FILE NAME: General Electric (GE)

DATE: 1937-1973

DOC#: GE201

DOCUMENT DESCRIPTION: GE Documents - 37 [From PA Archive]

OPERATION	HAZARD	CONTROL MEASURE

tests employing low energy explosives (Class C). Stress patterns and other data are measured electronically.

Tungsten heat lamps (up to 1800° F) are used within a hooded enclosure to test the effects of heat on surfaces of mock-up vehicles.

Maintenance machining, welding is conducted and vibrating unit is used occasionally.

1406 Plastics Laboratory

Hand lay-up operations are conducted intermittently. Gloves and hand creams are provided. Resin mixing (toluol, MEK, xylol) is conducted under an exhaust hood. One-half to three-fourths gallon of benzene is used annually. Laminated parts are cured in an electric oven (400° F) which is locally exhaust ventilated.

Mixing silicone rubber	*Stannous Octatate vapor Silicone rubber dust Silicone Blowing Agent dust GERTV-921 Fluorocarbon mold release S-142	General ventilation Occasional operation
	Dermatitis	Gloves & hand creams

*Manufactured by M & T chemicals of New York. Only eye dropper quantities are used.

Aluminum etching	Sulfuric dichromate mist Dermatitis	Exhaust hood Small (beaker) quantities
Potting	Epoxy resin vapor	Local exhaust ventilation
	Triethylene tetramine vapor	Small quantities
	Dermatitis	Gloves
Asbestos weighing	Asbestos dust	General ventilation Approved dust respirators USBM 2166 Occasional operation (one weigh in two days for 5 minutes).

H732.003 REV. 8-70

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH
OCCUPATIONAL HEALTH

REGION I
PROD. MFG. OR SERVICE switchgears
DATE OF ACTIVITY 10-8-71

FIELD ACTIVITY REPORT
(Occupational Health)

PLANT
General Electric Company

ADDRESS	ZIP CODE	TELEPHONE
6901 Elmwood Avenue Phila., PA	19142	215 SA-1500

PERSON INTERVIEWED	TITLE
William Topher/Lloyd Plesin	Safety Specialist/ Management of Safety

EMPLOYEES MALE	FEMALE	TOTAL 6000	IND. CODE 36	COUNTY Phila.

PUNCH CARD	FOLDER	N.S.N.
YES [X] NO [ ]	YES [X] NO [ ]	YES [ ] NO [X]

PURPOSE: INVEST.; SURVEY; INSP.; PRELIM.; F.U.; COMP.; VISIT; OTHER

REASON: SELF-INIT.; P.O. REP.; COMPL.; REQUEST; SOURCE

SAMPLES COLLECTED (NO. & KIND) TOTAL

DETERM. MADE 5 noise (G.R. Octave Band Analyzer) TOTAL 5
(NO. & KIND)

MEDICAL — O.D. REPORTED, NO. & KIND

RECOMMENDATIONS AND REMARKS

SPECIFIC HAZARD OR CONDITION	WORKERS EXPOSED	RECOMMENDATIONS R 4-8-71 WRITTEN ... VERBAL	ACCOMPLISHED YES	NO	IN PROG.
Noise	32	1. reduce noise levels at the flame treating operation, mill no. 5090 and polyester sawing operation			x
		2. provide properly fitted ear plugs or muffs	x		
		3. Institute pre-placement and periodic audiometric tests	x		
Asbestos	33	1. LEV improvement			x
		2. LEV maintenance	x		

Remarks

Followed-up above recommendations. Two adjacent flame treating operations were the major source of noise in the arc chute milling dept. There were oxy-gas torches. One of these has been replaced with a plasma arc unit which is located in an acoustically enclosed room about 40' x 25' x 20'. The immediate area is itself acoustically enclosed and exhausted to wet collector. The work is placed on a sliding table which, when pushed in place forms a good enclosure. The nozzle of the plasma arc unit was modified to reduce noise levels. The unit is not in full production and is still undergoing modifications. Although it was not in use during the visit, the unit was turned on so that noise levels could be measured. Work was not put in the unit. Following are noise levels:

OVER

BY Beckett MINS 1.5

AIR 35

H722.003 REV. 6-70

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH
OCCUPATIONAL HEALTH

File

REGION 1
PROD. MFG. OR SERVICE switchgears
DATE OF ACTIVITY 6/15/71

FIELD ACTIVITY REPORT
(Occupational Health)

PLANT
General Electric Company

ADDRESS	ZIP CODE	TELEPHONE
6901 Elmwood Avenue, Philadelphia, Pennsylvania	19142	215 SA-1500

PERSON INTERVIEWED	TITLE
Toohey, William	Safety Specialist

EMPLOYEES MALE	FEMALE	TOTAL 6000	IND. CODE 3620	COUNTY Philadelphia

PUNCH CARD	FOLDER	N.S.N.
YES [X] NO [ ]	YES [X] NO [ ]	YES [ ] NO [X]

PURPOSE: INVEST.; SURVEY; INSP.; PRELIM.; F.U.; CONF.; VISIT, OTHER

REASON: SELF-INIT.; F.U. REP.; COMPL.; REQUEST; SOURCE

SAMPLES COLLECTED (NO. & KIND) TOTAL

DETERM. MADE (NO. & KIND) TOTAL

MEDICAL — O.D. REPORTED, NO. & KIND

RECOMMENDATIONS AND REMARKS

SPECIFIC HAZARD OR CONDITION	WORKERS EXPOSED	4/8/71 R RECOMMENDATIONS WRITTEN - VERBAL	ACCOMPLISHED YES	NO	IN PROG.
Noise	32	1. Reduce noise levels 2. Ear protection 3. Audiometric tests	see remarks		
Asbestos	33	1. LEV improvement 2. LEV maintenance	"		

Remarks

I. H. visited the Greenway Ave. plant to determine noise levels in the Custom Power and Equipment Department (see F. A. 6/15/71 in that folder). During the visit I. H. asked Mr. Toohey about compliance with the above recommendations for the arc chute molding and milling departments in the main plant. Toohey did not know the status of the control measures. He said an enclosure for the flame treating operation in the milling department was being designed and a ventilation system was almost completed for the molding department. He requested I. H. to return later to discuss these topics. Revisit in two to four weeks.

[illegible]

☐ OVER

by Mr. Beckett WHS

DIR

NORRISTOWN ADDRESS: 1875 New Hope Street
Norristown, Pennsylvania 19401
215 277-3210

April 8, 1971

General Electric Company
6901 Elmwood Avenue
Philadelphia, Pennsylvania 19142

Attention: Mr. William Toohey
Safety Specialist

Gentlemen:

On November 30 and December 6, 1970 a survey was conducted in the arc chute molding and milling departments of your plant to evaluate employees' exposures to asbestos dust and noise. The survey was made with the cooperation of Mr. Toohey.

Samples of airborne dust were collected with midget impingers containing absolute ethyl alcohol and with membrane filters. Dust concentrations were determined from the impinger samples using a standardized light-field microscopic technique and from the filter samples by phase-contrast microscopy. The results are presented in Table 1.

The threshold limit value for asbestos is 5 million particles per cubic foot of air based on exposure for an 8-hour working day. It should be noted that the American Conference of Governmental Industrial Hygienists has proposed an additional limit based on fiber count. This intended threshold limit value is 5 fibers per milliliter of air greater than 5 microns in length, based on exposure for an 8-hour working day.

Exposures to asbestos dust were less than the threshold limit value (see Table 1). It should be noted, however, that the level found at the charging and weighing station in the arc chute molding department approached the threshold limit for asbestos dust.

In keeping with good industrial hygiene practices and to maintain exposures as low as possible, the following recommendations are made:

1. Continue with your plans to improve the local exhaust ventilation system at the charging and weighing station.

2. Establish a maintenance program for the local exhaust ventilation systems in the arc chute molding and milling department. This program should include periodic inspection of the system for leaks.

Noise measurements were made with a General Radio Company sound level meter and the results are listed in Table 2.

Table 3 lists noise threshold limits adopted by the American Conference of Governmental Industrial Hygienists which are exposure limits that should protect the ability to hear and understand speech. These limits have also been made a part of the United States Department of Labor rules under the Walsh-Healey Public Contracts Act.

As shown in Table 3 the noise exposure limits have been exceeded at the flame treating operation and mill No. 5090. Noise exposures were in the vicinity of the threshold limit value at the other milling and sawing operations. In the compound area, where polyester plastic is milled, noise exposures were less than the threshold limit value. It should be noted that exposures will vary as the frequency of operations varies. Because of our findings, the following recommendations are made:

1. Reduce noise levels at the flame treating operation, mill No. 5090 and the polyester plastic sawing operation. This may be accomplished by the following:

   A. Institute a periodic maintenance program that includes replacement of worn gears and bearings and keeping attachments as tight as practical.

   B. Install vibration mounts on machinery.

   C. Attach vibration-damping material to structural members and panels.

   D. Acoustically enclose equipment, either partially or totally.

2. Provide properly fitted ear plugs or muffs for personnel exposed to noise.

3. Institute a program of preplacement and periodic audiometric tests for all employees exposed to noise.

Tables of dust concentrations, noise measurements and noise threshold limit values, our Hygienic Information Guides entitled "Asbestos", "Ventilation" and "Noise" and Article 432, as revised, are enclosed. An additional copy of our report is enclosed. Mr. George Beckson, steward, Local 119, requested a report of our findings.

Very truly yours,

Leon T. Genshor
Regional Industrial Hygienist

LTG/mjm

Enclosures

Commonwealth of Pennsylvania
Department of Environmental Resources
OCCUPATIONAL HEALTH

Table 1 — Dust Concentrations

General Electric Company
6901 Elmwood Avenue
Philadelphia, Pennsylvania 19142

Location	Dust* (fibers per milliliter of air)	Dust* (millions of particles per cubic foot of air)	Remarks
Arc chute molding department	0.2 0.1		Hydraulic press operators' exposures, integrated over several hours
	0.02		General air, 7 feet from weighing station
	0.01		General air, 15 feet from weighing station
		4	Operator's exposure, charging hopper and weighing asbestos and zircon
		0.6 0.2	Operator's exposure, mixing zircon, asbestos and acid
		0.5	Operator's exposure, molding
		0.4	Operator's exposure, molding and filing mold
		0.3	Operator's exposure, mixing material and molding

Commonwealth of Pennsylvania
Department of Environmental Resources
OCCUPATIONAL HEALTH

Table 1 (continued) Dust Concentrations

General Electric Company
6901 Elmwood Avenue
Philadelphia, Pennsylvania 19142

Location	Dust* (fibers per milliliter of air)	(millions of particles per cubic foot of air)	Remarks
		0.4 0.2	Operator's exposure, cleaning press
		0.1	Operator's exposure, filing mold and sweeping floor
		0.2	General air, no activity
Arc chute milling department	0.1	4.7 0.2	Operator's exposure, cut-off mill
	0.1	0.2 0.5	Operator's exposure, mill No. 5082
	0.2	1.8 1.2 0.6 0.3 0.3	Operator's exposure, mill No. 5043
	0.3	2.4 1.3 0.3 0.2	Operator's exposure, mill No. 5090

*Threshold limit value for asbestos dust, based on exposure for an 8-hour working day - 5 million particles per cubic foot of air

Proposed threshold limit value for asbestos fibers, based on exposure for an 8-hour working day - 5 fibers per milliliter of air, greater than 5 microns in length

H 722.092

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH
OCCUPATIONAL HEALTH

6218

PAGE 1 OF 1
REGION I
DATE COLLECTED 12/8/70
DATE SUBMITTED 12/10/70
DATE RECD IN LAB. 12/14/70

SAMPLE AND LABORATORY REPORT

NAME OF COMPANY: General Electric Co.

