

THE AEROSPACE CORPORATION



Walle pp. 3

20030 Century Blvd., Germantown, Maryland 20767, Telephone: (301) 428-2700
7963-02.81.aw.05
20 January 1981

IL. 5
PA. 7

B2912

Dr. William E. Mott, Director
Environmental & Safety Engineering
Division
U.S. Department of Energy
Germantown, Maryland 20767

Dear Dr. Mott:

INVESTIGATIONS OF RECORDS ON
THE FORMER VULCAN CRUCIBLE SITE, ALIQUIPPA, PA. AND
THE NATIONAL GUARD ARMORY, CHICAGO, IL

In your comments of 12 January 1981, regarding the Argonne survey report for Vulcan Crucible Steel Co., Argonne was directed to discuss the size of the rods and the source of the billets rolled by Vulcan along with other historical data. This information was obtained from recent records searches, the following data is submitted for Argonne's use:

During the period that Vulcan Crucible Tool and Steel Company, Aliquippa, PA. was under AEC contract (July 1948 to about late 1949), uranium billets were produced at Electromet and Mallinckrodt and shipped to Vulcan for rolling. The billets were 15 to 28 inches long, 4 to 5 inches in diameter, and weighed from 120 to 270 pounds. The rods were rolled to about 1.5 inches in diameter, thereby resulting in about a nine-fold increase in length. Vulcan had about 20 personnel employed on the Commission rolling operations and about 20 percent of the total rolling time at the plant was occupied by Commission work.

Aerospace recommends that the above paragraph, along with the information contained in the Vulcan site summary (Enclosure I) and the five memoranda dated from September 1948 to January 1950 (Enclosure II), be used by Argonne as the basis of their historical discussion in the report.



An Equal Opportunity Employer

GENERAL OFFICES LOCATED AT: 2380 EAST EL SEGUNDO BOULEVARD, EL SEGUNDO, CALIFORNIA

Dr. William E. Mott

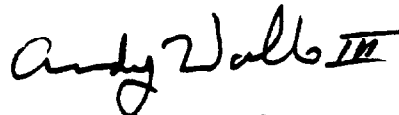
- 2 -

7963-02.81.aw.05
20 January 1981

Also enclosed are copies of a number of memoranda discussing what appears to be a uranium fire at the Illinois National Guard Armory. It is recommended that this material also be sent to Chicago for their review and consideration.

If there are any other questions concerning this material, please contact me.

Sincerely,



Andrew Wallo, III
Environmental Controls & Analysis
Directorate
Eastern Technical Division

AW:ddw
Encl.

cc: A. Abriss
R. Barber w/encl
L. Brazley
R. Cooperstein w/encl
J. Counts
C. Jackson
D. Mayhew w/encl
G. Turi w/encl
A. Whitman w/encl
ESED File

bcc: A.D. Abbott w/o
J.S. Dock w/o
F.W. Hoch
T. Iura w/o
R. Johnson w/o
R. Kevala w/o
W. McNulty w/o
E. Vierzba
C. Young w/o

UNIVERSAL CYCLOPS, INC.
(The Former Vulcan Crucible Steel Company)
Aliquippa, Pennsylvania

Site Function

The contractor at this site worked uranium billets furnished by the Government into rods. This work was performed on an "as required basis" under Contract AT-(30-1)-407.

Site Description

This site consisted of a rolling mill, two furnaces for heating, and cutting and extruding equipment. The finished rods were stored in boxcars after being transferred to the receiving and shipping room for weighing. The building used is one story over 30 feet high with part concrete, part dirt, and part metal floor.

Owner History

During the Atomic Energy Commission contract period, the site was owned by the Vulcan Crucible Steel Company. In 1955, the facility became Vulcan Crucible Steel of H.K. Porter, and in about 1960, American Iron and Steel Institute records indicate that the name was changed to Vulcan-Kidd Steel of H.K. Porter. The present owner (since 1966) is Universal Cyclops, Inc. Portions of the building are leased for storage by Heritage Box Company and Precision-Kidd Company.

Radiological History and Status

During the period of February 15 to 16, 1949, dust samples at the mill were collected by representatives of the New York Operations Office, Atomic Energy Commission. From these samples, it was apparent that alpha-emitting dust was a problem. Corrective actions were recommended to the Vulcan Crucible Steel Company.

