

audit file

October 29, 1992

To: Bill Fultz Pedricktown
From: Herm Waltemate Cleveland

PEDRICKTOWN SAFETY AUDIT
OCTOBER 5-9, 1992

Attached is the final report of the Safety Audit conducted at the Pedricktown plant.

This is the first time I have audited a plant during a shutdown, but I am of the opinion that it worked out well. During a shutdown maintenance and contractor activities are extremely high and the potential for accidents is normally higher.

In the following chart, I have compared the Pedricktown recordable and lost-time incidence rates with BLS Chemical and Allied Products, the CMA rates, and BFG Geon Vinyl Division rates.

	<u>BLS</u>	<u>CMA</u>	<u>BFG GVD</u>	<u>PEDRICKTOWN</u>
<u>1989</u>	6.40	4.04	3.86	3.05
Rec. IR	3.00	.81	.92	.61
Lost Time IR				
<u>1990</u>				
Rec. IR	5.90	3.97	3.25	1.50
Lost Time IR	2.90	.75	.34	.30
<u>1991</u>				
Rec. IR	*	3.89	2.26	1.85
Lost Time IR	*	.72	.26	0
<u>1992 Sep</u>				
Rec. IR	*	3.79	2.00	3.98
Lost Time IR	*	.68	.11	0

* Not Available

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The report format is laid out for you to write in your abatement program and indicate the status as Completed, In-Progress, or Incomplete. A progress report giving the status of the items requiring attention is due December 31, 1992 and each quarter thereafter until all items have been corrected. For your convenience, I have included the word processing disc on which you can enter your response.

The report includes the following:

- I. Positive Observations
- II. Previous Safety Audits
- III. 1992 Items which Need to be Corrected
- IV. Plant Inspection Tour
- V. House Keeping Evaluation
- VI. Plant Safety Audit Rating


H. Waltemate

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cc: G. Higby
R. Grahek/M. Marshall
E. Martinelli/W. Patient
C. Mattia
L. Larson
D. O'Keefe

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I. Positive Observations

1. With the majority of the plant involved in a shutdown, I had the opportunity to audit several Safe Work Permits. I audited several equipment isolation, lockout, vessel entry, hotwork and MWO release. I was highly impressed with the compliance to each of the various requirements.
2. We were also favorably impressed with the overall management system established and functioning in the plant for outside contractors. The video training, test given, gate checkin, safe work permits and overall compliance with safety rules was very positive. Again with the shutdown, several contractors were observed.
3. The Pedricktown plant does an excellent job in writing safety procedures. I will frequently send copies of the Pedricktown safety procedures when I receive a request.
4. The lockout for a quick disconnect on air control lines was an ingenious idea originated at Pedricktown. Several other plants have adopted this method.

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II. Previous Safety Audits

I reviewed the plant's status on the safety issues identified in the BFG Corporate SH&E audit conducted December 3-7, 1990. There were 21 safety related findings with 50 issues to be addressed. The plant reported 49 of the 50 safety issues completed as of June 30, 1992.

The following was the remaining open safety issue:

35.d. Structural steel in Compounding B/541
has an accumulation of potentially explosive
dust. [Good Management Practice]

I reviewed the recently installed interior walls and other additional engineering controls to reduce dust accumulation. It is my opinion that proper steps have been taken and any further accumulation can be handled with periodic housekeeping. This issue should be considered complete.

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III. 1992 Items to Be Corrected

SA-1992-1

A management system for the auditing of individual employees with regard to Lockout, Hot Work, Vessel Entry and Forklift Trailer Entry needs to be established. These audits need to be documented.

The individual lockout audits are a requirement of OSHA Standard 1910.147 Control of Hazardous Energy (Lockout/Tagout).

Plant
Response

Status

_____ Completed _____ In-Progress _____ Incomplete

SA-1992-2

In reviewing the Compound Department's mill drill documentation, only 14 were found for 1992. Also weekly check of stopping distance could only be found for these 14.

In reviewing the Laboratory's mill drill documentation, all shifts were not conducting monthly drills.

BFG GVD Standard SA-113 requires that mill drills be conducted once per month by each shift and a check on stopping distance be conducted weekly on each mill. You need to comply with these requirements.