ADDRESS: 6901 Elmwood Avenue, Philadelphia, Pa. 19142

PRODUCT MANUFACTURED OR SERVICE	MATERIAL SAMPLED	APPARATUS AND SUCTION SOURCE
Switch Gears	Air	Monitaires
COLLECTED BY	COLLECTION MEDIUM	ANALYSIS DESIRED
Beckett & Senn	SAe Membranes	Asbestos - Fibre Count

OTHER SUBSTANCES PRESENT:

COMMENTS:

SAMPLE NUMBER	SAMPLING LOCATION AND OPERATION	AIR VOLUME m^3	LABORATORY RESULTS Asbestos fibers/ml
I-3551	O.E. Cut-off	0.225	0.13
I-3552	O.E. Milling - 5070	0.143	0.25
I-3553	O.E. Blotter	0.244	0.12
I-3554	O.E. Milling - 5043	0.086	0.16
I-3555	BLANK	----	N.D.*
I-3556	BLANK	----	N.D.*

REPORT OF ANALYSIS

*None Detected

Counted by phase-contrast microscopy
(fibers greater than 5 microns)

F. Bennett ANALYST 12/16/70 DATE CHEMIST

DATE RECD. 12/18/70 DATE MAILED 12/18/70 DATE SUBMITTED TO REQUESTING AGENCY

N 732.802

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH
OCCUPATIONAL HEALTH

6204

File

PAGE 1 OF 1
REGION I
DATE COLLECTED 11-30-70
DATE SUBMITTED 12-7-70
DATE REC'D IN LAB. 12-8-70

SAMPLE AND LABORATORY REPORT

NAME OF COMPANY: General Electric Co.

ADDRESS: 6901 Elmwood Avenue, Philadelphia, Pa. 19142

PRODUCT MANUFACTURED OR SERVICE	MATERIAL SAMPLED	APPARATUS AND SUCTION SOURCE
Switch Gears	Air	Monitaires ~ Gelman ~ MAC
COLLECTED BY	COLLECTION MEDIUM	ANALYSIS DESIRED
Beckett & Liberi	SAC Membranes	Asbestos ~ Fibre Count

OTHER SUBSTANCES PRESENT

COMMENTS

SAMPLE NUMBER	SAMPLING LOCATION AND OPERATION	AIR VOLUME M^3	LABORATORY RESULTS Asbestos fibers/ml
I-3511	O.E. Hydraulic Press Op.	0.367	0.24
I-3512	O.E. " " "	0.307	0.10
I-3513	G.A. ~ 15 ft. from hopper	2.84	0.01
I-3514	G.A. ~ 7 ft. " "	1.05	0.02
I-3515	Blank	—	N.D.*
I-3516	Blank	—	N.D.*

REPORT OF ANALYSIS

*None Detected

Counted by phase-contrast microscopy
(Fibers greater than 5 microns)

ANALYST F. Bennett DATE 12/10/70 CHEMIST D.L.

DATE RECD. 12/11/70 DATE TYPED 12/14/70 jcm DATE SUBMITTED TO REQUESTING AGENCY

FIN-15003 REV. 7/68

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH

File

REGION I

PROD. MFG. OR SERVICE switch gears

FIELD ACTIVITY REPORT

DATE OF ACTIVITY 6/8/70 – 9/4/70

PLANT General Electric Company

ADDRESS 6901 Elmwood Avenue, Phila. | ZIP 19142 | PHONE 215 SA4-1500

PERSON INTERVIEWED Wm. Toohey | TITLE Safety Specialist, Plant M.E.
A.A. Cashmere (letter) 6/8/70

EMPLOYEES MALE FEMALE TOTAL 6000 | IND. CODE 3600 | COUNTY Phila.

PURPOSE: INVEST.; SURVEY; INSPECT.; PRELIM.; E.U.; CONF.; VISIT;

REASON: SELF-INIT.; O.D. REP.; COMPL.; REQUEST. SOURCE

SPECIFIC HAZARD OR CONDITION	WORKERS EXPOSED	RECOMMENDATIONS WRITTEN – – – VERBAL	ACCOMPLISHED YES	NO	IN PROG.
AR	3	(see remarks)			

SAMPLES COLLECTED (NO. & KIND) 4 bulk dust TOTAL 4

DETERM. MADE (NO. & KIND) TOTAL

MEDICAL – O.D. REPORTED, NO. & KIND

PUNCH CARD YES [X] NO [ ] FOLDER YES [X] NO [ ]

REMARKS:

AR forms dated 6/4/70 received on 6/8/70. Unprocessed applications among unfinished work of J.S. reassigned on ~~registration~~ assignment.

Called A. Cashmere of G.E. on 8/20/70 requesting additional information on filter and polishing components. This was received on 9/2/70. It was felt advisable to obtain samples from the dust collector and visit will be made for this purpose.

Addendum – 9/4/70

I.H. visited plant to obtain bulk samples from the collector, after filters and of the compounds used. I.H. also observed the system and determined approximate percentages of each polishing compound used. Comments on the AR system will be delayed until receipt of lab analysis of bulk samples for free silica. Mr. Johnson also showed to I.H. an area where asbestos fibre board is manufactured. He said he has received approval to design a ventilation system for this area. All ventilation will be exhausted to the outside. A visit will be made in 6-8 weeks to determine progress on the design. Manufacturer's bulletin containing performance charts on the Roto-Clone is in the folder. See company letter from Mr. Johnson to Regional office for additional data on the AR unit. Polishing compounds are in use for about 10% of the work. Of this 10%, the percentages of the 4 compounds comprise the following: "XXX White Diamond 2 to 3%; White and red jewelers rouge – 2 to 3%; Emery paste – 1%; Tripoli – 3 to 5%.

BY William Beckett AIH JFZ

MHRS 1.5

COMMONWEALTH OF PENNSYLVANIA — EACH SYSTEM REQUIRES A SEPARATE APPLICATION

606 West Second Street
Erie, Pa. 16507 — OCCUPATIONAL HEALTH

APPLICATION FOR APPROVAL OF AIR RECIRCULATION SYSTEM

TTC-5

DATE 10/23/72

PLANT NAME: General Electric, TTC

ADDRESS: 2901 East Lake Road

CITY AND ZIP CODE: Erie, Pennsylvania 16501

COUNTY: Erie

CONTAMINANTS COLLECTED: Dust from miscellaneous sanding operations on wood, metal, asbestos, or plastic parts.

LOCATION OF AIR RECIRCULATION SYSTEM (PERMANENT, BUILDING, ROOM, ETC.): M & P Laboratory, Building 14-1 Room 140-A

LIST OPERATIONS EXHAUST VENTILATED TO COLLECTOR AND ALL MATERIALS USED IN THESE OPERATIONS

OPERATIONS	MATERIALS USED IN OPERATION (Amount Used Per Month Or Year) (Specific Ingredients)
10 inch belt sander	Wood, plastics, or metals
~~Miscellaneous Sanding Operations~~	

AIR RECIRCULATION SYSTEM INFORMATION

MANUFACTURER OF COLLECTOR: Torit

MODEL NUMBER: 54

TYPE COLLECTOR (Cloth, Cyclone, Disc, Press, Wet, etc.): Cloth

AIR VOLUME RATE OF SYSTEM: 150 CFM

DAILY OPERATION TIME: <1 hour

DIMENSIONS OF ROOM TO WHICH AIR IS RECIRCULATED

LENGTH: 15 FT.

WIDTH: 15 FT.

HEIGHT: 12 FT.

NUMBER OF EMPLOYEES IN THE AREA — FULL TIME: 0; PART TIME: 1

QUANTITY OF MAKE-UP AIR SUPPLIED TO AREA: CFM

LIST SPECIFIC REASONS WHY SYSTEM CANNOT BE EXHAUSTED TO THE OUTSIDE

COLLECTOR EFFICIENCY DATA: Not available

MAINTENANCE PROGRAM (DESCRIBE): Shake filters each day of operations

Empty collector drawer when nearly filled

SOURCE OF MAKE-UP AIR: Room connected permanently to other rooms by two unobstructed doorframes

OTHER EXHAUST VENTILATION SYSTEMS IN THE AREA (DESCRIBE):

ARCHIVES

TITLE: Manager Insulation & Non-Metals Laboratory

SIGNATURE: G. L. Johnson

PHONE: 455-5468

EXTENSION NUMBER: 2398

FOR DEPARTMENTAL USE ONLY

☐ REVIEW REPORT AND RECOMMENDATIONS ON REVERSE SIDE

APPLICATION NO.

REGION	DATE REC'D	BY
COMMITTEE	DATE REC'D	BY
REGION	DATE REC'D	BY
AGENCY NOTIFIED	DATE NOTIFIED	BY

COMMITTEE ACTION: ☐ APPROVED ☒ DISAPPROVED ☐ APPROVED (CONDITIONAL)

CONDITIONS: Disapproved

(USE REVERSE SIDE FOR ADDITIONAL COMMENTS)

ERIE COUNTY DEPARTMENT OF HEALTH

OCCUPATIONAL HEALTH

FIELD ACTIVITY REPORT
(Occupational Health)

File

REGION VI
PROD. MFG. OR SERVICE Transportation Equip.
DATE OF ACTIVITY 3/5/73

PLANT
General Electric Company

ADDRESS	ZIP CODE	TELEPHONE
2901 East Lake Road	16511	455-5466

PERSON INTERVIEWED	TITLE
Hugh McBee	Admin. Mgr. - OSHA

EMPLOYEES MALE	FEMALE	TOTAL 10,500	IND. CODE 36	COUNTY 25

PUNCH CARD YES ☐ NO ☒ | FOLDER YES ☒ NO ☐ | N.E.N. YES ☒ NO ☐

PURPOSE: INVEST.; SURVEY; INSP.; PRELIM.; F.U.; CONF.; VISIT; OTHER

REASON: SELF-INIT.; F.D. REP; COMPL.; REQUEST; SOURCE

SAMPLES COLLECTED (NO. & KIND) N/A TOTAL

DETERM. MADE (NO. & KIND) N/A TOTAL

MEDICAL — G.D. REPORTED, NO. & KIND N/A

RECOMMENDATIONS AND REMARKS

SPECIFIC HAZARD OR CONDITION	WORKERS EXPOSED	RECOMMENDATIONS WRITTEN -- VERBAL	ACCOMPLISHED YES	NO	IN PROG.

McBee requested staff sit in on meeting of management to discuss engineering controls for asbestos exposures in building 24.

All asbestos operations to be moved to one area of building 24 and LEV provided to each operation.

LEV will enter collector - cyclone and bag house outside building.

BY Vogel WINS 2.0

☐ OVER

RIH

February 22, 1973

General Electric Company
2901 East Lake Road
Erie, Pennsylvania 16501

Attention: Mr. Hugh McDee, Jr.
Administrative Mgr. - OSHA

Gentlemen:

This is to acknowledge receipt of your applications for approval of air-recirculation systems A-38 through A-43.

Your applications will be reviewed and you will be notified of our decision.

Your cooperation in this matter is appreciated.

Henry J. Surowiec, Director
Division of Occupational Health

HJS/jw

ERIE COUNTY DEPARTMENT OF HEALTH

OCCUPATIONAL HEALTH

FIELD ACTIVITY REPORT
(Occupational Health)

File

REGION VI
PROD. MFG. OR SERVICE Transportation Equipment
DATE OF ACTIVITY 1/13/73

PLANT
General Electric Corporation

ADDRESS
2901 East Lake Road

ZIP CODE 16511

TELEPHONE 455-5466

PERSON INTERVIEWED
John Smith & Ed Laidlaw

TITLE Chemists

EMPLOYEES
MALE FEMALE TOTAL 10,500

IND. CODE 36

COUNTY 25

PUNCH CARD YES ☐ NO ☒ | FOLDER YES ☒ NO ☐ | N.S.N. YES ☒ NO ☐

PURPOSE: INVEST.; SURVEY; INSP.; PRELIM.; F.U.; CONF.; VISIT; OTHER

REASON: SELF-INIT.; P.O. REP.; COMPL.; REQUEST; SOURCE John Smith

SAMPLES COLLECTED (NO. & KIND) N/A TOTAL

DETERM. MADE (NO & KIND) N/A TOTAL

MEDICAL – O.D. REPORTED, NO. & KIND N/A

RECOMMENDATIONS AND REMARKS

SPECIFIC HAZARD OR CONDITION	WORKERS EXPOSED	RECOMMENDATIONS WRITTEN --- VERBAL	ACCOMPLISHED YES	NO	IN PROG.

John Smith was told to survey G. E. Foundry to evaluate employees exposure to contaminants adversely affecting workers.

John Smith wanted to know what to sample for and how to collect the contaminant.