Representatives from the Atomic Energy Commission again visited the plant on July 21, 1949, and made radiation and airborne dust measurements. Government-owned property disposition was discussed and required decontamination work was defined. The major portion of the decontamination work was completed by January 19, 1950, and the time period of the contract was extended to February 28, 1950, to cover the final cleaning operation.

Argonne National Laboratory conducted a radiological survey to verify the condition of this site in 1978 and prepared a draft survey report. Preliminary results indicate the presence of some residual radioactive material from the former Atomic Energy Commission operations at the site. The final radiological survey report is in preparation. It is anticipated that the Office of Environment will designate this site as a site requiring consideration for remedial action.

~~CONFIDENTIAL~~

F. J. Epp, Administrative Assistant, Tonawanda Area

September 27, 1948

J. P. Morgan, Assistant Director, Production Division, New York

BILLETS FOR VULCAN AND SIMONDS

REFER TO
SYMBOL: PU:BX

MATERIALS 5 (Tona.)

Confirming recent telephone conversation between yourself and Mr. H. F. Reichard of this office, it is requested that 10 tons of Electromet billets 4-1/4 inch diameter be sent to Vulcan Crucible Steel Company, Aliquippa, Pennsylvania and 10 tons of Electromet billets 4-3/4 inch diameter be sent to Simonds Saw and Steel Company, Lockport, New York for use in rolling operations commencing September 27, 1948.

This material is to be shipped in accordance with the verbal arrangements made in the above-mentioned telephone conversation.

Special Review
Final Determination
Unclassified
By: K. A. Walter
Date: Aug. 6, 1980
T. F. Davis

43-10
U. S. STEEL & ALUM. CO.
NEW YORK OPERATIONS
NEW YORK, N. Y.
SEP 28 1948
DISPATCHED

~~CONFIDENTIAL~~

OFFICE →	Prodn.	U-TH	Prod		
SURNAME →	Reichard	Velta	Morgan		
		(22)	9/27/48		

PU:HR

January 19, 1950

Mr. J. O. Flower
Vulcan Crucible Steel Company
Alicuippa, Pennsylvania

Subject: CLEAN UP AND PROPERTY DISPOSAL

Dear Mr. Flower:

Reference is made to your letter of January 11, 1950 and your subsequent discussions with our Messrs. Blatz, Piccot and Reichard.

It was agreed that the major portion of clean up had been finished. The remainder of the work involves apparently some local hand brushing, scraping, scrubbing and vacuum cleaning. We are awaiting your advice as to what period in the next few weeks you will be able to fit in this clean up work. It was the consensus that the Health and Safety Division representative would be present to take readings during the latter part of the clean-up work and remain there until all parts of the mill were at an acceptable radiation level. It was understood that you would start some of the clean-up work in the pits in advance of the Health and Safety Division representative's visit. The time period of Contract AT(30-1)-407 will be extended to February 26 to cover this final cleaning operation.

As approved by our Health and Safety Division, title to the three roughing rolls and two finishing rolls is hereby transferred to Vulcan Crucible Steel Company as provided in Settlement #4 of our letter of October 17, 1949, reference AM:JTI-R & S 4752.

Mr. E. Smith of our Audit Branch was in telephone contact with your Mr. W. Campbell in an effort to make a final settlement of the three 1948 invoices upon which you claim payment. It is believed that this matter can be settled to our mutual satisfaction after a brief checking of records which is now being done.

Very truly yours,

F. H. Selmore
Authorized Representative of the
U. S. Atomic Energy Commission

cc: M. Eisenbud, Health & Safety Div. ✓
Audit (2)
Fiscal acctg.
Contract Control

S. L. H. R.

VULCAN
ENCLOSURE II
Page 3 of 9

F. M. Belmore, Director, Production Division

January 12, 1950

Merrill Eisenbud, Director, Health and Safety Division

CONTAMINATION AT VULCAN FOLLOWING FIRST CLEANUP



REFER TO
SYMBOL: DH:ARP

On December 30, 1949, Mr. Piccot of our Radiation Branch visited the Vulcan Crucible Steel Co. for the purpose of checking the residual contamination left in the mill after efforts had been made at plant cleanup.

In general, the cleanup was done fairly well considering the fact that the Vulcan personnel had no detection instruments to use as a guide. The rolls have been dressed by machining and the contamination has been reduced to an insignificant level (none detectable except on the necks). The sections of brick floor which Mr. Blatz recommended were to be removed have been relayed with new bricks. The vacuum cleaner and its equipment; the "Vanoaxial" fan and its equipment; the aluminum hoods, floor gratings, oxide pans and furnace plates and contaminated benches have all been shipped to Vitro.

