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Interoffice Communication

AIR POLLUTION 77

CD Doc #6

RPOD #9(1)

C DUTRA FILES

To	J. E. Cearley
From	D. D. Palmer
Date	September 20, 1977
Subject	Boundary Redefinition - Benzene Restricte

Introduction

OSHA adopted May 21, 1977, a benzene temporary standard requiring steps to limit employee exposure to benzene vapors to 1.0 ppm 8-hour time weighted average, and a ceiling of 5.0 ppm for any 15 minute period during an eight hour day. At adoption of the standard, we had three benzene restricted areas; that is, areas where admittance required special permission and/or proper respiratory equipment, namely:

(1) Ethylene Unit Quench Settler
(2) Steam Plant Loading Rack (During LAD Loading)
(3) API Separator North of the Holding Pond

The above areas were set-up under a previous standard (25 ppm benzene ceiling) and, therefore, needed their boundaries redefined.

A portable trailer containing an environmental gas chromatographic system was used to monitor benzene vapor levels in the vicinity of each restricted area.

Conclusions

1. Steam Plant Loading Rack Restricted Area - Under present conditions, enlargement of this area 30 feet in all directions, except 40 feet eastward, will be necessary to assure benzene exposure levels less than 5 ppm (15 minute - TWA) The enlarged area would include both a portion of railroad track and holding pond ammonia addition facilities, creating entry problems, suggesting control of the escaping vapors a better alternative than area enlargement.

2. Ethylene Unit Quench Settler - Without containment of benzene vapors in this area, north and south restricted area boundaries should be relocated 25 feet further from the settler blowdown pit. A problem arising from enlarging this area would be the blocking of traffic on both streets running east and west in the vicinity of the settler.

   Data collected in close proximity of the settler blowdown pit, when the pit is temporarily covered with visqueen, indicate permanent sealing of said pit, and a general area clean-up would allow complete area de-regulation. The cover over the pit would need to be well maintained as escaping vapors often contain 2500 ppm benzene.

3. Steam Plant Loading Rack - Area monitoring during LAD tank truck loading operations failed to detect benzene levels above 5 ppm at regulated area boundaries. Obviously, however, introduction of product containing 40-50% benzene into open tank trucks could allow standard non-compliance beyond the limits of the restricted area boundaries under certain weather conditions.

Recommendations

1. LCCP Engineering should examine the feasibility of covering both the API separator and the Quench settler blowdown pit.

2. Eliminate work within 75-100 feet of the Steam Plant Loading Rack Restricted Area during LAD Truck Loading as an added safety factor.

Should further information be required, please advise.

D D Palmer

D. D. Palmer
Project Chemist
Lake Charles Chemical Plant

maa

cc: RHG-DDZ-(PCG-RLP-BRD)-SFP-LBD

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RHG

Interoffice Communication

To P.C. Gowen

From J.E. Cearley

Date July 8, 1976

Subject Request for Benzene Controls at the Ethylene Unit Loading Rack

Recent monitoring has indicated that benzene exposures frequently exceed the OSHA proposed standard (10 ppm TWA and 25 ppm ceiling limitation) at the Ethylene Unit Loading Rack while loading tank trucks with light aromatic distillate. Recently it was published that NIOSH may soon have solid evidence linking benzene with cancer in humans, and this new evidence is likely to put pressure on OSHA to set the strictest standard possible for workplace exposure to benzene. Therefore, it is important that we proceed as fast as possible in controlling benzene emissions. Any permanent controls should be geared to reduce employee exposures to less than 1 ppm time - weighted average, with a 5 ppm ceiling limitation.

It is requested that control measures be designed and cost estimates made for the following:

1. Vapor controls for emissions occurring while tank trucks are being filled with light aromatic distillate.

   This can be accomplished by collecting the vapors and diverting them to a dilution stack, but preferably by a closed system.

2. A closed loop sampling system on the light aromatic distillate loading line and storage tank.

   This is necessary to reduce employee's exposure to benzene vapors and contact with the liquid product.

I am requesting that the design work be completed by August 9, 1976.

J. E. Cearley

C. DUTRA FILES

J.E. Cearley

cc: RAC, RHG

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