Discussed potential problems discovered in the foundry during inspection of 1/8/73.

Also discussed the sampling procedures for silica, copper oxide, lead oxide, and zinc oxide, plus carbon monoxide, iron oxide and make-up air conditions.

Smith felt they had the capabilities to analyze samples using their A. A. Unit.

Also discussed who, how long, and where samples should be taken to provide a reliable indicator of workers exposure.

Mr. Smith & Mr. Laidlaw felt they had enough information to begin setting up a sampling program.

BY Surovisc & Vogel WINS 2.0

☐ OVER

RIH

ERIE COUNTY DEPARTMENT OF HEALTH

OCCUPATIONAL HEALTH

FIELD ACTIVITY REPORT
(Occupational Health)

File

REGION VI
PROD. MFG. OR SERVICE Transportation Equip.
DATE OF ACTIVITY 1/8/73

PLANT
General Electric Company

ADDRESS	ZIP CODE	TELEPHONE
2901 East Lake Road	16511	455-5466

PERSON INTERVIEWED	TITLE
Hugh McBee	Admin. Mgr. - OSHA

EMPLOYEES MALE	FEMALE	TOTAL 242	IND. CODE 36	COUNTY 25

PUNCH CARD YES ☐ NO ☒ | FOLDER YES ☒ NO ☐ | N.S.N. YES ☒ NO ☐

PURPOSE: INVEST.; SURVEY; INSP.; PRELIM.; F.U.; CONF.; VISIT; OTHER

REASON: SELF-INIT.; P.O. REP; COMPL.; REQUEST; SOURCE

SAMPLES COLLECTED (NO. & KIND) TOTAL

DETERM. MADE (NO. & KIND) TOTAL

MEDICAL - O.D. REPORTED, NO. & KIND

RECOMMENDATIONS AND REMARKS

SPECIFIC HAZARD OR CONDITION	WORKERS EXPOSED	RECOMMENDATIONS WRITTEN	RECOMMENDATIONS VERBAL	ACCOMPLISHED YES	NO	IN PROG

Foundry division was inspected.

Spot checks for noise showed levels possibly in excess of limit. Tremendous exhaust ventillation system throughout foundry.

No make-up air - negative pressure throughout exhaust system ineffective. John Smith to check copper, lead, zinc oxide and silica throughout foundry.

Follow up activity planned to determine possible Be exposure.

Attached control recommendations for cyanide the result of discovering several areas throughout plant that used acids and cyanides but had no emergency equipment or procedure.

RECEIVED
JAN 10 1973
ERIE COUNTY DEPARTMENT OF HEALTH
BUREAU OF OCCUPATIONAL HEALTH

BY Vogel, Chmielewski WORK 3.9

RH

☐ OVER

6-8-1-Ue 749 FILE

ER 720.002 REV. 4-72

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
OCCUPATIONAL HEALTH

PAGE 1 OF 1
REGION VI
DATE COLLECTED 10/11/72
DATE SUBMITTED
DATE REC'D IN LAB 11/9/72

APP ELEMENT 3601

SAMPLE AND LABORATORY REPORT

COMPANY (Name) General Electric Co. (Address) 2901 East Lake Road Erie, Penna. 16531

PRODUCT MANUFACTURED OR SERVICE	MATERIAL SAMPLED	APPARATUS AND SUCTION SOURCE
Locomotive Equipment	Carbon Arc	Universal Vacuum Pump
COLLECTED BY	COLLECTION MEDIUM	ANALYSIS DESIRED
Smith - Vogel	Membrane Filter	Asbestos

OTHER SUBSTANCES PRESENT

COMMENTS

SAMPLE NUMBER	SAMPLING LOCATION AND OPERATION	AIR VOL	LABORATORY RESULTS — Asbestos fibers > 5 microns
6-2369 6-1994	Operator's Exposure Brazing Table - South Aisle	156.20	0.55
6-2370 6-1995	Operator's Exposure Pipe Sawing - North Aisle	153.72	0.82
6-2371 6-1997	Helper Den - South Aisle	160.24	0.61
6-2372 6-1993	Operator's Exposure Brazing Table - South Aisle	122.30	0.53
6-2373 6-1992	Operator's Exposure Pipe Sawing - North Aisle	117.86	0.94
6-2374 6-1996	Material Man South Aisle	132.77	0.28
6-2375 6-1998	Blank	—	ND *
6-2376 6-1987	Blank	—	ND *

REPORT OF ANALYSIS

Note - Sample numbers changed to conform to Pittsburgh - 1/3/73

* Zero Fibers

Counted by Phase contrast microscopy

ANALYSIS TIME
DATE FINISHED
DATE RECEIVED
ANALYSIS BY
CHIEF, LABORATORY SECTION
DATE TYPED
DATE MAILED

Department of Health
Harrisburg, Pa.

Gentlemen:

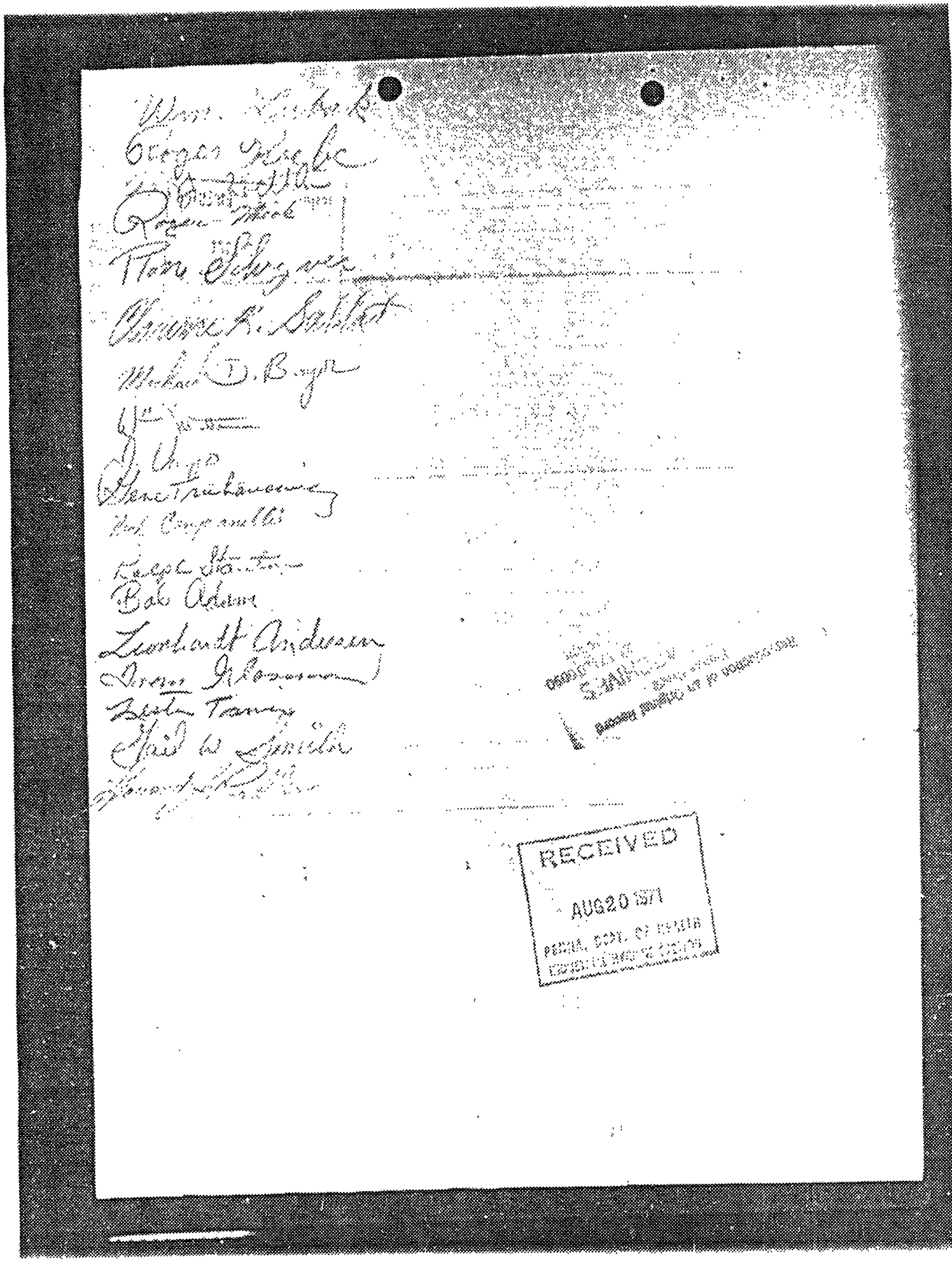
The undersigned employees of Building 63 at the General Electric Company in Erie, Pa. are entering a complaint against working conditions.

During the summer months the temperature in the center bay is merely unbearable. They range from 80 to over 100 degrees depending on the outside temperature. This is due to inadequate exhaust facilities which does not allow the air to circulate.

We have complained to the management several times, but the conditions still exist.

Can anything be done about these conditions?

Yours truly,


RECEIVED
AUG 20 1971

NBW-19155

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH
OCCUPATIONAL HEALTH

EACH SYSTEM REQUIRES SEPARATE APPLICATION

APPLICATION FOR APPROVAL OF AIR RECIRCULATION SYSTEM

DATE Feb. 27 1967

PLANT NAME: General Electric Apparatus Service Shop

ADDRESS: 4930 Buttermilk Hollow Rd., West Mifflin, Pa.

CITY AND ZIP CODE: West Mifflin, Pa. 15122

COUNTY: Allegheny

CONTAMINANTS COLLECTED: Saw Dust

LOCATION OF AIR RECIRCULATION SYSTEM (DEPARTMENT, BUILDING, ROOM, ETC.): Coil Department

LIST OPERATIONS EXHAUST VENTILATED TO COLLECTOR AND ALL MATERIALS USED IN THESE OPERATIONS	
OPERATIONS	MATERIALS USED IN OPERATION (SPECIFIC INGREDIENTS)
Table Saw	Wood, Textolite,
Dotall Saw	Glass Melamine, Oiled Asbestos
Belt Sander	Paper

AIR RECIRCULATION SYSTEM INFORMATION

MANUFACTURER OF COLLECTOR: Agat Manufacturing Co.

MODEL NUMBER: DB-2

TYPE COLLECTOR: Recirculating

AIR VOLUME RATE OF SYSTEM: 900 CFM

DAILY OPERATION TIME: 2 HR.

COLLECTOR EFFICIENCY DATA:

MAINTENANCE PROGRAM (DESCRIBE): Weekly check to clean and empty unless usage greater than normal.

DESCRIPTION OF AREA TO WHICH AIR IS RECIRCULATED

LENGTH	300	FT.
WIDTH	220	FT.
HEIGHT	24	FT.
NUMBER OF EMPLOYEES IN THE AREA — FULL TIME	100	
NUMBER OF EMPLOYEES IN THE AREA — PART TIME		

QUANTITY OF MAKE-UP AIR SUPPLIED TO AREA: 126,000 CFM

SOURCE OF MAKE-UP AIR: Gas-Fired space and unit heaters

LIST SPECIFIC REASONS WHY SYSTEM CANNOT BE EXHAUSTED TO THE OUTSIDE: Keep portable for layout flexibility

OTHER EXHAUST VENTILATION SYSTEMS IN THE AREA (DESCRIBE): 2- Power Roof Ventilators, 5800 CFM each

TITLE	SIGNATURE	PHONE	EXTENSION NUMBER
Mfg. Eng.	[signature]	462-7400	12

FOR DEPARTMENTAL USE ONLY

☐ REGION REPORT AND RECOMMENDATIONS ON REVERSE SIDE

REGION	DATE REC'D	BY
COMMITTEE	DATE REC'D	BY
RED-EM	DATE REC'D	BY
PLANT NOTIFIED	DATE NOTIFIED	BY

COMMITTEE ACTION: ☐ APPROVED ☐ DISAPPROVED ☒ APPROVED (CONDITIONALLY)

CONDITIONS: No exhaust fan.

USE REVERSE SIDE FOR ADDITIONAL COMMENTS

Air Recirculation

Re: General Electric Company - Apparatus Service

Points:

1. The use is very occasional.

2. The mention is made about oiled asbestos paper being used. I telephoned the company. This was used on one particular job and is <u>not</u> a normal operation at this machine or any where else in the plant. They had to produce blocks to be used as fillers.