Some parts of the building and equipment have still not been reduced to a satisfactory level of contamination. In particular, the pits under the rolls still indicate high radiation levels from uranium embedded in the grease and remote crevices and corners. Various guide plates also indicated high contamination and should be cleaned. Sections on top of the furnace still appear to have visible oxide dust present and should be vacuumed as well as the doors on the furnace and the floor under the doors.

The writer believes that the above cleaning should be done by Vulcan before making another survey. After this has been done, Mr. Piccot could probably return to Vulcan with instruments and direct the cleaning and vacuuming of a few sections of floor which are still contaminated. If a vacuum cleaner is not available for this work, one should be secured for temporary use or a domestic cleaner purchased for the purpose.

FU:HR

September 17, 1949

Mr. J. D. Flower
Vulcan Crucible Steel Company
Aliquippa, Pennsylvania

Subject: CLEAN-UP AND PROPERTY DISPOSAL

Gentlemen:

Reference is made to the visit to your plant of our Messrs. Blatz, Moren and Reichard on July 21, 1949 during which radiation and air-borne dust measurements were made and Government-owned property disposition discussed.

It was concluded that the following degree of clean-up had been achieved:

1. Radiation from the steel plant floor had been reduced to a satisfactory level.
2. Radiation from certain brick floor portions, a small dirt floor section, the pits under the rolls, the furnace top, the steel furnace platos, and roll guide plates had not been reduced to satisfactory levels.
3. Residual radiation from the five (5) Government-owned rolls was measurable.
4. The outer scale pile and the water and sludge from the mill cooling water sump showed no significant radiation.
5. Air-borne dust samples were all well under the preferred level of uranium content except the one taken during sweeping.

Authorization is hereby given for you to perform the following property disposal work as agreed on July 21, 1949 and subsequent conversations:

1. The vacuum cleaner including the producer, collector, piping, hoses, floor tools, switch box-controller, and guard railing will be dismantled and crated, if necessary, and prepared for shipment to a location to be specified by us in the near future.
2. The "Yanoxial" Fan and motor including the flanged duct section into which they were incorporated, and the switch box-controllers will be dismantled and shipped to the Vitro Manufacturing Company, Canonsburg, Pennsylvania, Attention: Mr. H. Flock.

cc: Dr. Wolf
J. S. Quidor
R. W. Kirkman

Audit (2)
Fiscal Accounting
Legal Division

Property Division

Vulcan Crucible Steel Company
September 12, 1949

- 2 -

3. The aluminum hoods and telescoping aluminum duct sections will also be removed and shipped without crushing to the Vitro Company as above.
4. The floor grating section will be shipped with the aluminum hoods to Vitro.
5. It being understood that you have verbally agreed to such abandonment (which we would like you to confirm in writing), the Commission elects to abandon the following Government-owned equipment and transfer title to same from the Government to the Vulcan Crucible Steel Company at no cost to either party:
 - a. Corrugated steel partitions enclosing the weighing and loading room.
 - b. The fixed sheet steel portion of the ventilation ductwork extending from about six feet above the mill frame through and above the roof.

You are hereby requested and authorized to take the following steps toward completing decontamination of mill:

1. Burn two remaining benches and ship ashes to Vitro together with drums of residues already collected.
2. Ship the oxide pans and furnace plates to Vitro.
3. Vacuum clean furnace tops and floor areas designated as still contaminated and ship collected dust to Vitro.
4. Replace the brick floor in the area used as a rest space by the workers in the winter season. Good bricks should be turned upside down and relaid. Broken bricks should be replaced with new bricks. Place discarded bricks and the dirt between the bricks in a container and ship to Vitro.
5. Clean mill guide plates in the same manner as the steel floor plates.
6. Clean pits underneath mill as thoroughly as possible, removing all grease from the corners. Place material cleaned up in a container and ship to Vitro.

Following completion of the above work, our Medical Division may wish to make further measurements.

In regard to disposal of the five (5) rolls, we are, of course, interested in the disposal method which is to the best interest of the Commission. In order to help this office ascertain which method is to the best interest of the Commission, it is requested that you furnish the following estimates:

1. Cost of necessary packing, crating and freight charges of the equipment, as is, to Buffalo, New York.

Vulcan Crucible Steel Company
September 12, 1949

- 3 -

2. Costs of decontaminating by heating until scaling occurs and then scraping until clean and selling as scrap metal to public.

