



Shell Oil Company • Shell Chemical Company
Interoffice Memorandum

APRIL 5, 1984

PLAINTIFF'S EXHIBIT

SH-2330

17
18
30 min.
FROM: T. A. ROBERTS
TO: P. J. SNYDER
SUBJECT: ABRASIVE BLASTING AND THERMAL CUTTING OF LEAD/CHROMATE COATINGS

Attached are my comments on the blasting procedure mentioned above. The procedures with North and South are different. I suggest that appropriate parties on both ends get together on this matter and work out differences.

Please let me know when you plan to do so.

A handwritten signature of T. A. Roberts.

T. A. Roberts

TAR/pb

Attachments

cc: R. R. Erickson
J. G. Massey
H. C. Holcomb
R. Snodgrass
B. Lopez
J. E. Holloway
E. E. Drumgoole
Maintenance North File

LAM 002389

DPMC-08544



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*Please have
Ray & Ed review
and get back
with me on
comments*
[Signature]

MARCH 28, 1984

FROM: SR. INDUSTRIAL HYGIENIST
DEER PARK MANUFACTURING COMPLEX

TO: MANAGER - CENTRAL MAINTENANCE - MAINTENANCE NORTH
DEER PARK MANUFACTURING COMPLEX

SUBJECT: ABRASIVE BLASTING & THERMAL CUTTING OF
LEAD/CHROMATE COATINGS

The attached guideline was prepared in response to a directive from Head Office. It was prepared with the assistance of Bob Lopez and is, I believe, a formalization of existing procedures.

Please look this over and let me know if you have any comments.

Thanks,

Phil Snyder
Phil Snyder

Attachment

cc: R.R. Erickson
ECB Satellite
PJS Chron

LAM 002390

DPMC-08545

RAY 801

DPMC INDUSTRIAL HEALTH WORKPRACTICE GUIDELINE
FOR INORGANIC LEAD AND/OR CHROMATE EXPOSURE POTENTIAL
 MARCH 1984

COOKS in
 Polyamide
 Primer.
 WAREHOUSE
 NORTH
 C16

A. Introduction

The abrasive blasting of lead/chromate coated surfaces is to be minimized
 (CHROMATES IN GENERAL USE SINCE 1982)
 wherever practical. Although lead/chromate surface coatings have not

been applied on equipment since 1975, maintenance personnel may encounter
 1975, AND CHROMATES SINCE 1982,
 it in the field. Lead/chromate coatings on equipment and pipeways that

have been previously coated with a lead/chromate primer, ^{MAY HAVE TO BE} ~~should not~~ CLEANED
 BY EITHER
 WET OR
 DRY
 BLAST

~~DEPENDENT ON COATING CONDITION~~
 normally be removed. If mechanical damage to the coating occurs, causing

the substrate to start rusting, spot mechanical ^{OR SPOT ABRASIVE BLASTING} surface preparation (no

~~abrasive blasting~~ ^{MAY BE REQUIRED.} is all that is required. After surface preparation, a

lead/chromate free ~~aluminum epoxy mastic~~ primer is applied. To control

inhalation of airborne particulate, coated equipment and pipeways should
 be high pressure water blasted instead of abrasive blasted ^{wherever possible.}

~~SPRINKLING WATER MAY BE DONE INSTEAD OF ABRASIVE BLASTING~~ ^{AS A GUIDELINE}
 blasting of a coated surface should ~~only~~ be done if 33% of the surface

has rusted through the coating. New steel should always be abrasive
 blasted for mill scale removal and profile. All jobs that can be
 transported to the blasting yard should be done there. Unless prior
 authorization from Health and Safety is obtained, abrasive blasting of
storage tanks is to be done with a silica free material.

Thermal cutting of lead/chromate coated equipment should be done only
~~LET BLASTING NOT REQUIRED IF LEAD PRECAUTIONS ARE TAKEN~~
 after the area of repair has been ~~abrasive~~ blasted 18" on each side

of the cutting line. This 36" ~~abrasive~~ blasted band will reduce
 airborne particulate and will not damage the remaining coating because of

the heat affected zone. Special precautions are required
 when ^{dry} blasting is performed.