3. The area is large.

OK PG 3/22/67

OK 73 3/22/67

OK JWK 3/22/67 - no solution

AWT:ms 3/14/67

INVESTIGATION OF HAZARD OF ASBESTOS DUST

GENERAL ELECTRIC CO.

YORK WIRE WORKS

York, Pennsylvania.

July 14, 1937

Allan E. Dooley.
Julia L. Matthews.

Investigation of Asbestos Dust Hazard

General Electric Co.
York, Penna.

Reason for Investigation.

The management of the York Wire Works of the General Electric Company requested the Division of Industrial Hygiene to determine the degree of hazard caused by the use of asbestos in the plant. Installation of an exhaust system had been contemplated to remove dust produced in the braiding operation but a question had arisen concerning whether or not the degree of hazard was sufficient to warrant the proposed installation.

Collection of the Samples.

Samples for the determination of the concentration of asbestos dust were collected by means of the modified form of the impinger dust sampling apparatus[1]. Ninety-five per cent. ethyl alcohol, U. S. P., was used as the collecting medium. The use of alcohol eliminated any clumping of the asbestos particles, a condition which does occur if distilled water is used. The rate of sampling was one cubic foot per minute. All samples were collected in the breathing zone of the workers. Samples were counted within twenty-four hours after collection. A total of fourteen samples were collected at various locations in the plant.

Results.

1. Braiding Department.

There are 25 asbestos braiders in this department, arranged in two rows with an aisle for the operators between the two rows. At the time

(1). Katch, E., Warren, H., and Drinker, P.: Modified Form of the Greenburg-Smith Impinger for Field Use, with a Study of its Operating Characteristics. Jour. Ind. Hyg., Vol. 14, No. 8., October, 1932.

of the investigation a 10-cut yarn was being used on all machines. A total of six samples were collected in the braiding department. The results expressed in particles per cubic foot of air are shown in Table 1.

Table 1.

Sample No.	Location of Sample	Time Started	Cu. ft. Sampled	Particles per cubic foot of air	Date Sampled
1	#22 braider	11:30 A.M.	24.5	382,857	6-29-37
2	do.	1:18 P.M.	30	492,000	do.
3	#3-4 braiders	1:52 P.M.	28	464,827	do.
4	do.	2:34 P.M.	30	504,000	do.
5	#7-8 braiders	10:48 A.M.	26	382,846	6-30-37
6	do.	11:14 A.M.	30	396,000	do.

The average concentration in the braiding department represented by six samples is 470,331 particles per cubic foot of air.

2. Experimental hood on # 24 Braider.

The # 24 braider has been equipped with a hood in an attempt to remove the asbestos lint or "fly" which collects on the braiders during operation. They asked that dust counts be made on this braider in order to determine, if possible, the effectiveness of the exhaust ventilation. Accordingly, during the lunch period when all the other braiders were not operating two samples were collected with the # 24 braider operating. One sample was collected while the exhaust ventilation was shut off and the second one was collected at the same location with the exhaust ventilation turned on. The results are indicated in Table 2.

Table 2.

Sample No.	Time Started	Cu. ft. sampled	Particles per cubic foot of air	Conditions of ventilation	Date Sampled
7	11:57 A.M.	23	801,739	Off	6-30-37
8	12:07 P.M.	26	264,000	On	do.

3. Asbestos Dust Collector.

The management was interested to know the concentration of asbestos dust produced during the daily cleaning of the asbestos dust collector. This work is done during the lunch hour by an employee who sweeps and brushes all asbestos lint and dust from the room into which the asbestos exhaust from the "K" and "M" machines is discharged. The employee wears a respirator while performing this work. The operation requires approximately forty-five minutes per day. One sample was collected and the results shown in Table 3.

Table 3.

Sample No.	Location	Time Started	Cu. ft. Sampled	Particles per cubic foot of air	Date Sampled
11	Dust collector	12:01	14	218,514,283	9-7-37

4. "K" Machines.

Each "K" machine has a small asbestos card which is used to apply a covering of asbestos to the wire prior to application of the halowax. Five samples were collected in the workers breathing zones on a group of these machines in order to determine the concentration of asbestos dust to which the operators were exposed. Results are shown in Table 4.

Table 4.

Sample No.	Location "K" machine No.	Time Started	Cu. ft. Sampled	Particles per particle/air	Date Sampled	Remarks
9	12-13	10:34 A.M.	85	748,686	9-7-37	Hood closed
10	do.	11:01 A.M.	30	563,733	do.	do.
12	21	1:48 P.M.	30	838,400	do.	
13	1-2-3-4	11:23 A.M.	16	1,938,500	9-13-37	Hood opened
14	do.	1:11 P.M.	30	1,172,800	do.	do.

NOTE.

July 14, 1937

Conclusions.

The results of this investigation indicate that the concentrations of asbestos dust at the operations enumerated, with the exception of the work of cleaning the asbestos dust collector, are well below the maximum safe concentration of asbestos dust in air. Studies up to the present time indicate that the maximum safe concentration for asbestos dust lies somewhere between five and ten millions of particles per cubic foot of air.

The installation of exhaust ventilation equipment on the asbestos braiders is unnecessary from an industrial hygiene viewpoint in light of the results obtained in this study.

Recommendations.

410 Commonwealth Bldg.,
May 11, 1937

General Electric Co.,
York Wire Works,
463 S. Albemarle St.,
York, Pa.

Att: Mr. F. R. Kaimer.

Gentlemen:

There will be a little delay in our survey to determine the dust concentrations in the asbestos braiding department of your plant. This delay is due to the fact that our purchase of tax-free ethyl alcohol, which must be used in the determinations, has been held up pending approval of storage facilities by the Bureau of Internal Revenue.

That approval will be issued shortly and just as soon as alcohol is procured, we will commence the study.

We regret this delay, but, as I explained to Mr. Kaimer on my recent visit, rather anticipated it because of the numerous channels through which such a request must travel before final approval.

Yours very truly

Allen K. Dooley, Chemist,
Industrial Hygiene Division.

COPY

GENERAL ELECTRIC

York Wire Works
463 S. Albemarle St.
York, Pennsylvania

Department of Industrial Hygiene
Bureau of Industrial Standards
Harrisburg, Pa.

Gentlemen:

We have recently installed, at our York plant, new equipment for the braiding of asbestos yarn in the manufacture of asbestos insulated wires and cable. This equipment, as supplied by the manufacturer, does not incorporate provisions for exhausting the dust and particles of asbestos fiber which emanate from this operation. We have had under consideration quite recently, the problem of adequately ventilating the area surrounding each braiding machine, in order to remove the suspended particles. However, some question has arisen concerning whether or not the degree of hazard caused by these machines would be sufficient to warrant complete exhausting.

In view of our interest in this problem, we would request and appreciate your consideration of conducting a survey for us, with proper instruments of precision in order to determine by such tests the advisability of carrying out the proposed installation.

As you are already familiar with our plant conditions as a result of former surveys at which the solvent vapors were primarily considered, we would appreciate your further cooperation and advice in the immediate problem we have under consideration.

s/ F. R. Kalmer.

December 29, 1939

Mr. Franklin Keesey
President
York County Industrial Union
Council of the C. I. O.
York, Pennsylvania

Dear Mr. Keesey:

Your letter dated December 12, 1939, requesting information concerning the harmful effects of inhalation of asbestos dust, and information concerning chloronaphthalene and chlorodiphenyls has been referred to this Division for reply.

In recent years the Public Health Service has been studying the possible harmful effects of chlorinated diphenyls. The study has not been completed for publication. However, a similar study has been completed and reported by Dr. Cecil K. Drinker, Department of Physiology, Harvard School of Public Health, Boston, Massachusetts. This article, entitled "The Problem of Possible Systemic Effects From Certain Chlorinated Hydrocarbons", appeared on page 283 of the Journal of Industrial Hygiene and Toxicology in the September issue, 1937. A copy of this article may be obtainable through your public library.

Other references of interest on this subject are:

1. A preliminary report of the dermatological and systemic effects of exposure to hexachloronaphthalene and chlorodiphenyl. W. B. Fulton and J. L. Mathews. Special Bulletin No. 43, Pennsylvania Department of Labor and Industry, Harrisburg, Pennsylvania.

2. Safe Practice Bulletin No. 21 entitled "Insulation of Wire With Synthetic Wax (Chloro Compounds)." Department of Labor and Industry, Harrisburg, Pennsylvania.

3. Flinn, F. B., and Jarvik, M. M.: Proceedings of the Society for Experimental Biology and Medicine, 34, 118 (1936).

4. The halogenated hydrocarbons, their toxicity and potential dangers. W. F. von Oettingen, Journal of Industrial Hygiene, 19, 349, October 1937.

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4. The halogenated hydrocarbons, their toxicity and potential dangers. W. F. von Oettingen, Journal of Industrial Hygiene, 19, 349, October 1937.

AHG

5. Toxicity of Halowax and chlorinated napthalene. Journal American Medical Association, 109, 1286. October 23, 1937.

This Division has recently reported a study of the effects of asbestos dust upon the health of workers in the textile industry. I am sending a copy of this report under separate cover.

With regard to your request for the services of a federal chemist or pathologist, I regret to advise that we are not prepared at this time for this work. Furthermore, this work is within the province of the State officers. It is suggested that you communicate with Dr. William B. Fulton, Director of the Division of Industrial Hygiene, State Department of Health, Harrisburg, Pennsylvania, as his department is engaged in this type of work.

If this Division can be of any further assistance in any way, we shall be glad to hear from you again.

Very truly yours,

R. R. Sayers, Senior Surgeon
Chief, Division of Industrial Hygiene
National Institute of Health

CC: Dr. Fulton
RRS/BB

July 9, 1965

Inspection of General Electric Company
Valley Forge Space Technology Center

Through: Chief
Industrial Hygiene Section

Leon T. Gonshor
Regional Industrial Hygienist
Region VII

P. G. Rentos
Industrial Hygienist III
Division of Occupational Health

Attached is the eleventh installment of the above inspection.

PGR:hl

Attachment

OPERATION	HAZARD	CONTROL
M - 9425	SPACE STRUCTURES LABORATORY	

Nondestructive structural testing of epoxy resin, Fiberglas or plastic granular filled composites. A hydraulic Materials Testing System, Servo-Hydraulic Load Frame (100,000 lbs. pressure) is used for this purpose.

Potting of miniature electronic components	Methyl anhydride Resorcinal diglycidylether A-Aminopropyltriethoxy salane NEMA Epon Resin #826 Shell Chemical Co. New York, N. Y. Mold Release #225 Ram Chemicals, Inc. P. O. Box 192 Gardena, California Tetrahydrofurane Dermatitis	General ventilation Disposable protective gloves Hand creams
Sealing and mold casting electric 160° F.	Babbit metal fumes Carretrn metal fumes	Exhaust hood Occasional and intermittent operation
Ball mill and Manual asbestos grinding	Crocidolite asbestos dust	General ventilation Enclosed unit Wet operation Small quantity Intermittent and occasional exposure

Recommendation: Improve housekeeping at the epoxy resin mixing area. Potting operations should be conducted under the exhaust hood where possible.

The manual grinding of asbestos should be conducted within the exhaust hood.

BUILDING - 1 (GC & F)

Radiation Laboratory

The degradation of electronic equipment parts as a result of neutron bombardment is studied. Electronic equipment and parts are placed within reactors elsewhere (Nevada), irradiated and shipped radioactive to the laboratory where they are disassembled and studied.

The Radiation Laboratory is divided into two areas: Electronic Components and Sensor Development.

COMMONWEALTH OF PENNSYLVANIA

996 South Main Street
Meadville, Pennsylvania
March 23, 1965

SUBJECT: General Electric Surveys
Erie

TO: F. G. Rentos
Industrial Hygienist III

FROM: J. A. Pierro
Industrial Hygienist
Region III

Thru: Regional Industrial Hygienist

Below is a list of the surveys planned for General Electric. The areas marked with a (*) have already been surveyed.