3. Estimates of the cost of machining the roll surface for use in steel rolling and of the value of the rolls if so machined and offered for sale.

If you have any questions on the above matters, please communicate with us. We wish to thank you again for cooperating in carrying out the subject work.

Very truly yours,

F. H. Belmore, Authorized Representative,
U. S. Atomic Energy Commission

ALLIQUIPPA, Pa.
VULCAN CRUCIBLE STEEL CO.

OCCUPATIONAL EXPOSURE TO RADIOACTIVE DUST

VISIT OF FEBRUARY 15-16, 1949

PURPOSE

During the period of February 15-16, 1949, dust samples were collected by Messrs. Paul B. Klewin and Alfred J. Breslin, NYCO. This survey was planned bearing in mind the following objectives:

- 1) To estimate the cumulative exposure to personnel employed on the A.E.C. Project.
- 2) To provide a basis for future control designs and procedures.
- 3) To provide evidence for justification of future radioactive dust control recommendations.

RESULTS OF STUDY

It is apparent from the data that the entire group of employees is exposed to concentrations of alpha emitting dust which are above the preferred level. Of the 25 plant employees considered, 20 are exposed to over 10 times this level. The plant personnel exposures can be broken down as follows:

- 1) Our data indicate that 4 men (16%) are exposed to alpha emitting material in concentrations approaching 500 times the preferred level. It was noted during the sampling that relatively large flakes of scale were being thrown from the rods at this operation. The above concentration may therefore represent some number of large, non-respirable particles, and not be a true indication of exposure.
- 2) Two men (8%) are exposed to concentrations of 23.7 times the preferred level.
- 3) Fourteen men (56%) are exposed to 10.1-16.0 times the preferred level.
- 4) The remaining 5 employees (20%) are exposed to 2.7-5.8 times the preferred level.

From the exposures listed above, the present survey indicates the urgent need for improved control measures. In order to reduce the exposure of the employees to these toxic materials, the following control recommendations were made to Vulcan Crucible Steel Co. on November 18, 1949:

- 1) Exhaust ventilation be provided over each of the operating rolls with a minimum air velocity of 500 feet per minute inward to the face of each hood.

- 2) A central industrial vacuum cleaner be installed which would allow rapid and efficient cleaning of the entire rolling area.

To date the vacuum cleaner is in satisfactory operating condition but the ventilation over the rolls is inadequate.

Because of a long delivery delay which held up installation of the recommended exhaust equipment, temporary ventilation over the rollers was provided for this rolling by the installation of an old Wing Scruplox Fan. Measurements made on the above sampling dates showed that there was an air velocity of only 200-300 linear feet per minute through the face of both hoods as compared with the recommended 500 linear feet.

METHOD OF STUDY

The radioactive dust samples were collected on 1-1/8" diameter Whatman #41 filter discs, using a standard Fisher pump employed by the Medical Division, NYOO, a Wilson pump, and a small, light, air compressor with a Universal motor. The rate of flow found to be most suitable for collection purposes at the concentrations sampled was 0.0175 cubic meters per minute. The collection period varied from 30 seconds to 45 minutes, depending upon conditions of operation and dust loading. All dust samples collected were counted on a flat plate alpha counter at the New York Health Instruments Laboratory. Attached to this report are the dust sample records, containing both general air and breathing zone samples which have been used in all calculations to evaluate the employees' exposure to radioactive dust.

I Operational Process at the Mill

- A. The billets of uranium metal are heated in the furnace to a suitable rolling temperature.
 - B. The billets are taken out of the furnace by the drag-down operator, who conveys the billets (by means of a buggy) to the north side of the roughing roll.
 - C. The billets are passed through the roughing roll twice and lengthened into rods of rough dimensions.
 - D. The rough rods are then passed through a finishing roll.
 - E. The rods are dragged to shears, cut in two and then dragged back to a quenching area for marking and descaling.
 - F. The rods are conveyed to the receiving and shipping room and are weighed and recorded and are then stored in box cars.
- II The complete job location and breakdown of personnel whose exposures are being evaluated are simple enough to be included on the Job Analysis Sheets.