Plant
Response

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Status

_____ Completed _____ In-Progress _____ Incomplete

SA-1992-3

In 1991 we had a potential for a serious accident at the Terre Haute plant when the kneader closure bolt on a Buss Extruder failed and was projected out with great force nearly striking a supervisor. The design of the newer Buss Extruders has been modified to prevent this accident.

You need to construct a metal guard to cover this closure bolt or verify that your Buss has the modified design. The design of this guard can be obtained through Mike DeMent of Terre Haute.

**Plant
Response**

Status

_____ Completed _____ In-Progress _____ Incomplete

SA-1992-4

In 1981 Avon Lake experienced a lid blowing off a fresh VCM filter when the washers bowed and the hold down ears spread apart. I have sent a copy of this narrative report to Dennis O'Keefe. During the plant safety inspection, three retainers or cotter pins were observed missing on VCM strainers in the Suspension Area and at least 10 retainers were missing on a VCM recovery strainer in the Dispersion Area.

These hold down devices in VCM service need to be corrected and a PM program established to prevent a reoccurrence.

**Plant
Response**

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Status

_____ Completed _____ In-Progress _____ Incomplete

SA-1992-5

A partially filled out Safe Work Permit for a contractor was noted on a Project Engineer's desk. The permit was pre-dated for the following week. I do not have a problem with filling in some of the permit sections, but the signature indicating that hazard communications has been completed at the job site is not to be signed until after that communication has been conducted.

Plant
Response

Status

_____ Completed _____ In-Progress _____ Incomplete

SA-1992-6

In 1992 the GVD/SP&C Divisions have experienced several recordable injuries involving second degree burns. Currently, second degree burns make up 23 percent of our total recordable cases. All plants are being urged to inspect for hot surfaces (140°F) which might cause burns and take preventive measures. You need to audit the plant for hot surfaces and proceed with insulating, guarding or post warning signs.

Plant
Response

Status

_____ Completed _____ In-Progress _____ Incomplete

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SA-1992-7

A management tracking system which assures implementation and closure of all safety concerns needs to be established. This tracking system should include issues identified in such areas as:

- PHA (HAZOP's)
- Hazard Research. Inc., Inspections
- IRI Inspections
- New Jersey Fire Marshal Inspections
- Corporate/Division Safety Audits

Plant
Response

Status

_____ Completed _____ In-Progress _____ Incomplete

SA-1992-8

OSHA recently issued a Directive covering 1910.119 Management of Highly Hazardous Chemicals. The directive comments on the potential hazards such as pipework in risk of impact.

I would suggest a review be made of all your piperacks crossing plant roadways. This should include the suport structure.

Plant
Response

Status

_____ Completed _____ In-Progress _____ Incomplete

SA-1992-9

With some of the recent major fires and explosions, the importance of a safe exit from the workplace is brought out. All of your exits need to be properly identified and illumination provided as required by OSHA Standard 1910.37(q)(6). Each of your fenceline gates need to be marked as an exit, emergency exit, not an exit or be identified with its actual character (function). The fenceline emergency exits need to be unimpeded and be identified in you plant evacuation procedure.

Plant
Response

Status
_____ Completed _____ In-Progress _____ Incomplete

SA-1992-10

Lockout clips have become available for locking out 110/120 volt circuit breakers. you should obtain these lockout clips from the manufacturer of your electrical panels and require individual circuits be locked out when work is to be performed on them.

Plant
Response

Status
_____ Completed _____ In-Progress _____ Incomplete

SA-1992-11

During the plant inspection tour a maintenance employee was observed cleaning a control valve with air at line pressure. Compressed air used for cleaning needs to be reduced to 30 p.s.i., provided with chip guarding and require personal protective equipment.

Plant
Response

Status

_____ Completed _____ In-Progress _____ Incomplete

SA-1992-12

The Pedricktown Community Fire Department is beginning to get involved in training their personnel in HAZMAT training. I would suggest that consideration be given to providing them with a computer program which gives hazardous chemical information and chemical spill dispersion modeling such as CAMEO. You may also wish to help set it up and provide training in the proper use.