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Health Hazard Precautions When Abrasive Blasting Or
Thermal Cutting Is Performed

Repetitive exposure to dust and fume generated by abrasive blasting and thermal cutting of lead/chromate coated surfaces represents a potential health hazard. "Exposure" includes the inhalation of airborne particulate and ingestion of lead/chromate or contaminated substances. Exposure from the abrasive blasting of lead/chromate surfaces can result in excessive exposure upto 50 feet downwind of the job site.

When the abrasive blasting or thermal cutting of such surfaces cannot be avoided the following health and safety guidelines apply.

B. Respiratory Protection

1. NIOSH approved air-supplied sandblast hoods are to be used for all abrasive blasting. Ancillary personnel involved in abrasive blasting operations are to wear high efficiency air-purifying respirators.
2. The thermal cutting of coated surfaces (not previously ~~blast~~ blasted) requires the use of air-supplied respirators (low pressure airline type).
3. Respirators are to be cleaned prior to reuse by either the Shell Respirator Center or the contractor.

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C. Breathing Air-Supplied by Portable Compressors

Compressors are to meet the following minimum requirements:

1. Exhaust stacks off engine to be at least 4 feet high (separation from air intake).
2. Compressor is to be located upwind of work activity.
Compressor may have to be relocated if wind changes.
3. A particulate filter is to be maintained in-line between compressor and mask. Periodic filter changing is required.
4. Measurements for carbon monoxide are to be made at least ~~monthly~~ ^{weekly} unless an in-line carbon monoxide analyzer is used. Measurements should be documented and maintain on file for future reference.

D. Protective Work Clothing

1. On days when abrasive blasting or lead burning is performed, clean protective work clothing is to be worn.

- ARE TO BE PROTECTED FROM CONTAMINATION. ~~CLOTH COVERALLS~~ ^{SUCKER SUITS, OR DISPOSABLE COVERALLS} ~~SHOULD BE REMOVED BECAUSE COVERALLS~~
- a. Outer street clothing ~~may be worn during the work shift~~ ^{WILL NOT PROTECT THEM FROM LEAD CONTAMINATION} providing they are protected by outer coveralls in good condition.

- b. Work shoes may be permitted to be worn providing any outer contamination is removed daily.

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2. Protective work clothing is to be removed at the completion of the work shift.
 - a. Potentially contaminated coveralls are to be disposed of or placed in a closed container and laundered by a qualified outside service.
 - b. Bags or containers of contaminated clothing are to be labeled as being contaminated with inorganic lead and/or chromium dust.

E. Hygiene Practices

1. On days when abrasive blasting or burning is performed, employees are to wash at breaks and at the end of the shift.
2. A suitable hand and face washing facility including towels and soap is to be provided and used.
3. Tobacco and food are to be stored away from the potentially contaminated work area. Food or tobacco should not be carried in the pockets of potentially contaminated coveralls.

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F. Training

1. All employees engaged in abrasive blasting lead/chromate contaminated equipment are to receive at least annual training.

Training shall include:

- a. The health hazards associated with lead/chromate.
- b. Possible routes of entry.
Ingestion
Inhalation
- c. Proper use of respiratory protection.
- d. The importance of washing prior to handling foodstuffs.
- e. Location of air compressor.

G. Exposure Monitoring

Shell employees working in the potential exposure zone during the cutting or removal of lead or chromate may have to be monitored. Measured exposure levels exceed the OSHA limit for either lead or water-insoluble hexavalent chromium are required to be reported to Corporate Medical by Industrial Hygiene. Industrial Hygiene should be notified of jobs which are expected to last more than one workshift.

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H. Contractors

Shell is responsible for informing contractors of any potential hazards (of which it is reasonably aware) associated with lead/chromate-based coatings. Contractors are expected to utilize procedures which provide appropriate protection for their employees when involved with application/removal of these coatings.

Any requirement of the OSHA Lead Standard that apply to the application/removal of lead-based coatings are the responsibility of the contractor. Upon request, Shell will supply guidance to the contractor in meeting these requirements.

I. Environmental

Residues from abrasive-blasting of lead/chromate-based coatings will be disposed of on-site; Environmental Operations is to be contacted.

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