III Job Analysis Sheets - Purpose

The Job Analysis Sheets give a detailed analysis of the operational time relationship of each employee at the rolling mill. This consists of a statement of total time spent on a particular job with an additional breakdown as to the number of minutes and the number of times each task is performed each shift. In addition, the average alpha concentration, as obtained from the Sample Record Sheets, is recorded. The average alpha concentration, multiplied by the total time, is depicted in the last column. The average alpha concentration per 9-hour work day is determined by dividing alpha concentration by total time by the number of hours (minutes) per shift.

Finally, assuming that the average man inhales 10 cubic meters of air per day, the daily alpha inhalation can be determined by multiplying the average alpha concentration by 10 cubic meters.

The intensity of the beta activity of radioactive dust was noted. However, these dusts present a minor hygienic hazard as compared with the alpha emitting dust.

DISCUSSION

The information contained in the Job Analysis Sheets is summarized in Table I below. It should be recognized that in evaluating the quantity of dust inhaled we estimate the relationship of any given sample to the worker's total exposure time. We have endeavored to obtain complete job analysis for all operations, but it is understood that errors in judgment and irregularities of operation are likely to produce deviations of more or less importance. However, we are of the opinion that the data as summarized represent a fair estimate of the levels to which employees are exposed. The preferred alpha level of 70 disintegrations per minute per cubic meter for alpha emitting dust is based on animal studies. To date there has been insufficient industrial experience with uranium to make it possible for us to state to what extent this level affords a margin of safety for the workers.

2.9.5

METALLURGICAL LABORATORY

FS

1/23/44

COPY

T. E. Hall

Security

J. C. Pyle

Safety

Fire at armory shipping room, 1-23-44

We had another fire!

It was extinguished by municipal fire equipment!

It is undoubtedly too much to hope that the time will ever come when the first statement need never be repeated. But, until that second statement can be changed to read at all times, "The fire was discovered and extinguished in its earliest stages by trained project personnel, with a minimum of confusion," then the Safety Section has a tremendous responsibility and an urgent backlog of unfinished business.

Specific Fire Report

- Building - Armory
- Location - Shipping Room
- Immediate Person in charge - David Rudolph for special materials. Mr. Ellen in nominal control of shipping activities.
- General - Persons in charge - Tony Matz, in charge of receiving area, acting for Mr. Blair, Property chief.
- Time - Approximately, 5:15 P.M., 1-23-44
- Origin - Explosion of one or more tightly sealed metal pails of oxide.
- Extent - Force of explosion or flash igniting dislocated wallboard-and-frase partition immediately adjacent to the stored material. Fire spread to nearby excolator, table, papers, wall covering and partition material.
- Damage - Probably \$100.00 to construction details added to building by Metallurgy. No damage to the State owned building. Damage to equipment and property in route through shipping and receiving rooms difficult to estimate - Perhaps \$250.00 - \$500.00, partially due to water damage. Some damage to personal clothing.
- Injuries - None

Narrative Report as Assembled by Safety Section -

Approximately a dozen pails of oxide had been shipped in from out of town location, without covering instructions for handling or explanation of contents. The material was presumably shipped dry. The oxide was such that a chemical reaction slowly went on within the air tight containers until sufficient hydrogen accumulated to burst the containers of at least one of the pails.

Other pails blew open, whether from concussion or outside heat, or from interior pressure is not known.

Riggins, Dispatcher, saw the first container start to "bubble" out and called David Rudolph, in charge of special materials. By the time Rudolph got to the doorway the hydrogen had burst into flame and the fire was on.

At least two Foamite extinguishers, one 2 gallon water pump, and one 1 1/2" hose were brought into action by project personnel.

However, the confusion and uneasiness among the less cool headed workers as a result of the alarm that "explosive material" had started the fire, caused the City Fire Department to be called, and the fire was quickly brought under control and extinguished. Water damage was relatively great.

The two Foamite extinguishers nearest the blaze, and the nearest hose lines were untouched.

Mr. Rudolph had the presence of mind to call Dr. Creutz immediately after the outbreak of the fire. Dr. Creutz was the only one on the scene who knew enough about the properties of the oxides to analyze the origins of the fire and make recommendations for handling the remainder of the oxide to prevent recurrence of the fire.

Potential Damage—Dry oxide was blown over a large area of the receiving and store room when the shipping room wall let go. Wet oxide was tracked around by firemen and project personnel.

Dr. Creutz pointed out that this widespread contamination probably presented no physical hazards, but certainly constituted a tremendous potential hazard to laboratory work if permitted to get out to various counting rooms and the like. He recommended a thorough clearing of everything affected, and a warning to receivers of the material that a residual contamination might exist.

