THE INGALLS SHIPBUILDING DIVISION ⊞ LITTON SYSTEMS, INC.

DATE: September 12, 1969

TO: Mr. Floyd Schultz

FROM: Safety Department PHONE: 624

SUBJECT: Survey of Insulation Materials and Other Materials Containing Asbestos.

CC. Mr. M. A. Weeks

The subject survey was conducted during the month of June, 1969, by Mr. J. W. Webb (Senior Safety Representative). Mr. Webb contacted many users of insulation and asbestos containing materials found in the shipyard. Attached is his report.

In addition, we have included the following information:

(1) That a survey for asbestos dust exposure was conducted by the Ind. Hygienist employed by our comp carrier and results were favorable in all but two locations. (See Attached)

(2) That our Medical and Compensation Department reported they have "no known treatment or payment of cases diagnosed as those caused by asbestos dust.

(3) That safety regulations concerning threshold limit values as imposed by the yard and the law are enforced. Most safety and health regulations in effect deal with ventilation and personal protective equipment required generally rather than to a specific hazard.

(4) That the yard makes available respirators (Bureau of Mines approved only) for all type operations.

(5) That most insulation work involving asbestos materials is performed by sub-contractors. In addition, the material used is usually required by government specification.

(6) That few, if any, written instructions are available concerning shop and ship practices for insulation workers.

Recommendations: (Based upon theory of asbestos dust as a harmful product)

(A) That asbestos insulation work be performed at such a time as to minimize exposure to personnel in the adjacent areas. (2nd and 3rd Shift)

(B) That wet processes be adopted where feasible.

EXHIBIT P-882

FORM R - 707

M-882

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(C) That specifications concerning insulation materials be made flexible enough to allow non-asbestos substitutes.

(D) That heavy cutting of asbestos materials be performed in well ventilated areas.

(E) That all employees working with asbestos materials and those in the immediate area be required to wear the proved type respirator.

G. M. Bryan
Manager of Safety

GMB/law

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I	II	III MATERIAL & USE	IV SPECIFICATION	V ALT. MAT'L.	VI WET/DRY PROC.	VII USUAL EXP.	VIII ANNUAL QTY. USED	IX SAFETY PRECAUTIONS
[illegible] Bros. [illegible]-Contractor)	Install ceiling & bhd panels on vessel (no gov't. contracts at this time)	Ceiling, marine veneer panels of approx. 48"x 96"x3/4" & 36"x96"x3/4" panel of laminated micarta. Manufactured by Johns-Manville Co.	Coast Guard Specs.	None	Dry	50 Men	Ceiling Panels 1600	Table Saws - [illegible] with a suction [illegible] Skill Saws - equip[illegible] with an [illegible] dallic vacuum [illegible].
		Bhds. Marinite panels of approx. 4'x8'x3/16". Manufactured by Johns-Manville Co.	Same As Above	None	Dry	50 Men	Bhd Panels 3200	Personnel required cut mat'l. are equ with "Bureau of Mi approved respirato
		NOTE: 90% of all panels are cut and pre-drilled in the shop. (5) men work full time cutting and drilling. (45) men work aboard the ship.						"Other" personnel ing in same area h no means of protec
[illegible]k & Fletcher [illegible]ulation [illegible]-Contractor)	Insulation & lagging of pipe, vent ducts, machinery & boilers.	Calcium silicate used for pipe covering and block (12% asbestos). Trade names are: Calsilite Thermobestos Kaylo Manufactured by Johns-Manville, GAF Corporation, & Owen Cornning.	Pipe Covering-Mil-1-2781 Compounded Block - Mil-1-2819	None	Dry (Received Pre-Shaped)	50 Men	150,000 #	Personnel using ban saws required to us respirators. No precautions are during installation Respirators used d rip-out.
		Fiberious material (Unibestos) called "AMOSITE". Used for pipe covering and is manufactured by Pitts-Corning.	Mil-1-2781 Fiberous	None	Dry (Received Pre-Shaped)	50 Men	1500 #	Same As Above.
		Amosite Felt used for filling pads in the reactor compt. Manufactured by H. K. Porter Co. in rolled blanked style.	Electric Boat lead yd. dwgs.	None	Dry	50 Men	250 #	No Safety Precautio