Carbon Monoxide	Building 2	Rotor Barrel & Magnetic Section
	Building 6	Commutator Assembly Area
	Building 13	Core Assembly Area, Bay-B
Noise	Building 5	Engine Cab Area
	Building 6	Commutator Assembly Area Sec. 64647
	*Building 6	Armature Spin Test
	*Building 10E	Control Test & Development
	Building 13	Core Assembly Area Bay-B
	Building 17	Armature Coil Area
	Building 26	Motor Test & Development
	Building 64	Aerospace Section Bay-C
	Building 64	Aerospace Section Generator Test Area
Iron Oxide Fumes	Building 5	Welded Components
Asbestos	Building 6	Mixing Insulation Pastes
O-chlorobenzene	Building 18	Bay-E
Beryllium & Copper	Building 64	Aerospace Section Bay-A
Copper (Ozone-Oxides of Nitrogen)	*Building 6	Generator Armature Test Spin Area
Lead	*Building 6	Generator Armature Test Spin Area

JAP:sah

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH
#12 DIVISION OF OCCUPATIONAL HEALTH

PLANT INFORMATION RECORD
STOCK NO. 5282.3

PLANT: General Electric Corporation
General Plant Foundry Division, Building # 22

ADDRESS: 2901 East Lake Road

Erie, Pennsylvania,

PRODUCT OR SERVICE: Brass, beryllium copper, aluminum copper, malleable iron and steel and aluminum castings

PERSON INTERVIEWED: Carl Gorny, Employee Relations and Safety Director

DIVISION: R. D. Rutter, M.D.

DENTIST: None

NURSE: *Alice Manning, R.N.

SAFETY SUPERVISOR: Carl Gorny

INDUSTRIAL HYGIENIST: A. J. DeSorbo, Schenectady, N.Y.

INSURANCE CARRIER: Electrical Mutual Insurance Company

LEGAL OWNER: Corporation

RECOMMENDATIONS: Ear plugs should be worn at all high-level noise operations.

REMARKS: *Staff of five nurses.

Employees receive annual chest X-ray.

Dust survey conducted annually by G.E. industrial hygiene facilities. Surveyed for radiation 6/17/58; dust, metallic oxide fumes and carbon monoxide 9/15/59.

The following alloys of copper, aluminum and beryllium are handled occasionally:

Brass	Aluminum, beryllium alloy
B11 C25H, Be .45 - .75 per cent	1 ounce of Be per 100 lbs of new metal (aluminum)
B50H61, Be .35 - .50 per cent	

"C" Inspection DATE Sept. 10, 1964 BY P.G. Benton & J. Pierro

OPERATION	HAZARD	CONTROL MEASURE
Sand Preparation Area ~ Basement		
Binning sand	Silica dust	General ventilation Approved respirator American Optical Intermittent operation (2-3 hrs. per 8 hr. day)
Preparation of core mix	Silica dust	Enclosed operation
	Corn starch	Exhaust ventilation
	Mogul Cereal Binder B242	
	Mogul Cereal Binder Co1	
	New York, N.Y.	
	Dextrose dust	
	Globe Drextose Co.	
	Corn Products Co.	
	New York, N.Y.	
	Sodium silicate dust	
	Kerosene vapors	
	Korbond FB-300 Corn Oil	
	United Oil Manufacturing Co.	
	Erie, Pa.	
Core Room		
Bench core manufacture (8 stations) (CO_2 is used to harden core)	Silica dust	General ventilation
	Lack of oxygen	Sand is damp
	Carbon Dioxide	
Blower core manufacture (6 stations)	Silica dust	General ventilation Sand is damp
Core baking (gas fired ovens 400-450° F.)	Conductive heat	Ovens are exhausted locally.
	CarbonMonoxide	
	Kerosene vapors	
	Decomposition products	
Core packing	Silica dust	General ventilation Sand is damp
Core pasting	Lyquagrip Core Paste Whitehead Brothers Co. 75 Westminster St. Providence, R.I.	General ventilation Small quantities Brush application Personal hygiene
	Dermatitis	
	Graphite Dust	
	Talc dust	
Roll-out core machine	Silica dust	General ventilation Sand is damp.

CONTINUED ON SUBSEQUENT PAGES

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH
DIVISION OF OCCUPATIONAL HEALTH

PLANT INFORMATION RECORD

STOCK NO. 52683

PLANT General Electric Corporation, Bldg. #64
D. C. Motor & Generator Division

ADDRESS 2901 East Lake Road
Erie, Pennsylvania

PRODUCT OR SERVICE Electric Motors and Generators

PERSON INTERVIEWED Carl Salzer, Safety Specialist and Personnel Mgr.

PHYSICIAN R. D. Nutter, M.D.

DENTIST None

NURSE Alice Manning, R.N.
Staff of five nurses

SAFETY SUPERVISOR Carl Salzer

INDUSTRIAL HYGIENIST None

INSURANCE CARRIER Electric Mutual Insurance Co.

LEGAL OWNER Corporation

RECOMMENDATIONS None

REMARKS ~~D. C. generators and electric motors are fabricated and assembled. Many of the operations require handling of epoxies. Radiation survey conducted 6-12-58.~~

TYPE OF VISIT Inspection DATE August 11, 1964 BY [illegible]

LIST HAZARDS AND CONTROL MEASURES ON REVERSE SIDE

Operation	Hazard	Control Measure
Applying epoxy resin to rotters	Epoxy resin vapors	Local exhaust ventilation
Commutator turning	Copper dust Mica dust Dermatitis	Local exhaust ventilation Personal hygiene Hand creams
Aerospace - model shop Applying epoxy resin to commutator components	Epoxy resin vapors	Local exhaust ventilation
Baking of epoxy dipped components electric oven 400°F.	Epoxy resin fumes	Local exhaust ventilation
Cleaning of metal parts	Xylene vapors Dermatitis	General ventilation Personal hygiene Hand creams
Heavy machining turret lathes bores grinders mills drills hacks	Steel alloy dust Copper dust Soluble & insoluble cutting oils Dermatitis Carborundum dust	General ventilation Personal hygiene Skin creams
Welding oxyacetylene electric arc inert gas (Argon)	Iron oxide fume Intense visible light Ultraviolet & infrared radiation Carbon monoxide Ozone Lack of oxygen	General ventilation Helmet Goggles
Motor cleaning	Naphtha vapors Dermatitis	General ventilation Closed unit Brush
Aerospace assembly area Light machining lathe mill drill band saw cross cut	Bay-D Mica dust Mineral wool dust Plastic dust	Local exhaust ventilation to bag collector (re-circulates air)

Operation	Hazard	Control measure
Machining boiler plates turret lathes mills bores drills	Iron oxide dust	General ventilation
Inspecting Metallic components Magnus Mja-Lif	Kelite Spray White Mist Los Angeles, Calif. Kerosene vapors Dermatitis	General ventilation Occasional operation Personal hygiene
Paint spraying boiler plates	Paint pigment mist Xylene vapors mist Dermatitis	Local exhaust ventilation Personal hygiene Hand creams
Paint drying boiler plates Gas oven 260°F.	Paint pigment fumes Xylene vapors Carbon monoxide Conductive heat	Local exhaust ventilation
Shaft machining area Machining motor shafts mills lathes	Iron oxide dust Soluble oil Dermatitis	General ventilation Hand creams Personal hygiene
Shaft grinding	Iron oxide dust Carborundum dust	General ventilation
Field core area Field coil winding	Epoxy vapor Thinner vapors G.E.Spec.9424 Dermatitis	General ventilation Hand cream Personal hygiene
Winding leads	Mineral wool dust Asbestos dust Dermatitis	General ventilation Small quantity Occasional operation Personal hygiene Hand cream
Brazing wire leads	Zinc, Tin, Copper oxide fume HCL	General ventilation
Core winding (soldering)	Lead Tin oxide fume HCL	General ventilation

COMMONWEALTH OF PENNSYLVANIA
#9 DEPARTMENT OF HEALTH
DIVISION OF OCCUPATIONAL HEALTH

PLANT INFORMATION RECORD
STOCK No. 3388.5

PLANT: General Electric Corporation
Locomotive and Car Equipment Manufacturing
Building # 6

ADDRESS: 2901 East Lake Road
Erie, Pennsylvania

PRODUCT OR SERVICE: Locomotive and locomotive components

PERSON INTERVIEWED: Dick Morane, Safety Specialist

PHYSICIAN: R. B. Nutter, M.D.

DENTIST: None

NURSE: *Alice Manning, R.N.

SAFETY SUPERVISOR: Dick Morane

INDUSTRIAL HYGIENIST: None

INSURANCE CARRIER: Electric Mutual Insurance Company

LEGAL STATUS: Corporation

RECOMMENDATIONS: Improve housekeeping and exercise care to avoid spillage of cyanide salts in the work area.

Remove the mechanical obstruction from the exhaust hood in the operation involving the fabrication of field coil insulation

REMARKS: * Staff of five nurses

Inspection DATE: September 2, 1964 BY: P. G. Rentos & J. Pierro

SEE HAZARDS AND CONTROL MEASURES ON REVERSE SIDE

OPERATION	HAZARD	CONTROL MEASURE
Commutator Testing Bay-C (Sections # 9, 10)		
Spinning commutators	Noise	Operation to be further evaluated
Four commutators were spinning at the time of visit. May run as many as ten. The noise is continuous. Four shifts of workers are exposed. No ear plugs worn.		
Coil Forming Area		
Coil winding	Mica dust Fiberglas dust Dermatitis	General ventilation Personal hygiene Hand creams are available
Equilizer assembly	Epoxy resin vapors Cardolite Resin NC-513 (catalyst) vapors 3-M Chemical Co. St. Paul, Minnesota Hysol Hardner HZ-3416 vapors Hysol Corporation Olean, N.Y. Dermatitis	General ventilation Hand Creams are available Personal hygiene
Wire cutting	Copper dust	General ventilation
Wire brushing	Wire stripping compound vapors G.E. Spec. #306 Dermatitis	General ventilation Personal hygiene Hand creams are available
Wire cleaning steam heat	Nitric acid Silver cyanide Dermatitis	Local exhaust ventilation Goggles Rubber aprons and gloves
Mixing silver and sodium cyanide pellets gas fired pot	HCN CO	Local exhaust ventilated hood Occasional operation (Mixing one hour every two weeks) Amylnitrate ampules
Operation is sloppily conducted resulting in spillage of cyanide pellets Acid cleaning tanks in vicinity increase the hazard potential.		
Lead loop winding	Mineral wood dust Dermatitis	General ventilation Hand creams Personal hygiene
Holding armature coils (varnish application)	Acetone vapors Dermatitis	General ventilation Personal hygiene Hand creams

CONTINUED ON SUBSEQUENT PAGE

Operation	Hazard	Control Measure
During varnished armature coils electric fired ovens (6) 200°F.	Acetone vapor Varnish fume	General ventilation
Wrapping ground insulation (shellac and varnish application)	Acetone vapors Isopropyl alcohol vapors Mica dust Fiberglas dust Dermatitis	General ventilation Personal hygiene Hand creams
Machine taping of wire (automatic unit)	Fiberglas dust Mica dust Dermatitis	General ventilation Hand creams Personal hygiene
Dip room Dipping armature coils into varnish	Toluol vapor GE Spec. 1514 Solvent vapors	Local exhaust ventilation Intermittent operation Occasional operation (3 hrs. per week)
Winding and cleaning stator coils	Mica dust Toluol vapors Dermatitis	General ventilation Personal hygiene Hand creams
Mechanical wire wrapping (automatic machine)	Toluol vapor Mica dust Mineral wool dust Dermatitis	General ventilation Personal hygiene Hand creams
Fabricating insulation for field coils	Mineral wool dust Ethylene dichloride vapors Epoxy resin vapors Boron trichloride dust Formuar 7/70E vapors Shawinigan Resin Corp. Springfield 1, Mass. Araldite No. 772 vapors Dermatitis	Exhaust hood ventilation (hood is mechanically constructed) Intermittent operation Most chemicals are used in small quantities Impervious rubber gloves
Drying of fabricated field coil insulation	Solvent vapors (as above) Epoxy resin fumes	General ventilation
Dye mixing & impregnation of Fiberglas rolls (operation is conducted under vacuum)	Mineral wool dust Toluol vapors Isopropyl alcohol vapors G.E. Spec. 2311 Dye dust Dermatitis	Exhaust ventilation Impervious gloves