Recommendations—(A number of full, compressed gas cylinders were stored in the adjoining room, next to the partition which was damaged. The fire might have gotten to those tanks and could have multiplied many-fold. Mr. Miller, storekeeper, thought of this and confined most of this to playing an extinguisher over the cylinders closest to the fire.)

A recommendation for an outside location for storage of full cylinders was made some time ago. When that recommendation was changed to permit inside storage, the Safety Section tacitly approved on the basis that any rack was better than no rack.

at all.

at the time of the fire, only a few empty cylinders were in the newly constructed racks.

1. Therefore, without further ado, let an outside shed and rack be constructed for compressed gas cylinders. Let those tanks holding combustible gases be separated from those which hold gases supporting combustion, by a fire resistant partition, or by distance.
2. Let Dr. Cruts, and those others who are thoroughly familiar with all of the implications of the type of material responsible for the fire, prepare a report that will guide the Safety and Security people and all others, in the care and handling of such materials.
3. Burning excelsior helped to feed this fire. Again, let it be reiterated that this type of combustion material must be eliminated from the scene at the earliest possible moment and the first possible point. In this instance the excelsior was supposedly there to use in preparing articles for shipment. The stuff should be brought to the shipping room only as needed, and used immediately.

In the receiving area, some plan should be worked out to get rid of excelsior, shredded paper and the like, as soon as a package is opened. A delivery procedure should be activated that will make it unnecessary to repack equipment and material for delivery to the local sites.

4. The proper training of Armory personnel in the co-ordinated fighting of fires will necessarily follow completion of such work at Site B and the West Stands. But there should be no delay beyond that point. Most of them have already received instruction, or are familiar with the use of extinguishers.)

To T. E. Hall

date 2/4/44
Security

From J. O. Pyle

Safety

In Re: Correction of Armory Fire Report with additional recommendations

The Safety Section report of 1/28/44 in re, the Armory Fire of 1/27/44, is ancient history by now. Even the fact that the report shows the fire occurring one day later than it actually did, has been forgotten. However, to get the record suitably amended, the oxide was not received in the 17 air-tight containers, but in two, large, open top metal drums. The transfer to the containers was made on 1/22/44, as a part of some transfer back and forth from Area Engineer to Metallurgy and back to Area Engineer.

So much for dead matter.

Now for additional recommendations submitted for your processing:

1. The area Engineer's store room in the north-west corner of the receiving area must be reorganized at once. Metallurgy must protect itself from possible fire spreading from this hazardous area. (Also, it is probably Metallurgy surplus storage, placed there by Metallurgy employees, that has resulted in such disorder.)

Be that as it may, the Army storeroom is a mess. The contents should be restacked. Definite aisles should be marked clearly on the floor, and kept clear, to permit easy access to any portion of the stock.

Probably nothing should be stacked against the south and east wall of this area as they are of temporary construction. However, shelves for small articles could be placed along these walls if desired.

Mr. Blair should be requested to forbid stacking of parcels on the ramp to the receiving dock. This ramp should be entirely clear at all times. Mr. Blair should be requested to requisition a guard rail along the outer edge of the ramp, and along the north side of the receiving dock from the west wall back to the ramp entrance. (A recent injury points up this request - Alexander Scott.)

Material must not be piled higher than six feet from floor level.

Receiving dock should be equipped to chain up gas cylinders received on the dock until they can be transhipped.

question any real advantage obtained from the elaborate partitioning of the checking, shipping, stock room, and store room facilities. The fire resistant properties of the plaster-board walls is questionable; would probably be more than offset by the ease in guarding, inspecting, and getting to the source of trouble if the area were returned to one big room.

J. C. Pyle /s/

JCP:E

METALLURGICAL LABORATORY

ENCLOSURE III
Page 1

COPY

2/7/44

To T. E. Hall Security

From J. O. Pyle Safety

In Re: Armory Receiving Room

The final paragraph of my memorandum of 2-4-44 regarding the Armory fire suggested that the abolition of the many temporary partitions might introduce certain advantages in the operating and guarding of the area.

Of course, even though my argument may develop convincingly and reasonably, there will be a natural reluctance to accept the idea that it could be economical to tear out so much plasterboard and 2 x 4's, doors, gates and padlocks which represent a good deal of time, expense, labor and thought.