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I CONTR	II OPERATION	III MATERIAL & USE	IV SPECIFICATION	V ALT. MAT'L.	VI WET/DRY PROC.	VII USUAL EXP.	VIII ANNUAL QTY. USED	IX SAFETY PRECAUTIONS
ok & tcher (cont.)		Asbestos Cloth used to make removable covers on valves, flanges, etc. (Flame Protection) Manufactured by American Asbestos and Raybestos Manhatten.	SS-C-466, Mil Std. 769 C	None	Dry	50 Men	6,000 #	Same As Above (Cut with rotary ...
		Cement, Hydraulic setting cement. Received in 50 # bags. Manufactured by Johns-Mansville & Eagle Picher.	Mil-e-2861 & Mil-e-2908 Type 2.	None	Wet	50 Men	30,000 #	No precautions used during installation. Respirators used during rip-out.
		Asbestos Paper, used for sound deading. Small % asbestos.		None	Dry	50 Men	14,500 #	None
...am Insula- n Co.	Insulation & lagging of pipe, ...ent ducts, ma-...hinery of boilers.	Asbestos Cloth. Various types and weights, asbestos content varies from 80% to 98% depending on grade. Manufactured by American Asbestos.	NOTE: All Insulation (asbestos) when used are required by Navy, Maritime & Coast Guard. Non-asbestos materials are used where possible.	None	Dry	20 Men	45,000 #	Personnel using band saws required to ... respirators. Few precautions are used during installation (respirators are available).
		Asbestos Cement, high asbestos fiber content, depending on manufacturer and intended use. Manufactured by Johns-Mansville.	Same As Above	None	Wet	20 Men	15,000 #	Respirators used dur... rip-out.
		Calcium Silicate Insulation (see Shook & Fletcher for various types) Low asbestos fiber content. Fiber is used as a binder for strength. Manufactured by Johns-Mansville, GAF Corporation, & Owen Corning.	Same As Above	None	Dry	20 Men	240,000 # (only 12% asbestos)	Same As Above.

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Ingalls Shipbuilding Safety Department Survey of Asbestos Materials in the Shipyard (1969)
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I. [illegible]	II OPERATION	III MATERIAL & USE	IV SPECIFICATION	V ALT. MAT'L.	VI WET/DRY PROC.	VII USUAL EXP.	VIII ANNUAL QTY. USED	IX SAFETY PRECAUTIONS
[illegible] ilation (cont.)		Unibestos Insulation High asbestos fiber content but very small quanities are used.	Same As Above	None	Dry	20 Men	250 #	Same As Above
		Asbestos Felt - Pure asbestos fiber woven together with asbestos thread or wire. Manufactured by H. K. Porter Co.	Same As Above	None	Dry	20 Men	3,000 #	Same As Above
metal tment	Install and fabricate asbestos gaskets for piping and sheet-metal joints.	Gaskets made from the following: Sheet Packing, Style No. 60. Manufactured by Johns Mansville. Received in rolls 1/8"x4'x100'. Sheet Packing, Style No. 680. Manufactured by Raybestos-Manhatten Corp.	Fed. Spec. H.H. P-460, Navy Sym. 2160	None	Dry	80-120 Men Work in Shop. Approx. 2 men cut.	(12) 100' Rolls	None. All gasket mat'l is cut with a blade.
							(12) 100' Rolls	None. Same As Above.
hop	Used to protect men & material from flames, heat & sparks. In the shop & on platens. (Curtains and Blankets)	Cloth Asbestos. White lint free, hi-grade commerical, approx. 26 lb. Roll. Received from warehouse in rolls, cut in the shop with a blade for a specific need. Manufactured by H. K. Porter Co.	None	None	Dry	100 Men (approx.) come in contact in ship & on platen.	5,000 sq. yds.	None
nters	Cut, shape, and install protective coverings for machinery, pipe, elect. panels, etc. Asbestos boards for sound barriers, insulation, heat reduction, etc.	Flame guard 6374: 36" wide asbestos cloth, water proof, moisture proof fire proof, lint free, dust free (100 lin. yds. per roll) Used for protective covering of equipment. Manufactured by H. K. Porter Co.	None	None	Dry	50 Men	5,000 sq. yds.	None. Cut with a bl...