Operation	Hazard	Control Measure
Armature wedge manufacturing	Textolite dust G.E.Spec. AI9B52A2 G.E. Spec. 115A Melamine dust G.E. Spec. AI9B23A1 G.E. Spec. 11508-B	Local exhaust ventilation
Cutting u-piece asbestos	Asbestos dust	Local exhaust ventilation
Molding & curing Fiberglas mats electrically heated oven 200°F.	Varnish fumes Isopropyl alcohol vapors	General ventilation
Shearing Fiberglas & mica mats	Mineral wool dust Mica dust Dermatitis	General ventilation Personal hygiene Hand cream
Cutting mica drills (3) rip saws	Mica dust	Local exhaust ventilation
Laminating mica on Fiberglas	Mineral wool dust Mica dust Methyl ethyl ketone vapor Glue vapor G.E. Spec. Sterling 620 glue Dermatitis	Local exhaust ventilation Personal hygiene Hand creams
Fabricating silicone & Fiberglas mats	Toluol vapors Mineral wool dust Dermatitis	Local exhaust ventilation Personal hygiene Hand creams
Curing fabricated silicone & Fiberglas mats electric heated oven 200 ~ 290°F.	Varnish fumes Toluol vapors	Local exhaust ventilation
Dusting silicone and Fiberglas mats prior to laminating	Pumice dust	General ventilation Intermittent operation
Field coil winding area		
Field coil winding (silver soldering)	Copper dust Zinc, Tin, Copper Silver oxide fume	General ventilation Silver soldering is an occasional operation

Operation	Hazard	Control Measure
#598 Generator coil winding & insulating	Epoxy resin vapors G.E. Spec. X4J051 (Catylst vapors) Toluol vapors Isopropyl alcohol vapors	Brush application Personal hygiene Hand creams
	G.E. Spec. 80SM Permafil Dermatitis Zinc Tin Copper Silver oxide fume	Silver soldering on generator coils is done intermittently
Molding & baking generator coils electric heated oven 175°C.	Varnish fumes Toluol vapors G.E. Spec. S-x114 (Fluorocarbon release) vapors	General ventilation
Generator coil winding (heat lamps for drying)	Mineral wool dust Varnish fumes Toluol vapors Dermatitis Infrared radiation	General ventilation Personal hygiene Hand creams
Cleaning generator coils	Oakite liquid detergent Dermatitis	Personal hygiene Hand creams
Induction brazing	Copper oxide fumes Zinc oxide fumes Tin oxide fumes	General ventilation Intermittent operation
Annealing armature bars gas fired furnace	Conductive heat Carbon monoxide	General ventilation
Wrapping field coils Dipping field coils into varnish	Toluol vapors Dermatitis	General ventilation Personal hygiene Hand creams
Baking dipped field coils electric fired oven 140°F.	Toluol vapors Varnish fumes	General ventilation
Manual cleaning of field coil terminals (motor driven wire brush)	Varnish dust Copper oxide dust	General ventilation
Impregnating fieldcoils with varnish (100 lbs. air pressure)	Toluol vapors Solvassol vapors	General ventilation Enclosed operation

Operation	Hazard	Control Measure
Curing impregnated field coils electric fired oven 160°F.	Varnish fumes Toluol vapors Conductive heat	Local exhaust ventilation
*Asbestos putty mixing	Asbestos dust Talc dust Silica flour dust Varnish solvent vapors Boron trifluoride dust (hardener) Butyl perbenzoate vapors (catalyst)	General ventilation Intermittent operation Occasional operation (maximum 2 hours per day for mixing)
Wrapping field coils	Mineral wool dust Epoxy resin vapors 111 - Trichloroethane vapors Dermatitis	General ventilation Personal hygiene Hand creams
Brazing field coil leads (silver solder)	Zinc Tin Copper Silver oxide fumes Borax flux fumes	General ventilation
Machining field coils drills mills	Copper dust	General ventilation
Dipping field coils into shellac	Isopropyl alcohol Dermatitis	General ventilation Personal hygiene Hand creams
Removing asbestos from field coils	Asbestos dust	Local exhaust ventilation
Cables, Terminals, Bus Rings, Wire Processing Rolling & extruding copper strip (resistance welding)	Copper oxide fumes Soluble cutting oils Dermatitis	General ventilation Intermittent operation Personal hygiene Hand creams
Strip annealing electric fired oven 550°F.	Conductive heat	Local exhaust ventilation

*This operation is to be relocated and will incorporate exhaust ventilation. The operation is to be further evaluated. Boron trifluoride and butyl perbenzoate are used in very small quantities.

Operation	Hazard	Control Measure
Coil forming machine	Copper dust	General ventilation
	Insoluble cutting oils	Personal hygiene
	Dermatitis	Hand creams
Machine wire insulating	Toluol vapors	Local exhaust ventilatio
	Mineral wool dust	
	Dermatitis	
Drying of insulated wire electrical furnace N heated 325°F.	Toluol vapors	General ventilation
	Varnish fumes	
	Conductive heat	
Impregnating fieldcoils (100 lbs. air pressure)	Toluol vapors	General ventilation
	Solvasso vapors	Enclosed operation
Curing impregnated field coils electrically heated oven 106°F.	Conductive heat	Local exhaust ventilation
	Toluol vapors	
	Varnish fumes	
Wire terminal area		
Stripping plastic from terminals	Plastic dust	General ventilation
	Steel alloy dust	
Silver soldering	Zinc	Local exhaust ventilation
	Tin	
	Copper	
	Silver oxide fumes	
	Borax Flux fumes	
Terminal cutting rip saw	Copper dust	General ventilation
Resistance welding on terminals	Copper fumes	Local exhaust ventilation
Sanding terminals belt sander	Copper dust	Local exhaust ventilation
	Carborundum dust	
Silver plating	Nitric acid	Local exhaust ventilation
	Silver + cyanide	Gloves
	Dermatitis	Amyl nitrite ampules are available
Tinning field coils	Lead oxide fume	Local exhaust ventilation
	Tin oxide fume	
	Soldering flux fumes G.E. Spec. 81083	

Operation	Hazard	Control Measure
Coil Winding	Mineral wool dust Dermatitis	General ventilation Hand creams Personal hygiene
Paint dipping coils	Solvasso thinner vapors	General ventilation
Commutator assembly area		
Machining commutators rip saw mill	Copper dust	General ventilation
Brazing on commutators	Copper Zinc Tin Copper Silver oxide fume Flux fume G.E. Spec. 81083	Local exhaust ventilation
Commutator turning vertical boring mills (2) lathes (4)	Mica dust Copper dust	Local exhaust ventilation
Curing commutators electrically heated ovens 140 - 210°C.	Conductive heat	General ventilation
Cutting commutator components (punch press)	Copper dust	General ventilation Personal hygiene Hand creams
Paint spraying	Paint pigment mist Toluol vapors	Local exhaust ventilating hood
Descaling metal components steam heated unit	Kelite - 3360 (sodium hydroxide) Dermatitis	Local exhaust hood ventilation Mechanical operation Limited exposure
Punch Press area Cutting metallic components punch presses (28)	Mild steel dust Noise	General ventilation Intermittent exposure
Light machining lathes drills punches V & O Automatic punch press	Mild steel dust Noise	General ventilation Intermittent exposure

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH
#5 DIVISION OF OCCUPATIONAL HEALTH

PLANT INFORMATION RECORD
Stock No. 5268.J

PLANT: General Electric Corporation
Locomotive and Car Equipment Manufacturing
Building No. (24)

ADDRESS: 2901 East Lake Road
Erie, Pennsylvania

PRODUCT OR SERVICE: Locomotive and locomotive components

PERSON INTERVIEWED: Dick Morane, Safety Specialist

PHYSICIAN: R. D. Nutter, M.D.

DENTIST: None

NURSE: *Alice Manning, R.N.

RECEIVED
MAR 23 1964

SAFETY SUPERVISOR: Dick Morane

INDUSTRIAL HYGIENIST: None

INSURANCE CARRIER: Electric Mutual Insurance Co.

LEGAL OWNER: Corporation

RECOMMENDATIONS:

REMARKS: *Staff of five nurses.

TYPE OF VISIT: Inspection DATE: August 19, 1964 BY: P.G.Rentos & J. Pierro

SEE HAZARDS AND CONTROL MEASURES ON REVERSE SIDE

OPERATION	HAZARD	CONTROL MEASURE
Compartment Assembly		
Welding	Iron oxide fume	General ventilation
electric arc	Intense visible light	Helmet
	Ultraviolet and	
Sigmatic welding	infrared radiation	
(CO_2 A)	Carbon monoxide	
	Ozone	
	Oxides of nitrogen	
	Lack of oxygen	
Grinding	Carborundum dust	Local exhaust ventilation
	Steel alloy dust	
Compound Molding Room		
Compression molding	Phenolic resin fumes	General ventilation
electric heated unit	Asbestos dust	Small quantities
250° F.	Mica dust	Intermittent operation
Mixing Room		
Mixing G.E.Spec #91	Lime dust	Enclosed room
Compound	G.E.Spec. "Silex	Local exhaust ventilation
	Diamond" dust	Occasional operation
	Asbestos dust	(2-3 hrs. per week.)
Curing Asbestos mixutre	Conductive heat	Local exhaust ventilation
steam heated unit, 325°C.	Asbestos dust	
Grinding of asbestos	Asbestos dust	Local exhaust ventilation
molded units		

73

Cooler than you're going to be [illegible] ever!

996 South Main Street
Meadville, Pennsylvania
October 27, 1964

R. B. Nutter, M.D.
Supervising Physician
Health & Hygiene Subsection
General Electric Company
2901 East Lake Road
Erie, Pennsylvania

Dear Doctor Nutter:

Pursuant to our recent plant evaluation, we are submitting to you a detailed analysis of our findings. At your request, this information is broken down as to building and further subdivided with regard to location and operation.

Before continuing further, we wish to thank you and your safety representatives for the courtesy and cooperation received. We also wish to acknowledge the assistance of Miss Childs, whose efficient scheduling aided in expediting our activities.

The comments which appear under remarks are not intended to be unduly critical. We simply wish to indicate to you certain problem areas requiring greater consideration by your safety personnel. In most instances, each point was individually discussed with the responsible safety representative and, quite often, the situation was immediately remedied.

In most cases control measures and personal protective devices are available. The use and maintenance of the latter, however, should be more strongly enforced. In this regard special emphasis should be given to operations where high noise levels are generated. Where noise control cannot be effected by other means, the use of ear protective devices should be mandatory. Greater supervision should also be given to operations requiring the handling of epoxy resins. The use of impervious protective clothing and gloves should be obligatory in order to preclude the possibility of contact dermatitis.

Many chemicals of various descriptions are used throughout the plant. In most instances, these are stored in containers which are inadequately labeled. As a result, the employee may be unaware of the toxicity of the material he is handling. Chapter 4, Article 432, Section 9 of the Rules and Regulations for the Department of Health requires that all containers of hazardous chemicals be appropriately identified and labeled.

Additionally, several operations are supplied with local exhaust ventilating equipment designed to recirculate the effluent air. This procedure requires the approval by the Department of Health. The Department should be consulted prior to new installations.

Thank you once again for your assistance, and we shall call upon you with regard to conducting several engineering studies, the locations of which appear in the addendum to this report. Copies of Article 432 as amended, are enclosed for distribution to safety personnel.

Very truly yours,

H. J. Suroviec
Regional Industrial Hygienist
Region III

HJS:sah

enclosures

7. LOCATION: Insulation Department - Fourth Floor

OPERATION: Asbestos putty mixing

REMARKS: This operation is to be relocated on second floor. Several chemicals of high toxicity are handled intermittently without mechanical exhaust ventilation. Until such time as additional studies are conducted, it is suggested that the workers be supplied with a U. S. Bureau of Mines approved dust respirator.

The new installation should incorporate engineering measures to control contaminant dispersion.

8. LOCATION: Field Coil Winding Area - Third Floor

OPERATION: Field coil terminal cleaning

REMARKS: The operator's position should be adjusted so as to make maximum use of the present exhaust system. The piling of equipment in front of the exhaust should be avoided as this acts to reduce its efficiency of collection.