Perhaps the most I can hope for is that when the time comes to make first one change and then another in the present layout, some consideration will be given to the following points:

Objections to Present Space Divisions (Shipping Room, Furniture Receiving Room, Store Room, Stock Room)

1. Plasterboard on one side of a wood stud partition is rated very low in fire resistance.
2. Full partitions to the ceiling cut down ventilation, make it possible for fires to start and grow unnoticed in concealed areas.
3. The padlocking of these subdivisions places just one more barrier in the way of constant, over-all guarding, and may delay by minutes getting to a burning area with first aid fire fighting equipment.
4. The frequent changes in the requirements of every phase of Metallurgy laboratory work has shown how futile it is to enclose a space and assure that the space so enclosed will meet for all time, or even a little time, the needs of activity involved.

Summary: Plasterboard partitions in a warehouse area of this type are fire hazards in themselves, may seriously hinder fire prevention and fire fighting; probably only reflects man's inherent desire to circumscribe his property and himself and build a wall to keep out the Indians. Why not let an anthropologist worry about how we got that way, and let the Armory building and the Metallurgy guard force keep out the Indians?

COPY**Advantages of An Open Warehouse Area:**

1. Entire area easily kept under constant observation.
2. A disturbance anywhere in the area shown up immediately, may be coped with in its earliest stages. No delay, no obstructions in getting emergency equipment to the scene of the disturbance.
3. Operations-wise, the absence of arbitrary, not easily moved partitions, makes for greater flexibility and adaptability in the use of the space to meet ever changing requirements. If some line of demarkation is absolutely required, low counters or rails can serve the purpose adequately.
4. Better housekeeping should result from working with large, open area. Poor arrangement, and unwise allocation of space would not be concealed or perpetuated.

Special note: The above recommendations do not include the office occupied by Hatz, Ellen, and others. However, it is specifically and strongly urged that use of the vault-like room in back of the receiving dock be immediately discontinued as an office, and the occupants be removed to the much more office in the west room. This transfer should be made at once.

J. C. Pyle /L/

2/14/44

COPY

T. E. Hall

Security

J. O. Pyle

Safety

Fire Protection at Armory

The recent Armory fire precipitated many desirable safety measures or proposed safety measures.

Except for the Armory itself!

Carelessness and poor housekeeping are still obvious for comfort. May I list some examples of unsafe practices and conditions which may easily result in another - perhaps greater - catastrophe.

1. Floor around checking tables littered with excelsior, shredded paper, papers, cartons.
2. Shipping room in disorder, with cartons, packing materials and the like, out of place and scattered around.
3. Large ammonia tank unchained and right by doorway from checking room to gas cylinder racks. (This full ammonia tank has been in this place for many weeks. Time only increases the hazard of such an unsafe condition. Apparently, no one wants the tank. It should be returned to the manufacturer immediately.)
4. Hazardous chemicals are being received and stacked in Miller's storeroom without securing a chemist's advice as to which chemicals can be safely stored close together.
5. The so-called Army storeroom incorporates many hazards. Open boxes containing excelsior is stored below flammable liquids. Several bales of rags are not isolated from other storage. One such bale is open, with rags on the floor and loose, ready to catch the first sparks that come along. (Don't forget that a spark may be struck by a shoe nail on the cement floor.) The covering burlap on these bales are dirty, may contain animal matter sufficient to induce spontaneous combustion. The large door leading from this storeroom to the big arena is kept locked. It should at least have a key always in the lock, perhaps covered by a crash box. It must be usable as an emergency exit.
6. Gas cylinders are received on the unloading dock and permitted to stand unchained in the middle of a great confusion of crates, cartons and the constant flow of newly received material.
7. Metal stock is thrown off inbound trucks, to lie on the floor in front of the dock until someone thinks to do something with it.
8. More people have been added to the staff using the poorly ventilated room back of the dock. This room cannot economically be improved for office use. It should be abandoned at once.
9. Surplus material now coming in for storage is being placed in the North-east corner of the area used for storage of trucks and cars. This material is not classified or stacked properly. Such haphazard handling cannot be condoned despite the probable transient nature of the practice.

A safety hazard is no less a hazard simply because it is temporary.

JOP:3 cc: J. Blair, D.R. Keith

COPY

A portion of a Confidential Report, dated 7 February 1944, signed by
L. A. Kimpton, H. C. Vernon, and T. E. Hall

"D. Armory:

2. The need for immediate disposal of all heavy metal shavings and
chips now stored outside the Armory building under the ramp leading to the
second story. (See Exhibit B - letter from the committee to the Area Engineer
dated February 7, 1944.)"