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II TRADE (CONTINUATION)	III MATERIAL & USE	IV SPECIFICATION	V ALT. MAT'L.	VI WET/DRY PROC.	VII USUAL EXP.	VIII ANNUAL QTY. USED	IX SAFETY PRECAUTIONS
Carpenters (cont.)	Flame Guard-"Lagrita" 40" wide commerical grade asbestos cloth, lint free (2.39 lbs. per sq. yd.) Manufactured by American Textile Corp.	None	None	Dry	Same	25,000 sq. yds.	None. Cut with a
	Astestos Board, compressed not graphited 60"x60" used for noise reduction, head reduction and protection from flames. Manufactured by Gulf Bolting & Gasket. Various thickness- 1/16", 1/8", 3/16", 1/4"	Mil-A-17472B Sym. 2150	None	Dry	25 Men	5,000 sq. yds.	Cut in shop by a No precautions
	Asbestos cloth, plain weave, light weight, blue stripe woven in selvage. Per. SS-C-166E Form 1, Style 5	None	None	Dry	25 Men	5,000 sq. yds.	Cut by a blade. No precautions.
Welders	Protect lead panels and maintain heat.	None	None	Dry	8 Men	2,000 #	None
	Asbestos cloth manufactured by American Asbestos and Johns-Mansville.						
	Packing asbestos graphite and lubricant. Johns-Mansville & John Crane manufactured.	None	None	Wet	8 Men	2,000 #	None
ing School	Used to protect men from heat, sparks and glare (Curtains & Blankets)	None	None	Dry	12 Men	1,500 #	None
	Cloth Asbestos, white, lint free, hi-grade commerical, approx. 265 lb. roll. Manufactured by American Asbestos Co.						

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I USER	II OPERATION	III MATERIAL & USE	IV SPECIFICATION	V ALT. MAT'L.	VI WET/DRY PROC.	VII USUAL EXP.	VIII ANNUAL QTY. USED	IX SAFETY PRECAUTIONS
Dept.	Used to protect piping (Nuclear) during transporting from the shop to the ship for installation.	Cloth asbestos, white, lint free, hi-grade commerical, manufactured by American Asbestos.	None	None	Dry	50 Men	10,000 sq. yds.	None (cut with knife as needed)
	Piping is wrapped on the nuclear system after installation to prevent arc strikes, scratches, etc.	Flame guard 6374: 36" wide asbestos cloth, water proof, lint free, dust free, (100 lin. yds. per roll) Manufactured by H. K. Porter.	None	None	Dry	5 Men	10,000 Sq. Yds.	None (cut with knife as needed)
	Fabricate and install asbestos gaskets for pipe joints.	Gaskets made from: Sheet Packing, style No. 60. Manufactured by Johns-Manville. Sheet Packing, Style No. 680. Manufactured by Raybestos-Manhatten Corp.	Fed. Specs. H.H. P-460, Navy Sym. 2160	None	Dry	6 Men	(12) 100' Rolls	None. All gasket material cut with a blade.
	Asbestos tape used for wrapping of pipe.	Tape, insulation thermol, woven asbestos tubular jacket enclosing felted asbestos. Gulf Bolting & Gasket	Mil-I-15349B TY-1	None	Dry	20 Men	(90) 100' Rolls	None
inists	Fabricate and install asbestos gaskets of various types & sizes.	Gasket made from sheet packing and compression boards.						
		Compressed sheet asbestos 36" to 48" wide.	Mil-A-7021B AM 1, CH 1	None	Dry	10 Men	(12) 100' Rolls	None
		Gasket, ring type asbestos, flange Type II	Mil-A-17472	Same	Dry	10 Men	(10) 100' Rolls	None
		Gasket, full face asbestos Type V	Mil-A-17472	Same	Dry	10 Men	(10) 100' Rolls	None