9. LOCATION: Cables, Terminals, Bus Rings - First Floor

OPERATION: Sanding terminals

REMARKS: The exhaust system on the belt sander does not appear to be working effectively. The system should be checked for cleanliness or need of repair.

10. LOCATION: Shafts and Keys Section 64642 Transportation Motor Assembly Area

OPERATION: Spray painting of metallic components

REMARKS: The respirator worn by the worker was unapproved. If the use of a respirator in this operation is to be continued, the worker should be supplied with one approved by the U. S. Bureau of Mines for organic vapors.

The local exhaust hood does not appear to be working effectively. It may require maintenance or cleaning.

11. LOCATION: Shafts and Keys Section 64642 Transportation Motor Assembly Area

OPERATION: Fan blade testing

REMARKS: Employees are intermittently exposed to high levels of noise. Ear plugs are provided but not worn.

12. LOCATION: Railway Generator Armature Spin Test Section 64633

OPERATION: TIG welding commutators

REMARKS: We wish to further evaluate exposures to copper oxide fume during this operation.

Jane O Paid

To file

COMMONWEALTH OF PENNSYLVANIA
996 South Main Street
Meadville, Pennsylvania
September 14, 1959

SEP 15 1959

SUBJECT: Occupational Diseases
(Adele A. Putman
General Electric, Erie, Pa.)

TO: Jan Lieben, Director
Division of Occupational Health

Thru: E. J. Baier, Chief
Industrial Hygiene Section
Division of Occupational Health

FROM: J. W. Knauber
Regional Industrial Hygienist
Region III

This woman was employed at the same operation, a field coil repair, for 13 years. During this period, she was exposed to woven glass tape, mica tape, various resins and glues, and epoxy resins. Early this spring she developed a rash on her arms. At the time of this rash, there was no lost working time. However, she was referred to a dermatologist located in Erie, Dr. Marus. Dr. Marus' original diagnosis was that this was not an industrial dermatitis.

On June 23, 1959, the dermatitis re-occurred and the woman was off work from June 23 through July 20, 1959; this included her regular 2 weeks paid vacation. She reported back to work on July 20th and, late that same day, was reported off sick, due to her dermatitis, by Dr. Nutter, Plant Medical Doctor. Dr. Nutter stated that the dermatitis had cleared and that she was physically able to resume work on August 3, 1959. However, both Dr. Nutter and Dr. Marus are definately against her resuming her previous job, and she is presently laid off from work pending the re-hiring in another job in which she will not be exposed to the causative agent.

Dr. Nutter stated that Dr. Marus performed patch tests some time between June 23 and July 20, 1959, and that the causative agent of dermatitis was a putty used as a filler in the field coil manufacture. The putty consists of asbestos, oil and an alcohol thinner. The composition of the oil, if needed, can be determined by contacting the General Electric, Schenectady office.

JWK/rh

Was this C.D. investigation requested

Where are recommendations?

Commonwealth of Pennsylvania
Department of Health

B U R E A U O F I N D U S T R I A L H Y G I E N E

Report of Survey

General Electric Company
2501 East Lake Road
Erie, Pennsylvania

On January 14, 1954, in response to a request from Mr. H. A. Weber, safety director, a survey was conducted in the wood shop of General Electric Company, to determine the exposure of employees to asbestos dust. Mr. C. D. Kauffman, foreman of the department, was present during the survey.

RECOMMENDATIONS

None.

DETAILED FINDINGS

This department was engaged in the processing of asbestos board. The equipment consisted of saws, drill presses, a sanding wheel, and a Pantograph. All the equipment was exhaust ventilated and, as the accompanying table indicates, no concentration exceeded the maximum allowable limit of 5 million particles per cubic foot of air.

Housekeeping in this department was good.

South	4.20 2.30
Sanding wheel	4.40
Pantograph	0.04

*Maximum allowable limit = 6 million particles per cubic foot of air

Survey by -

C. F. Hennessy
District Industrial Hygienist

W. G. Reiser
Jr. Asst. Ind. Hygienist

January 20, 1954

KWisorh

Commonwealth of Pennsylvania
Department of Health
BUREAU OF INDUSTRIAL HYGIENE

Table 1 Asbestos Dust

General Electric Company
2901 East Lake Road
Erie, Pennsylvania

Location	Asbestos* (millions of particles per cubic foot of air)
Saw	
East	2.60
	2.30
West	0.80
Drill press	
North	3.00
	2.80

Commonwealth of Pennsylvania
Department of Health

BUREAU OF INDUSTRIAL HYGIENE

Report of Investigation

General Electric Company
(Building 24)
East Lake Road
Erie, Pennsylvania
April 12, 1951

This investigation was made at the request of Mr. H. A. Weber, director of safety.

RECOMMENDATIONS

1. Adjust or redesign exhaust ventilation at drill presses, G. E. Cat. Nos. 17646, 17538, 14866, and band saw No. 7134 to reduce respirable air-borne asbestos dust to less than 5 million particles per cubic foot of air.

DETAILED FINDINGS

Air samples were obtained at several machines to determine concentration of dust in the breathing zone during work on asbestos board. The machines involved were multiple drill presses, G. E. Cat. Nos. 17646, 17538, 14866, and a band saw No. 7134. No investigation was made on machines in the compound molding room owing to production reasons.

Findings are given in Table 1. In most cases the quantities of dust exceeded the amounts recommended for continuous exposure. One exception occurred with the drilling of small, thin asbestos pieces at press, G. E. Cat. No. 14866. However, it is doubtful if such results could be obtained with larger work.

All of the drill presses were equipped with an exhaust system composed of a single flexible hose and hood, which could be moved from point to point. However, it appeared to be impractical where it was necessary to use several of the drills of any one press on the same asbestos piece.

The band saw was also provided with exhaust ventilation which, as shown by findings, did not reduce respirable air-borne dust to work-day limits.

In view of the findings it is recommended that adjustments be made in ventilation as needed to provide positive reduction in dust concentration at the various machines to below recommended limits. It is felt that this is particularly desirable at the drill presses, where failure to properly utilize the present flexible system could produce greater air-borne concentration than found during investigation.

Investigation by:

P. N. McDaniel
Senior Industrial Hygienist

W. G. Reiser
Jr. Ass't Industrial Hygienist

Commonwealth of Pennsylvania
Department of Health
BUREAU OF INDUSTRIAL HYGIENE

Table 1

Dust Concentrations

General Electric Company
(Building 24)
East Lake Road
Erie, Pennsylvania

Location (Building 24)	Millions of dust particles* per cubic foot of air	Remarks
Drill Press (G. E. Cat. #17648)	7.6	Drilling asbestos
	8.9	
Drill Press (G. E. Cat. #17626)	6.0	Drilling asbestos
	6.1	
Drill Press (G. E. Cat. #14966)	4.1	Drilling small asbestos pieces
	5.0	
Band Saw (#7134)	6.1	Sawing asbestos
	8.0	

*Maximum allowable concentration for asbestos dust--6 million particles per cubic foot of air

April 20, 1951

PCH:yeh

Report of Investigation
General Electric Company
Erie, Pennsylvania
(Building 24)

April 20, 1951

F. W. McDaniel
Erie District

Philip C. Hill

I am calling your attention to a couple of numerical errors in the report of the above-mentioned investigation submitted with your memorandum of April 18. In editing the report we have made the corrections which we feel must be the correct ones. In case we have not done it correctly you will probably want to communicate with the General Electric Company.

In your recommendations you list Catalog Nos. of the drill presses as 17648, 17538, and 14888 and of the band saw as No. 7154. In the first paragraph of the detailed findings you have indicated one of the drill presses to be 14888. We have changed this to read 14868. The last item on the Table indicates the band saw to be No. 7634. We have changed this to read 7154.

I hope that we have made the correct assumption in this case.

PCH:pah

Commonwealth of Pennsylvania
Department of Health

BUREAU OF INDUSTRIAL HYGIENE

Report of Investigation

General Electric Company
East Lake Road
Erie, Pennsylvania
January 25, 1951

This investigation was made at the request of E. E. Rutter, M. D., Works Physician, and Mr. H. A. Weber, Works Safety Engineer.

RECOMMENDATIONS

1. Revise or improve ventilation at snagger #13325 and saw #14185, Building 24, to reduce dust concentration to safe levels.

2. Provide respirator for the operator of the snagger until changes have been made.

DETAILED FINDINGS

Air samples were obtained to evaluate exposures of personnel to asbestos dust originating in operations at asbestos saws #14185 and #13025, drill press #14782, and snagger #13325, Building 24. This investigation was made as a follow-up to an earlier study of similar nature made in July 1949. Findings of the earlier study reflected the need for improved ventilation at saws #14185 and #13025, snagger #13325, and at several machines which will not be discussed here because, for production reasons, they could not be investigated at this time. Since the previous study, changes in exhaust ventilation have been made at saws #14185 and #13025. No changes were noted at snagger #13325.

Samples were collected in the breathing zone of personnel concerned. The collection medium was distilled water. Dust counts were determined by standard light-field technique and particles were examined for size at a magnification of 1000 diameters. The latter operation showed that collected particles were within the respirable range.

Results of findings are given in Table 1. Dust counts reflect improvement in ventilation at saws #14165 and #13025. Findings for other machines investigated show no marked changes.

In view of the results, it was recommended that the exhaust ventilation at snagger #13325 be improved to lower dust concentrations to safe levels of 5 million particles per cubic foot of air or less, and that the operator use a respirator until this is achieved. Improvement was also recommended for saw #14158, ventilation for which, though much better than in 1949, is still not as effective as desired.

No changes were recommended for drill press #14752 since the mobile exhaust hood with which it is equipped, when properly placed, appeared to give sufficient control of dust.

February 5, 1951

PCH:peh

Investigation by:

P. W. McDaniel
Senior Industrial Hygienist

W. G. Reiser
Jr. Ass't Industrial Hygienist

Commonwealth of Pennsylvania
Department of Health
BUREAU OF INDUSTRIAL HYGIENE

Table 1 — Dust Concentrations*

General Electric Company
East Lake Road
Erie, Pennsylvania

Location	Millions of particles per cubic foot of air (present findings)
General Shop	
Asbestos saw (#14156)	3.8
	6.0
	6.7
Asbestos saw (#13028)	1.8
	3.2
	3.4
Snagger (#13325)	17.8
	18.0
	18.8
Drill press (#14752)	4.8
	5.6
	6.4

*Threshold limit value for asbestos dust - 5 million particles per cubic foot of air

Commonwealth of Pennsylvania
Department of Health

BUREAU OF INDUSTRIAL HYGIENE

Report of Investigation

Control Division
General Electric Company
East Lake Road
Erie, Pennsylvania
July 11, 12, 13, 14, 1949

This investigation was made at the request of Dr. R. D. Rutter, Medical Director, and Mr. Harry Weber, Safety Director, and is one of a series of reports to be made on exposures throughout the entire plant.

RECOMMENDATIONS

Control Division

Building 24

1. Install additional ventilation or revise present installation, as needed, to provide control of dust generated at asbestos saws G. E. catalogue #11165 and #13025; snagger #13325, band saw #1134, snagger #DPG 225 (compound molding room), and drill press #10570 (compound molding room).

2. Provide respirator for use of operator when loading mixer in compound mixing room.

Building 5

1. Put partition on window side of paint-spray booth (second floor building 5), to reduce effects of open windows. Top of booth should also be extended further over table if pieces to be sprayed cannot be kept within the plane of the booth face.

Building 10

1. Eliminate possible excessive exposures to acid vapors and oxides of nitrogen during acid dip by using hoist for handling large pieces or by increasing air flow through hoods at the acid tanks.

DETAILED FINDINGS

Central Division

Building 24

The principal exposures tested at this location were those resulting from dust generated at operations involving the cutting and shaping of asbestos board, cutting and processing a synthetic resin board (known as Texolite), and the mixing and processing of a compound consisting of asbestos, silica, and lime. The latter compound was molded and baked after mixing.

Exposures were evaluated by collecting and counting air-borne dust at the breathing level of operators of various machines including saws, snaggers, drill presses, and the mixing machine used for preparation of the compound indicated in the preceding paragraph. Samples were collected in distilled water and timed to give a fair representation of exposures of personnel working at the various machines.

