)	NUMBER ABOVE PEL
Research & Development Center Churchill	1974	2	0.07 to 0.14	0
	1976 (Before July)	6	< 0.03 to 123	3
Richmond Kentucky	1979	2	< 0.01	0
Salina	1978	6	< 0.01 to 0.03	0
Baron	1975	4	< 0.5 to 8.0	1
	1976 (After July)	8	< 0.02 to 0.06	0
	1977	2	< 0.03	0
	1978	4	< 0.01	0
South Boston	1979	2	< 0.01	0
Sunnyvale	1976 (After July)	4	< 0.01	0
	1977	20	< 0.01 to 1.7	0
	1978	6	< 0.01 to 20	1

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ASBESTOS AIR SAMPLE RESULTS 1973-1979

(E) PLANT	YEAR SAMPLES WERE TAKEN	NUMBER TAKEN THAT YEAR	RANGE OF RESULTS (FIBERS/cc)	NUMBER ABOVE PEL
Sykesville	1978	2	0.02 to 0.09	0
Trafford	1975	3	< 0.03 to 3.0	0
	1976 (After July)	1	0.05	0
	1978	1	< 0.01	0
West Mifflin LMD	1976 (Before July)	3	0.2 to 21	1
West Mifflin Transportation	1976 (Before July)	3	0.1 to 0.2	0
	1976 (After July)	2	0.02 to 0.06	0

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ATTACHMENT VII

ASBESTOS USED IN PLANT OPERATIONS

PLANT	FORM OF ASBESTOS	USAGE
Baltimore Divs.	Board, pipe covering micarta, rope packing, cable and wire, sheet packing, transite sheet, caulking compound	Insulation Weld curtains Gasket material Electrical tape
Buffalo	Untreated paper	Used as a liner in die cast and to catch drippings of varnish in ovens
Derry	Sheet	Place unfired ware on it until it cures or sets
	Cloth untreated	Used when annealing machine parts
	Rope packing and transite Tape	Making arc stacks ---
East Pittsburgh	Blanket	Blanket for soldering, brazing or cutting
	Cloth, tape, yarn, sleeving, paper untreated board	(no specific operation mentioned)
Greenville	Sheet packing	Oven lining
Greentree	Micarta Paper Rope packing Cable	Motor slot wedges General use Packing —
IMD (Manor)	Asbestos fibers	Mixed into resins for B-7-365 and (W) M53533FD

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PLANT	FORM OF ASBESTOS	USAGE
Lamp Divisions	Board, block, transite	Insulation on furnaces, ovens and lamp making equipment
	Treated cloth	Curtains for glare and heat shielding
	Pulverized	Used to make furnace cement for heat insulation
Lester	Cloth, sheet packing, sleeving, tape, flex tubing	Induction heating and stress relieving
	Paper, rope, packing, sleeving tape	Babbitting
	Rope packing	Submerged arc welding
Muncie	Rope packing, sheet packing	Heat barriers on brazing and/or welding operations
Reform	Sleeving, transite, yarn	Insulation
Sharon	Cloth or paper	Heat trap for brazing. Shielding for welding or brazing
South Boston	Blanket, sheet	Weld barrier