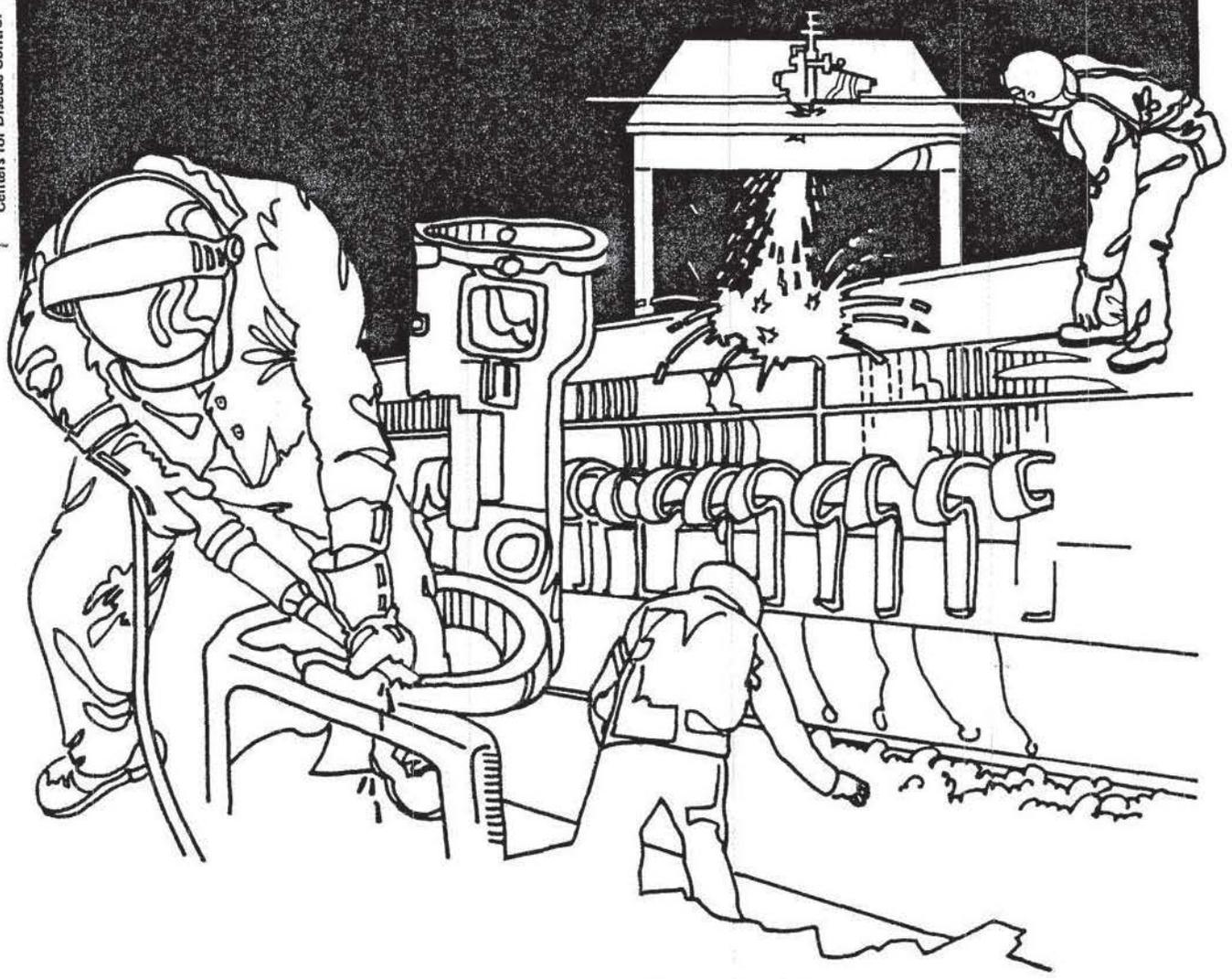


# NIOSH



## Health Hazard Evaluation Report

80-155-776

## PREFACE

The Hazard Evaluations and Technical Assistance Branch of NIOSH conducts field investigations of possible health hazards in the workplace. These investigations are conducted under the authority of Section 20(a)(6) of the Occupational Safety and Health Act of 1970, 29 U.S.C. 699(a)(6), which authorizes the Secretary of Health and Human Services, following a written request from 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.

Mention of company names or products does not constitute endorsement by the National Institute for Occupational Safety and Health.

HE 80-155-776  
DECEMBER 1980  
THE NEW YORK TELEPHONE COMPANY  
NEW YORK, NEW YORK

NIOSH INVESTIGATORS:  
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### SUMMARY

In May, 1980 the National Institute for Occupational Safety and Health (NIOSH) received a confidential request for a health hazard evaluation at the New York Telephone Company, 204 Second Avenue, New York, N. Y. The request was prompted by employee concerns which arose following a newspaper report of the results of a study, commissioned by the Uniformed Firefighters Association (UFA), in which firefighters who were injured in a fire at this site in 1975 were reported to have numerous "permanent" health problems related to this fire. On July 1, 1980 NIOSH conducted an environmental-medical survey to evaluate the health effects of the fire residue on telephone company employees who worked on rehabilitation of the building and to evaluate the composition of the residue from the fire which remained in many relatively inaccessible areas of the building to see if it contained PCB's.

Informal interviews were conducted with seven employees who were present during the walk-through, six of whom had worked during the rehabilitation period. Only two of these six recalled having any symptoms during the cleanup operation and no current work-related health problems were reported. The primary concerns among employees seem to be the possibility of long-term health effects similar to those reported in the UFA-commissioned study.

