U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH
CINCINNATI, OHIO 45202

HEALTH HAZARD EVALUATION DETERMINATION
REPORT 73-17-63

FEDERAL SUPPLY SERVICES WAREHOUSE
BAYONNE, BELLE MEADE, RARITAN, NEW JERSEY
AUGUST 1973

I. TOXICITY DETERMINATIONS

From the results of the evaluation to determine an alleged Carbon Monoxide (CO) hazard, it is the conclusion of the project officer with the collaboration of the medical staff that a potentially toxic condition from an exposure to Carbon Monoxide does not exist at any of the facilities. At this time the findings also indicate that no further investigation is warranted.

This determination is based on results from continuous monitoring of CO at points where exposure is thought to occur. At these points time-weighted average levels of 3-5 parts per million (ppm) were recorded indicating that airborne CO levels were well below the Federal Standards. In addition Drager chemical indicator tubes also produced similar levels. Inquiry was made of the presence of medical symptoms which would indicate hazardous exposure of CO by use of a specially prepared questionnaire which was later evaluated by the medical staff. These findings also indicated no CO hazard.

II. DISTRIBUTION AND AVAILABILITY OF DETERMINATION REPORT

Copies of this Determination Report are available upon request from the Hazard Evaluation Services Branch, NIOSH, U.S. Post Office Building, Room 508, 5th and Walnut Streets, Cincinnati, Ohio 45202. Copies have been sent to:

1. General Services Administration
   a. Public Building Service
   b. Federal Supply Service
   c. Accident and Fire Prevention Branch

For purposes of informing the approximately 25 "affected employees" the employer will promptly "post" the Determination Report in a prominent place(s) near where the affected employees work for a period of 30 calendar days.

INTRODUCTION

Section 20(a)(6) of the Occupational Safety and Health Act of 1970, 29 U.S. Code 669 (a)(6), authorizes the Secretary of Health, Education, and Welfare, following a written request by any employer or authorized representative of employees, to determine whether any substance normally found in the place of employment has potentially toxic effects in such concentrations as used or found.

The National Institute for Occupational Safety and Health (NIOSH) received such a request from an employer regarding exposure to the exhaust from the few remaining gasoline-powered forklift trucks at the General Supply Service Warehouses at Raritan (Edison), Belle Meade, and Bayonne, New Jersey.

HEALTH HAZARD EVALUATION

A. Description of Process - Conditions of Use

At the Edison and Belle Meade Warehouses goods are stored for later distribution. At the Bayonne facility (U.S. Army Base) articles are kept for only as long as it takes to pack them. All goods from this facility are sent overseas. At the Edison and Bayonne facilities gasoline forklifts are used mainly to carry goods between the buildings. At the Belle Meade facility the same is true except that a few gasoline powered dollies transport articles in a limited area inside the building.

Possible affected employees would then be the few people working along the indoor passage of the dollies and the loading and unloading points of the forklift trucks.

B. Evaluation and Design of Methods

Continuous monitoring for Carbon Monoxide was done with an Ecolyzer at points within buildings of the facility where maximum buildup is likely to occur. Drager chemical indicator tube readings were also taken at the same points. In addition medical questionnaires were completed on each employee who worked at or near these points.

C. Evaluation Criteria

Occupational Health Standards promulgated by the U.S. Department of Labor for Carbon Monoxide are 50 parts per million (8 hour time-weighted average (1). In addition a recent NIOSH criteria document recommends lowering this standard to 35 ppm (2).

D. Evaluation of Results

Raritan facility (19 July 1973)	Time Weighted average (ppm)
Building 256	3-5
Building 246	5-6
Building 212*	4-5
Building 19	3-4

* A badly tuned forklift truck was discovered here which produced an excessive amount of CO.

Belle Meade facility (20 July 1973)

Building 2	2-3
Building 2 (tunnel)	1-3
Building 6	1-3

Bayonne facility (19 July 1973)

Building 64	3-5
Building 74	3-5

Numerous large doors constantly kept open seemed to provide adequate flow-through ventilation. The doors were located on either side of the building's length. There were also a few isolated stand-up fans in the facilities.

Concern was expressed that a CO problem might exist in the winter when the doors were closed. However, the gasoline equipment is still primarily used outside even at this time with indoor use being extremely limited. The immense size of the building, resulting in a large dilution factor, would therefore make the probability that a hazard would exist quite unlikely. However, to verify this it was recommended that a Drager chemical indicator tube spot check be used at that time.

V. REFERENCES

1. Federal Register, Vol. 37, No. 202, Part II, p 22141, October 18, 1972

2. Criteria for a Recommended Standard...Occupational Exposure to Carbon Monoxide. National Institute for Occupational Safety and Health. p. VI-I.

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