Exhibit 1

COPY

7 February 1944

"EXHIBIT B"

Area Engineer

L. A. Kimpton

Disposal of Heavy Metal Shavings and Chips

The committee on fire and explosion hazards appointed by Dr. Compton requests immediate action on the disposal of all heavy metal shavings and chips at present stored under the ramp of the Armory leading to the second floor. Such shavings and chips are Government property and can only be disposed of by the Area Engineer's Office. The continued storage of such material constituted an acute fire and explosion hazard. Delay in the fulfillment of this request may seriously impede the war effort.

/s/ L. A. Kimpton

/s/ H. C. Vernon

/s/ T. E. Hall"

Exhibit J

COPY

METALLURGICAL LABORATORY

12 February 1944

J. H. McKinley
L. A. Kimpton

Area Engineer's Office
Metallurgical Laboratory

Disposal of Heavy Metal Shavings and Chips

Reference is made to your memorandum of February 11, 1944, on the disposal of heavy metal shavings and chips. It is my understanding that you will provide us in the near future with construction plans for a hearth to oxidize the turnings. The moment that is in our hands, we shall begin the construction. We shall see to it that shavings are oxidized before they are shipped in accordance with regular standard procedures.

L. A. Kimpton
Chief Administrative Officer

mq
cc: H. C. Vernon
T. E. Hall

COPY

METALLURGICAL LABORATORY

LM-579 MUC-HCV

To: C. M. Cooper

From: H. C. Vernon

February 12, 1944

BURNING PIT

Enclosed you will please find carbon copy of letter from J. H. McKinley and a penciled sketch. This sketch shows the burning pit, which we recently discussed as being necessary to transform metal chips or dust to a safe condition for shipment. It is our understanding that you plan to take steps to install something of this general nature wherever metal is being machined under your jurisdiction. We should be interested in being informed of any current development.

COPY

METALLURGICAL LABORATORY

17 February 1944

D. K. KEITH

L. A. KIMPTON

Burning Pit

I attach herewith, a copy of a letter from Mr. Vernon to Mr. Cooper on a burning pit for heavy metal shavings. I suggest that Mr. Howard carry the ball on this matter and put through a formal request to Captain Ware for the construction of this burning pit. We should act quickly on this so that we may oxidize this material and get it out of here. The Army refuses to move it prior to oxidation, and now it becomes our problem to take the first step.

mq
cc. D. Rudolph

L. A. Kimpton

COPY

EIDM CGO-1

28 February 1944

MEMORANDUM

SUBJECT: Labor priority for Special Material Shipments

TO: L. A. Kimpton

At various times there have been difficulties in securing sufficient laborers to load or unload trucks carrying special materials, even when shipments have been exceptionally valuable.

It is urgent that Mr. McWilliams be instructed to furnish laborers at once for handling these shipments when requested by D. P. Rudolph.

J. H. MC KINLEY
Captain, CE
Deputy Area Engineer

cc D. P. Rudolph

COPY

METALLURGICAL LABORATORY

1 March 1944

J. H. McKinley

Area Engineer's Office

L. A. Kimpton

Metallurgical Laboratory

Labor Priority for Special Materials Section

Reference is made to your letter of 28 February 1944. I attach herewith a copy of a letter from Mr. Keith to Mr. McWilliams indicating action on the matter. Please inform me if you hear of any further difficulties in this regard.

L. A. Kimpton
Chief Administrative Officer

mq

R

COPY

February 29, 1944

Mr. R. A. McWilliams

D. K. Keith

Service to Mr. Dave Rudolph on Special Materials

Occasionally Mr. Dave Rudolph needs a little help in loading or unloading special materials. I should appreciate your giving him every assistance in the way of laborers on such occasions.

Thank you.

DKK;jdw

D. K. Keith

cc: L. A. Kimpton
J. H. McKinley
D. Rudolph

COPY

METALLURGICAL LABORATORY

22 April 1944

TO: W. B. Harrell

FROM: L. A. Kimpton

Fire at Armory - April 20, 1944

Attached herewith please find a report from Mr. Hall on a fire in the south courtyard of the Armory on April 20, 1944. No one was injured in the fire, nor was any injury done to any part of the Armory building. It does point once again to the fact that the Area Engineer's Office must get rid of this metal powder which we have accumulated. It points also to the necessity of further training of our guard force in fire fighting and general policy.

cc: B. W. Collins

/s/ L. A. Kimpton

U