Employees were advised that the exposure of the telephone company employees participating in the rehabilitation was not at all comparable to the exposure of the firefighters engaged in extinguishing the fire, and that the toxic products of combustion which were likely to be present during the fire, would have dissipated quickly, i.e., within hours after the fire was out. PCB's, however, are stable compounds, and to determine if they were present, 6 wipe samples of the residue (2 from each floor) were collected from several selected areas as identified by employees. No PCB's were detected.

It is unlikely that as a result of clean-up or rehabilitation work telephone company employees had any biologically significant exposures to toxic substances generated by the fire.

Keywords: SIC 4811 (Telephone communications), PCB's, Rack Attendants, Switch Operators, Soot

## INTRODUCTION

In May 1980 NIOSH received a confidential request from an authorized representative of employees of the New York Telephone Company to investigate the possible adverse health effects associated with exposure to residue from a fire which had occurred 5 years previously at the switching center on Second Avenue in New York City. On July 1, 1980 a medical-environmental survey was conducted. On July 11 wipe samples of the fire residue were collected for PCB analysis. Results of these samples were communicated to union and company officials by telephone.

## BACKGROUND

The New York Telephone Company facility at 204 Second Avenue is an 11-story building of reinforced concrete. About 500 cables enter the basement cable vault, where they split and run up through slots to the distribution frames. On February 27, 1975 this building was the scene of a large fire lasting 16 hours involving over 700 firefighters. It was an extremely smoky fire which consumed cables and wire coated with lead, polyethylene or polyvinyl chloride. The fire destroyed the contents of the first 2 floors with the worst damage occurring in the sub-basement cable vault. The fire interrupted the telephone service of several hundred thousand customers and necessitated the rewiring of the entire building from the point where the destruction occurred to the frames. Within a few days of the fire, employees of New York Telephone Company and affiliated companies began the 6-week rehabilitation project - removing debris, reconnecting wires and rewiring frames. At its peak, nearly 4,000 workers were engaged in the rehabilitation.

Approximately 240 of the 700 firefighters (34%) reportedly required "medical attention" during the fire, many for smoke inhalation. Because of a concern among these firefighters about possible "permanent" health effects from this fire and concerns that they had not received adequate follow-up medical care from the Fire Department, UFA Local 94 commissioned a study from a private research group to determine the type and prevalence of health problems among the firefighters who had extinguished this fire. A list of 190 of the 239 "injured" firefighters was provided by the union; 113 of whom actually participated. The results of this study, entitled "Health Effects of the Telephone Company Fire of February 27, 1975" was released in the spring of 1980. A newspaper report (New York Daily News, April 24, 1980) summarized the findings of this study stating that "two-thirds of the surveyed firemen who were injured in a 1975 phone company fire... suffered permanent injury ...". The article also described the firefighters' concerns that the follow-up medical care for the injured firefighters was inadequate.

This article caused considerable concern among telephone company employees who had been involved in the rehabilitation. It was this concern that prompted the NIOSH request for a health hazard evaluation to determine if exposure to the residue from the fire posed a health hazard.

#### METHODS

A walk-through survey was made of the sub-basement, where the cables are located, and the 4th, 5th, and 7th floors where the distribution frames are located. Employees pointed out several relatively inaccessible areas (ledges, pipes, etc.) where residue from the fire was still present. Six wipe samples (two each from the 4th, 5th, and 7th floors) were collected from several of the surfaces with a "tacky" residue and analyzed for PCB's.

Informal interviews were conducted, with as many frame attendants and switchmen (on the 4th, 5th and 7th floors) as time allowed, to determine the presence of current health problems. Seven employees were interviewed, six of whom had worked during the cleanup/rehabilitation operation in 1975.

The UFA-commissioned study "Health Effects of the Telephone Company Fire of February 27, 1975" was reviewed to determine the relevance of its findings to telephone company employee concerns.

#### RESULTS AND DISCUSSION

No PCB's were found in the six wipe samples. Two of the six employees who had worked on the rehabilitation project recalled possibly work-related symptoms during the cleanup 5 years before - one, a transient episode of dizziness and the other, a transient rash on his legs which he thought was most probably caused by substances which had come in contact with his skin. No current health problems were reported. The primary concern seemed to be, rather, that employees might develop symptoms similar to those reportedly suffered by the firefighters and that there might be ongoing exposure to PCBs in the fire residue. The toxic smoke and gases emitted during the fire would have dissipated quickly, thus the exposures of the rehabilitation crews was not comparable to those of the firefighters.

While the firefighters may have suffered adverse health effects as a result of exposures during the fire, we think the UFA-commissioned study had major methodologic deficiencies which precluded an accurate assessment of this issue. Specifically, the questionnaire was sent to a select group of "injured" firefighters, not to the entire group, and the health effects of previous and subsequent fires were not considered. These basic design problems have to be kept in mind when considering the results. In our opinion, the study was not epidemiologically sound and the conclusions could not be supported by the data.

AUTHORSHIP AND ACKNOWLEDGEMENTS

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Copies of this report have been sent to:

1. The requestor of the hazard evaluation.
2. New York Telephone Company
3. Communication Workers of America, Local 1101
4. U. S. Dept. of Labor, OSHA, Region II
5. U. S. Dept. of Health and Human Services, NIOSH, Region II
6. The New York State Dept. of Health
7. Uniformed Firefighters Association, Local 94, I.A.F.F.-AFL-CIO

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