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I USER	II OPERATION	III MATERIAL & USE	IV SPECIFICATION	V ALT. MAT'L.	VI WET/DRY PRO.	VII USUAL PRO.	VIII ANNUAL QTY. USED	IX SAFETY PRECAUTIONS
Machinists (cont.)	Packing for valves.	Packing as follows:						
		Packing, round/asbestos & rubber woven, per H.H. P-31C, wire inserted.		None	Wet	20 Men	2,000 #	None
		Packing, general service/asbestos, graphite and lubricate, in loose form. All pax Style No. 1	None	None	Wet	20 Men	2,000 #	None
		Packing, twisted asbestos, graphited. John Crane Style 814 Stem Packing.	None	None	Wet	10 Men	1,000 #	None
		Packing, SQ Super-Seal/ braided asbestos jacket over jacket, solvent resistant and graphite impregnated. John Crane Style 905A, Ring Type.	None	None	Wet	10 Men	1,000 #	None
Electrical Dept.	Use asbestos for protection of equipment.	Flame Guard 6374, 36" wide asbestos cloth, water proof, moisture proof, fire proof, lint free, dust free (100 lin. yds. per roll) Manufactured by H. K. Porter	None	None	Dry	15 Men	2,000 sq. yds.	None
Riggers	Cut & sew tent & covering mat'l. for the carpenters.	Flame Guard 6374. 36" wide asbestos cloth. Water proof, lint free, dust free (100 lin. yds. per roll) Manufactured by H. K. Porter. Used for protective covering of equipment & piping. Primarily in the Nuclear Systems.	None	None	Dry	6 Men	5,000 sq. yds.	None

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I DEPARTMENT	II OPERATION	III MATERIAL & USE	IV SPECIFICATION	V ALT. MATL.	VI WET/DRY PRO.	VII USUAL EXP.	VIII ANNUAL QTY. USED	IX SAFETY PRECAUTIONS
Warehouses	Receipt, storage and distribution of various asbestos matl.	The warehouses receive and stores all asbestos matl. until needed by the yard crafts. No cutting of rolls or breaking of bags is accomplished in warehouse. Asbestos received as follows: Flame Guard No. 6374 36" wide asbestos cloth, light green, water proof, fire proof, lint free, dust free. Manufactured by H.K. Porter. Asbestos cloth, commercial grade asbestos "Legrite". Manufactured by American Asbestos Textile Corp. Sheet asbestos, compressed/not graphited. Manufactured by Gulf Bolting & Gasket. Asbestos cloth, plain weave, light weight, blue stripe woven in selvage per SS-C-466E Form 1, Style 5 Sheet packing, Style No. 60. Manufactured by Johns-Manville, received in rolls 1/8"x4' x100	Mil-A-17472B Sym 2150 Fed. Spec. H.H. P-460 Navy Sym. 2160	None None	None None	30,000 sq. yds. 50,000 sq. yds. 8,000 sq. yds. 10,000 sq. yds.	NOTE: All rolls, etc. are sealed and a special caution and no safety pre cautions are re

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III OPERATION	III MATERIAL & USE	IV SPECIFICATION	V ALT. MAT'L.	VI WET/DRY PRO.	VII USUAL EXP.	VIII ANNUAL QTY. USED	[illegible]
Shipfitters Dept.)	Sheet Packing Style No. 650, manufactured by Raybestos-Manhatten Corp.						
	Asbestos Packing of various types & sizes (see No. 10 Machinery Dept.)						
	Tape, insulation thermal woven asbestos tubular jacket enclosing felted asbestos, manufactured by Gulf Bolting and Gasket.	MIL-I-15349B Ty-I					
ar Dept.	Asbestos Flame Guard Cloth, water proof, fire proof, lint free, dust free. Manufactured by H.K. Porter Co. Normally used by the carpenters for building tents, wrapping pipe, making valve covers, etc.	None	None	Dry	50 Men	1,500 sq. yds.	None
Special Flame Guard purchased for protective wrapping and covering of nuclear components in the primary systems.							

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