Plant
Response

Status

_____ Completed _____ In-Progress _____ Incomplete

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IV. PLANT SAFETY INSPECTION

Suspension Area and Waste Treatment

1. Light on exit sign in control room is not working. Refer to OSHA Standard 1910.37(q)(6).
2. Need to conduct individual audit on jobs underway involving lockout, vessel entry, hot work and trailer entry.
3. A MSDS is not available in the area of Halon.
4. Three switches were noted mounted on the side rails of fixed ladders. These should be relocated if a person might bump them when descending the ladder. Refer to OSHA Standard 1910.27(b)(2).
5. Bottom plug missing from switch east Ammonia Refrigeration building. Refer to OSHA Standard 1910.305(b)(1). Also a conduit cover was missing. Refer to OSHA Standard 1910.305(b)(2).
6. The top manhead on #5 reactor was open and no guard had been installed.
7. Openings in electrical breaker box LP-1G and breaker panel in the new blowdown are need to be covered. Refer to OSHA Standard 1910.305(b)(1).
8. Hold down bolts on VCM strainers and water strainer should be inspected. Three retainers or cotter pins were observed to be missing.
9. Harco PVC bags were noted without the OSHA Hazard Communication warning label. The New Jersey Right-to-Know label had been provided on the pallet shrink wrap. Refer to OSHA Standard 1910.1200(f).
10. Door latch release to resin silos not working in Dryer Building.
11. Inside handrail in the Dryer Building without the 1-1/2"-3" clearance. Refer to OSHA Standard 1910.23(e)(6).
12. Old angle iron brackets in the upper level of the Dryer Building should be removed.
13. Maintenance employee was observed using factory air at line pressure for cleaning. Refer to OSHA Standard 1910.242(b).

14. Extension cord in waste treatment area used for periodic sampling should be replaced with fixed wiring. Refer to OSHA Standard 1910.305(g)(1).

Dispersion Area

1. Metal, female outlet box on extension cord in Computer Room needs to be replaced with a connection designed for that purpose. Refer to OSHA Standard 1910.303(a)(2).
2. Filter in VCM recovery has at least ten of the retainers missing on the hold down bolts.
3. The box used for collecting reactor scrapings need to have the compound label removed and the VCM warning label installed. Refer to OSHA Standard 1910.1017(1)(3).
4. Rechargeable spotlights are not approved for use in Class I Group D, Division 2 areas. Refer to OSHA Standard 1910.307(b)(2)(i).
5. Conduit cover missing near #8 reactor. Refer to OSHA Standard 1910.305(b)(2).
6. CO₂ fire extinguisher at the South Stripper does not have an inspection tag. Refer to OSHA Standard 1910.157(e)(1).
7. Both doors at the South Stripper need exit signs. Refer to OSHA Standard 1910.37(q)(1).
8. Toeboards need to be installed on the grinder hopper platform in the Dryer Building. Refer to OSHA Standard 1910.23(c)(2).
9. Two conduit covers missing on light on Dryer Building roof. Refer to OSHA Standard 1910.305(b)(2).
- 10. Empty wooden pallets are a fire hazard and need to be stored 50' from buildings.

Compound

1. The Kneader bolts on the Buss Line need to be guarded. Review the near miss report from Terre Haute.
2. Sand for track mobile in 100 pound bags should be purchased in 50 pound bags or the handling of 100 pound bags require two people.
3. Open bags of powder, not in use, need to be resealed or placed in containers.
4. The old (red) wire holder at the weigh area should be removed if no longer used.

5. Mill drills and check of mill stopping distance are not being conducted at the required frequency.
6. Light fixture above the resin silos has fallen off the holder. Wires need to be checked and disconnected if "hot".
7. Is the battery charger connection to the Forklift on the third level suitable for Class II Group G, Division 2 area?

Mass Building

1. Need to replace the bent floor gratings. With Forklift traffic in this area, heavier grating should be considered.
2. Dry powder fire extinguisher needs to be mounted. Refer to OSHA Standard 1910.157(c)(1).
3. 14 Fiber drums stored in this area without any labels. Several other Fiber drums also stored in this area which has the New Jersey Right-To-Know label and the dated Hazardous Waste Label was removed.