The number of dust particles in samples was determined by the light-field technique and is shown in Table 1. Sizes of collected dust were determined by measurement at 1000 diameters magnification. The latter operation showed that collected particles were within the respirable range. Dust counts showed that, in most instances involving the machining of asbestos articles, the weighted exposure of personnel operating the machines was too high. This finding was based on the present accepted limit of 5,000,000 particles of asbestos per cubic foot of air.

Counts of dust obtained at machines handling Texolite were of lower general range than those found for asbestos. Since this dust was a synthetic resin type, the results were not believed to indicate excessive exposures.

In view of the dust counts it was considered advisable to reduce concentrations encountered by operators of several machines used in shaping asbestos articles. The machines in question were asbestos saws G. E. catalogue #14165 and #13023, snagger #13325, band saw #1134, snagger #DPC225 (compound molding room), and drill press

#10370 (compound molding room). It is therefore recommended that the ventilation where provided be increased, or that the system be re-designed as needed to reduce dust concentrations. Machines not so equipped should be provided with mechanical exhaust ventilation.

Dust counts also showed the high exposure of the operator while loading the mixing machine used in connection with the production of molded asbestos articles. While the exposure time was relatively short, it is believed good practice to provide a respirator for the operator to be worn during the loading period. A recommendation to that effect is made.

Building 5 (second floor)

Exposures investigated included those occurring at a trichlorethylene degreasing tank #M-2458, a nearby heat-treating tank using a molten cyanide-bearing salt, and at a paint-spraying booth. No numbers were obtained for the latter two locations but they were considered sufficiently familiar to the safety director of the division as to require no additional identification.

Air samples were collected at the breathing level in the vicinity of the degreasing tank, and trichlorethylene content was determined by decomposition of the sample and measurement of chlorine obtained. Analysis indicated that weighted exposures were not excessive, although it was shown that too fast a drag-out of work from the tank could give high concentrations of the air-borne solvent. This occurred in spite of the fact that the tank was equipped with good lateral-slot-type ventilation. While it is believed that recommendations for protection of health are unnecessary, it should be pointed out that even small amounts of trichlorethylene in the air may, on decomposition, yield products that are corrosive to certain metals.

Study was made of the possibility of exposure to air-borne cyanide at the heat-treating tank near the degreaser discussed above. No sampling of air was considered necessary because examination showed that the visible fumes from the molten salt

Commonwealth of Pennsylvania
Department of Health
BUREAU OF INDUSTRIAL HYGIENE

Table 1 — Dust Concentrations (Building 24)

General Electric Company
East Lake Road
Erie, Pennsylvania

Location	Millions of particles of dust per cubic foot of air	Remarks
General Shop		
Asbestos saw (G.E. cat. #14165	32.8 26.4 32.0	Sawing asbestos
Asbestos saw (G.E. cat. #13029)	24.4 28.0 32.0	Sawing asbestos
Snagger #13325	19.2 19.0 17.6	Snagging asbestos
Band saw #1134	21.2 16.8 19.0	Sawing asbestos
Drill press #14752	11.6 8.0 8.0	Drilling Texolite
Drill press #14665	11.6 12.0 13.0	Drilling Texolite
Circular saw #13369	14.0 12.0 14.8	Sawing Texolite
Compound Mixing and Molding Rooms		
Mixer	21.2 22.4 24.0	Loading mixer with silica, asbestos, and lime
	9.6 7.6	Mixer operating
Snagger #225	17.6 16.8 22.8	Snagging molded asbestos-silica articles
Drill press #10570	15.0 20.0 17.6	Drilling molded asbestos-silica articles

BIH - 3

Page No. 1

Erie District

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH
BUREAU OF INDUSTRIAL HYGIENE

Sample and Laboratory Report

Name & Address of Co. General Electric Company, East Lake Road, Erie

Product Mfg. Electrical apparatus Material Sampled Settled dust

Date Collected July 12, 1949 By McDaniel

Disposition of Sample Harrisburg Date July 12, 1949

Analysis desired for Free silica and asbestos on 7A49, free silica only on 7347 Other substances known or thought to be present *SEE BELOW

Apparatus Collecting Medium

C.L. No.	Dist. No.	Sampling Location and Operation	Time	Air Volume
8364	7A49	Compound molding room		
8365	7347	Compound molding room		

REPORT OF ANALYSIS

*Sample 7A49 may contain silica, calcium silicate, and asbestos.
Sample 7347 believed to be quartz

C.L.	Dist.	%Free silica	
8364	7A49	58.23	Analysis by W.M. Vought
8365	7347	98.49	

The remainder of 8364 (7A49) is not chrysotile asbestos, but looks like one or another of the amphibole family of minerals closely related to chrysotile. Chrysotile is fibrous but these minerals are not. These minerals are formed of platelets and are columnar.

Date August 23, 1949

A. E. Gallaway
Principal Chemist

File

OCCUPATIONAL HEALTH

401 Buttonwood Street
West Reading, Penna. 19602
December 27, 1971

General Electric Apparatus Service Shop
Lehigh Valley Industrial Park No. 2
Allentown, Penna. 18103

Attention: Mr. William Green
Plant Manager

Gentleman:

During an inspection of your plant by Mr. Craig S. White, industrial hygienist, it was observed that adequate local exhaust ventilation is not used to control atmospheric contaminants generated by Babbitting and large motor insulation burn-off operations.

In view of the foregoing, and in keeping with good industrial hygiene practice, the following recommendations are made:

1. Continue with your plans to install local exhaust ventilation at Babbitting and large motor insulation burn-off operations to prevent atmospheric contamination of the work environment.

2. Provide local exhaust ventilation at the abrasive blasting operation for motor stators.

3. Install local exhaust ventilation at all silver soldering operations to prevent employees' exposures to copper fume. (This recommendation was previously made in our January 31, 1969 report, which indicated that employees' exposures to copper fume exceeded the threshold limit value of 0.1 milligram per cubic meter of air.)

Please advise this office of the steps taken to comply with the above recommendations.

SIN-12134

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH
OCCUPATIONAL HEALTH

COMPLIANCE REPORT

DATE January 31, 1969

RETURN THIS FORM TO HARRISBURG AFTER EXPIRATION OF INDICATED COMPLIANCE PERIOD

To: Industrial Hygienist, Region II - West Reading

A Thirty day compliance clause has been inserted in the report sent

General Electric Service Shop
668 East Highland Street
Allentown, Pa.

Date of Report January 31, 1969 (March 5, 1969)

DATE OF SURVEY - January 8, 1969

REPORT OF REINSPECTION

A reinspection was made at this location on March 12, 1969

Recommendations were:

Complied with ☑

Not Complied with ☐

Remarks: COPPER AND CADMIUM OXIDE FUMES

"1. Require that the worker at the silver soldering operation confine his activities to the booths used for the housing burnout operation,

or

install local exhaust ventilation at the silver soldering operation, preferably in the form of a movable hood which could be located directly over the lead being soldered.

"2. Continue to purchase a non-cadmium containing silver solder.

"3. Until "recommendation No. 1 is accomplished, require that workers engaged at the silver soldering operation wear U. S. Bureau of Mines approved respirators for protection against metal fume having a threshold limit value of 0.1 milligram per cubic meter of air or greater.

"4. Establish a maintenance program for these respirators in accordance with Section 5C, Article 5."

Signature John D Burns

Title Industrial Hygienist I

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF HEALTH
OCCUPATIONAL HEALTH

FIELD ACTIVITY REPORT

REGION: East Reading - II
PROD. MFR. OR SERVICE: Electric Motor Repair
DATE OF ACTIVITY: 3/12/69

EMPLOYEES: MALE ____ FEMALE ____ TOTAL 22
COUNTY: 39
IND. CODE: 76

PLANT: General Electric Service Shop
ADDRESS: 668 East Highland Street, Allentown
ZIP: 18103
PHONE:
PERSON INTERVIEWED: Mr. Fethd M. Ulgen
TITLE: Manager

PURPOSE: INVEST.; SURVEY; INSPECT.; FOLLOW-UP; COMPL. VISIT;
REASON: EMPLOYEE; ELE. REP.; COMPL.; REQUEST; SOURCE

SPECIFIC HAZARD OR CONDITION	WORKERS EXPOSED	RECOMMENDATIONS (X WRITTEN / VERBAL)	ACCOMPLISHED YES	NO	IN PROG.
Cu fume	22	See below			

SAMPLES COLLECTED (NO. & KIND): TOTAL:
OE PERM. WORK (NO. & KIND): TOTAL:
MEDICAL - C.O. REPORTED, NO. & KIND:

PUNCH CARD: YES [X] NO [ ] FOLDER: YES [X] NO [ ]

REMARKS:

Follow up visit made to determine compliance with recommendations made subsequent to a 1/8/69 survey. Mr. Ulgen has sent a letter to C.O. outlining proposed plans. This company plans to relocate in the L.V.I.P. sometime this coming summer and plans are on the boards now for extensive ventilation not only at the areas that are currently exhausted but also at the area in question during the survey - the silver soldering operation.

Following is the status on the recommendations.

1. Require Ag soldering to be conducted in the housing burnout hoods or install additional L.E.V. - completed - A 36 pedastal fan has been installed behind the worker engaged at the soldering operation. The fumes will be blown into the L.E.V. at the impregnator. The IH feels this is sufficient for the time being. Soldering cannot be conducted at the housing burnout hoods because these are in constant use. During the F.U. visit such a setup, i.e. "blowing" the fumes into the impregnator L.E.V. appeared to be adequate.
2. Purchase non cadmium containing Ag solder.-completed - This company has always purchased a non Cd Ag solder.
3 & 4 USBM approved respirator and maintenance program. - completed - An order of MSA respirators are on hand with a supply of replacement cartridges. The respirators are also properly maintained.

Therefore of all 4 recommendations all of them have been accomplished. Mr.Ulgen also stated that the amount of time spent on Ag soldering has been cut down to a maximum of three hours/day at 30 minute intervals. If this company is not in a new building by August of 1969 more stringent ventilation control will be requested at that time.

BY: J. Caris I.S.

Division of Occupational Health
505 State Office Building
300 Liberty Avenue
Pittsburgh, Pennsylvania 15222

September 4, 1968

General Electric Apparatus Service Shop
4930 Butternilk Hollow Road
West Mifflin, Pennsylvania 15122

Attention: Mr. T. G. Sorenk
Manufacturing Engineer

Gentlemen:

Your Application for Approval of Air Recirculation System has been reviewed. This system has not been approved by the Department.

1. A significant problem should not arise in exhausting only 598 cfm to the outside.

2. Mica dust, the contaminant collected, is a relatively hazardous material having a threshold limit value of 20 million particles per cubic foot.

Since your request has not been approved, steps must be taken as soon as possible to exhaust this system to the outside. Please notify this office within 15 days of the steps you are taking and the expected completion date.

Thank you for your cooperation in this matter. If we can be of any assistance or if you have any questions, please let us know.

Very truly yours,

Nicholas Pavnick
Regional Industrial Hygienist
Region V

N/mt/ss
cc: Central Office
File
C/C

401 Buttonwood Street
West Reading, Penna. 19602
June 9, 1969

General Electric Company
Housewares Division
1501 South 12th Street
Allentown, Pennsylvania 18103

Attention: Mr. Carl Swartz
Superintendent

Gentlemen:

During an inspection in your plant by Mr. John Garis, industrial hygienist, the following recommendations were made:

1. Keep the perchloroethylene bucket in the degreasing area covered when not in use.

2. Replace unapproved respirators with those approved by the United States Bureau of Mines for respiratory protection against nuisance and pneumoconiosis-producing dusts in the polishing shop.

In order to insure that the most benefit is derived from the use of respiratory protective devices and to prevent a false feeling of security, it is the practice of this office to suggest the use of only those devices which have been approved by the aforementioned agency.

For your information we are enclosing a copy of our Hygienic Information Guide entitled "Personal Respiratory Protective Equipment."

Please notify this office, in writing, of the steps you have taken to accomplish the above recommendations.

Thank you for your cooperation in this matter.

Very truly yours,

Kenneth M. Sacharov
Regional Industrial Hygienist
Division of Occupational Health

KMS:JG:fv
Enc.