



Interoffice Communication

To Dr. R. L. Lembke
From G. G. Draper
Date November 29, 1976
Subject DR. O. D. STEFFEY'S OCT. 3, 1976 INDUSTRIAL
HYGIENE INSPECTION OF THE ABERDEEN PLANT

RECEIVED

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MEDICAL DIV.

The attached memo from Mr. A. H. Sather to G. G. Draper outlines the Aberdeen Plant's action program developed as a result of Dr. Steffey's inspection of our facilities on October 3, 1976.

You will note that we have covered in considerable detail the work that has been completed and is ongoing in our Phthalic Anhydride Storage Area. This is in response to Dr. Steffey's statement that the same general conditions existed in this area as had been noted in his April, 1976 inspection.

As outlined in Mr. Sather's memo, work in the phthalic unloading area has been progressing at a rate consistent with sound engineering principles and although there are items yet to be completed, there has also been significant progress. We plan to complete the three phthalic anhydride unloading projects currently in progress in the first quarter of 1977. This will leave one additional project which is provided for in the 1977 Capital Budget. This project will be designed to contain phthalic anhydride vapors within the plasticizer building and outside storage tanks and is scheduled to be completed in the last quarter of 1977.

We appreciate Dr. Steffey's comments as outlined in his report. However, the majority of the items in his inspection related to general safety and house-keeping items, many of which had previously been identified and action initiated as a result of our Safety Department's area audits and our Employee Safety Action Request Program. We would appreciate it if in future inspections, Dr. Steffey would direct his emphasis to Industrial Hygiene problems such as chemical exposures. This is an area where we could certainly use the expertise of an Industrial Hygienist and based on proposed governmental regulations will become increasingly critical to our operation.

Again, we appreciate Dr. Steffey's comments and look forward to his next visit.

A handwritten signature in dark ink, appearing to read "G. G. Draper".
G. G. Draper

jff

Attachment
c: RWS, AHS, REL

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DRYER BUILDING

Roof Area - Work on several of the items mentioned in this section of the report had already begun when Dr. Steffey made his inspection tour. Those items are as follows:

1. The piping crossover handrails on the south roof walkway have been revised.
2. Material was on order for the dryer exhaustor belt and coupling guards. This project has since been completed.
3. The dryer building roof lighting item was the subject of an ESAR (Employee Safety Action Request) submitted on 7/27/76 by C. Hawkins and will be estimated by 12/8/76.
4. A work order requesting fiberglass roof walkways was being estimated at the time of Dr. Steffey's visit. Material to be ordered by 11/31/76. Temporary repairs will be made until material is received. Walkway sections will be replaced on an "as needed" basis after materials arrive until all walkways have been replaced.

Other roof area problems currently being corrected:

1. The roof edge safety railing will be repaired by 1/31/77.
2. All exhaustor area walkway gratings will be secured no later than 1/1/77.
3. Roof sections that are in need of repair will be estimated by 12/15/76. Until the time that repairs can be made, the affected areas will be roped off and "DO NOT WALK ON ROOF" signs installed.

Inside Areas - First floor motor-to-pump coupling guards have been checked and will be repaired or replaced by 12/15/76. Centrifuge deck grating has been repaired or resecured. The need for fresh air stations is being checked on a plant-wide basis. Where there is a continued need, new couplings will be provided as needed and protective caps provided on all couplings.

Old Vinyl Maintenance Shop - Some large reactor project material is currently being stored in this building. This material will be moved into the old V-10 reactor building when the contractors have completed the work (estimated completion date 1/1/77). The machine oils stored on the east pad of the building will remain in that location. A sheet metal barrier wall will be installed on the south end of the machine oil storage area by 1/15/76. Fabrication welding will be discontinued on the southwest pad of the building until the barrier wall is installed.

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Shops - The main shop will be rearranged as soon as the storeroom is moved to its new location. A new electrical system will be installed per Conoco and OSHA standards. Welding fume hoods are going to be installed as a part of the approved shop equipment AFE and welding screens will be used whenever welding is in progress. Shop revision scheduled for first quarter of 1977.

Maintenance shop personnel have been told that if they cannot keep their coffee urn and cabinet clean and sanitary, they will no longer be able to make coffee in the shop.

The cleaning solvent currently in use is non-flammable and is generally recognized as safe in this application. Solvent vat to be relocated in maintenance shop revision. Fume hood to be included in project scope.

Fire Pump House - All oil drums and dead grass have been removed from this area. The guard rails will be installed by 12/30/76.

Old Scrap Unit - All power to this unit has been disconnected. Contract with used equipment purchaser specifies that the equipment be removed from area as it stands.

Dry Blend Roof and Silo Equipment - Drive belt guards on dry blend roof and inside silo 475 will be enclosed by 12/31/76. Water drainage between silos 476 and 490 has been estimated and is currently waiting on approval.

VCM Sample Bombs - Valve nipples on sample bombs are to be sealed with caps before samples are brought into the laboratory area. The caps have been ordered and received. We are currently waiting for chains to permanently attach caps to bottles. This project to be complete by 12/10/76.

Plant Drinking Fountains - Fountains will be cleaned by prescribed method by building attendants in those areas assigned to building attendants. All other fountains to be cleaned by operating personnel. Cleaning frequency, once per week.