VCM Tank Farm

1. Railroad insulator needs repair and a bolt is missing.
2. Sign needs to be posted on the VCM south sphere at the emergency shut off for the bottom valves.
3. Guarding of the overhead pipe rack and the support structure needs to be provided.
4. Fire extinguisher on top of unloading station needs to be provided proper storage or removed. Refer to OSHA Standard 1910.157(c)(1).
5. Hydrant leaking through and filling fire hose with water inside the hose house.

Lab

1. Resin on floor in building behind the lab causing a slipping hazard.
2. Electrical breaker in this area blocked with fiber drums. Refer to OSHA Standard 1910.303(g)(1)(i)&(ii).
3. Opening in DP-1 main electrical breaker panels must be covered. Refer to OSHA Standard 1910.305(b)(1).
4. Mill drills are not being conducted once per month, per shift as required.

Shop

1. Lincoln welder and Miller welder outside on pad have taped sections on the welding lead. Also the miller welder has a bare spot on the ground cable. Refer to OSHA Standard 1910.255(d)(9)(iii).
2. Top guard on small grinder needs to be adjusted within 1/4" of the wheel. Refer to OSHA Standard 1910.215(b)(9).
3. Metal female boxes on extension cords need to be replaced with a connection designed for that service. Refer to OSHA Standard 1910.303(b)(2).
4. Mortar in 80 pound bags should be purchased in 55 pound bags or require two individuals to handle.
5. The extension cord strung overhead in the stockroom should be removed. Refer to OSHA Standard 1910.305(g)(1).

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V. HOUSEKEEPING EVALUATION

COMPOUND AREA	8	EXCEEDS REQUIREMENTS
LARGE POLY AREA	8	EXCEEDS REQUIREMENTS
TANK FARM	8	EXCEEDS REQUIREMENTS
PASTE AREA	7	EXCEEDS REQUIREMENTS
MAINTENANCE SHOP	7	EXCEEDS REQUIREMENTS
WASTE TREATMENT	7	EXCEEDS REQUIREMENTS
DRYER BUILDING	6	MEETS REQUIREMENTS
LABORATORY	6	MEETS REQUIREMENTS
BOILER HOUSE	6	MEETS REQUIREMENTS

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VI. - BFGOODRICH CHEMICAL SAFETY PROGRAM RATING

LOCATION: Pedricktown Plant

DATE OF AUDIT: October 5-9, 1992

RATING ORGANIZATION AND ADMINISTRATION

S Management and Supervision Involvement
S Compliance with Previous Audits
S Preparation and Compliance with Job Procedures
S Procurement and Startup of New Equipment

EDUCATION, TRAINING AND MOTIVATION

S Contractor Training
S Safety Counseling
S Accident Prevention Achievement Recognition
S Fire Preparedness
S Supervisor Training
S Employee Safety Training
S Hot Work Training
S Lockout Training
S Vessel Entry Training
S Forklift Trailer Entry Training
S New Employee Indoctrination
S Safety Meetings
S First Aid
S Off-The-Job Safety

GENERAL HAZARD CONTROL

S Quality of Housekeeping Program
S Housekeeping Conditions
S Internal Safety Audit
S Equipment Guarding
S Safety Equipment
S Hoisting Equipment
S Electrical Equipment
S Forklift Trailer Entry
S Community Emergency Planning
S Forklift Operations
NA Cardinal Rule Audit System (Refer to 1992-1)

PROCESS HAZARD CONTROL

S Relief Valve and Rupture Disc Inspection
S Plant Evacuation
NA Mill Drills & System (Refer to 1992-2)
S Disaster Preparedness
S Hot Work System
S Lockout System
S Vessel Entry System
S Maintenance Work Order System
S Dust Hazard Control

ACCIDENT INVESTIGATION AND ANALYSIS

S Accident Investigation by Supervisor
S Management Systems Investigation
S Corrective Action Follow-Up System

The Status of the Individual Components Will be Indicated by:

S - The program Element
is Satisfactory

NA - The Program Element
Needs Attention

TOTAL SATISFACTORY: 39

TOTAL NEEDS ATTENTION: 2