Old Dry Chem Storage Building - This building currently houses: 50 pound bags of Methocel, 100 pound fiber drums of Hydroquinone, drummed DOP and isoprene, along with several items of misc. equipment. Each of these items is used in the large reactor area in small quantities. The building is scheduled to be dismantled as a part of the capacity replacement project in the very near future. Large reactor area personnel enter this building once or twice per shift for ten-to-fifteen minute intervals to get needed raw materials. The isoprene will be moved from this area to V-11. Due to the short future of this building, no additional ventilation will be installed. Since the only liquid material to be stored in this area will be moved, the Safety Department has approved the removal of the existing safety shower.

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Phthalic Anhydride Storage - Contrary to Dr. Steffey's report, conditions in this area have indeed improved since his last visit in April. The following items have been completed since April, 1976.

1. The second phthalic* anhydride storage tank has been put into service. This additional storage capacity has allowed us to place railcar size orders in preference to tank truck size orders. The data shown below illustrates that point.

	<u>Jan.-March, 1976</u>	<u>April-Oct., 1976</u>
Number of PA Railcars	5	21
Number of PA Trucks	7	11*
% of Railcars by Weight	64%	83%

* Only two bulk trucks used since July 1, 1976.

- A. The increased number of railcars has resulted in fewer connect/disconnect operations to unload the same amount of material.
- B. Railcar unloading hoses are connected to the car by threaded fitting or 4 bolt flange as opposed to the "Kam-Lock" type fitting used to connect unloading hoses to tank trailers.
2. Phthalic anhydride is now unloaded during daylight hours only.
3. The following personal protective equipment is now required when plant personnel are unloading phthalic anhydride; face shield, long sleeve jacket or coveralls and gloves.
4. In the past, we have discovered manhead gasket leaks during heat-up and have changed the gasket ourselves. Our purchasing department has notified our suppliers that cars found in this condition will be returned.

In addition to the above, progress on the following AFE projects is continuing at a steady pace:

1. AFE 9204 - Phthalic Anhydride Unloading Revisions -

- A. A new rail spur for phthalic anhydride cars is complete.
- **B. New unloading rack and ramp to provide ease of access/egress to car dome is now complete except for ramp cylinder air supply. This project is to be completed by 1/31/77.
- C. Remote pressurization station to be completed by 1/31/77.
- D. Revised unloading piping to be complete by 1/31/77.

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(This AFE was initiated in response to the recommendations made by the injury investigation team report of the yard operator injury of July 28, 1974, mentioned in Dr. Steffey's report. Let me emphasize the fact that this injury could not have occurred in 1976. This injury was the direct result of a trapped "hot gas pocket" in the unloading line. All phthalic anhydride cars that enter our plant are equipped with a "steam-jacketed" unloading line specifically designed to eliminate trapped gas pockets. If a car is not so equipped, we will not accept it for unloading).

2. AFE 9375 - Phthalic Anhydride (OMS) -

- **A. Completion of inert gas piping system for inert blanketing of railcars, storage tanks, and tank trailers with CO2 bottle backup system targeted for 1/31/77.
- **B. Revised phthalic anhydride tank top gauging platform is complete.
- C. Pre-unloading pressure test connections have been installed in the unloading lines to eliminate leaks before the system is "heated-up".

3. AFE 9365 - Safe Handling of Phthalic Anhydride -

- **A. A new truck unloading station will be installed to the east of the new rail spur.
- **B. Additional safety shower.
- **C. Improved lighting.
- ** All items part of a mechanical bid package to be issued 12/8/76 and completed by 1/31/76. Steam tracing, insulation, painting, and electrical to be complete by 2/28/77 for system start-up.

4. 1977 Capital Budget Item - Phthalic Anhydride Emission Control Project -

This system is designed to contain phthalic anhydride vapors within the plasticizer building charge vessels, outside storage tanks and unloading vessels (cars and trucks).

During Dr. Steffey's visit on October 3, 1976, a PA railcar was observed with a heavy deposit of crystallized PA on the unloading nipple. This is what undoubtedly led Dr. Steffey to report that there had been little progress made in this area since his April, 1976 visit. The leak had been detected when pressure was applied to the car to initiate the unloading process. When the leak was detected, the operator shutoff the inert gas used for pressuring up the car and proceeded to close the unloading valve. However, this car was not equipped with a shutoff valve on the unloading nozzle which resulted in the fitting leaking until the car depressured.

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To prevent a reoccurrence of this type, the following procedures have been implemented:

- A. Specifying, in a written PA unloading procedure that we will not accept any phthalic anhydride cars that are received without properly installed unloading equipment. (A Koppers Chemical bulk railcar has been received without an unloading line. Our Purchasing Department has specified to Koppers that this car will not be unloaded until a valve is installed on the unloading line, or the car is replaced by one that is equipped properly).
- B. New pressure testing connections installed on 11/11/76 will be utilized for testing the integrity of the system prior to starting the unloading process. They can also be utilized for blowing transfer line clear following unloading nozzle shutoff if a leak develops.

Current personnel dosimetry data from the phthalic anhydride handling areas indicate that all jobs and process vents which provide possible over-exposures will either be phased out or eliminated by the projects currently in progress and the 1977 capital project.



Al Sather

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