



Agency for Toxic Substances
and Disease Registry
Atlanta GA 30333

NOV 23 1990

The Honorable William K. Reilly
Administrator
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

Dear Mr. Reilly:

This letter is in reference to the enclosed Public Health Advisory for the threat of release posed by the uncontrolled storage of hazardous substances at the White Chemical Company Site in Newark, Essex County, New Jersey.

The Agency for Toxic Substances and Disease Registry (ATSDR) reviewed data and information supplied by the U.S. Environmental Protection Agency (EPA), Region II, and concluded that the issuance of a health advisory was warranted for this site. The site poses an imminent and substantial public health threat and would warrant dissociation of the population in the immediate area should a major release occur.

The advisory expresses our concerns and addresses measures to mitigate the risk to human health. By separate letter, Dr. Barry Johnson, ATSDR Assistant Administrator, has notified the EPA Region II Administrator and the Assistant Commissioner of the New Jersey State Department of Health of this advisory.

Sincerely,

William L. Roper, M.D., M.P.H.
Administrator

Enclosure

cc:
New Jersey State Department of Health

NOV 23 1990

AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

PUBLIC HEALTH ADVISORY
FOR
WHITE CHEMICAL COMPANY
NEWARK, ESSEX. NEW JERSEY

November 31, 1990

INTRODUCTION

On September 27, 1990, the U.S. Environmental Protection Agency (EPA) Region II requested that the Agency for Toxic Substances And Disease Registry (ATSDR) review information and data regarding the White Chemical Company (WCC) Site in Newark, Essex County, New Jersey, and to characterize the threat to the public health posed by the site. The ATSDR responded to this request by providing EPA with a Health Consultation on September 28, 1990.

The ATSDR concluded that the threat of catastrophic release posed by the uncontrolled storage of hazardous substances and conditions of ongoing release at the WCC Site poses an imminent and substantial threat to the public's health [1]. On the basis of that threat, ATSDR has determined that a Public Health Advisory is warranted for the WCC Site. This Public Health Advisory is issued to alert EPA, the State of New Jersey, and the public of a serious threat to human health from a threatened catastrophic release of hazardous substances.

BACKGROUND

The WCC Site is located at 660 Frelinghuysen Avenue on approximately 4 acres of land in a heavily populated residential and industrial area of Newark, New Jersey. The WCC is a former manufacturer of acid chlorides and flame retardant compounds [2]. The company has ceased manufacturing operations and has filed for protection under Subchapter 11 of the Federal Bankruptcy Code.

Approximately 12,000 people are estimated to live and work within a 1/4 mile radius of the site. The Newark International Airport is within 1 mile of the site. Immediately west and adjacent to the site are a feather bedding manufacturer and a sportswear manufacturer that collectively employ approximately 225 individuals. Across Frelinghuysen Avenue, within 1/4 mile of the site is Weequahic Park and several large housing projects. Immediately north of the site another garment manufacturer employs approximately 200 workers. To the east and adjacent to the site is a major commuter rail line. The Newark International Airport and U.S. Highway 1 are located approximately 1/2 mile further east of the site [2,3].

Since June 30, 1989, WCC has been cited for numerous Resource Conservation and Recovery Act (RCRA) violations by the New Jersey Department of Environmental Protection (NJDEP). These violations involved the illegal treatment of hazardous waste and the storage of hazardous wastes without the necessary permits. The WCC has not responded to these Notice of Violations [2,4].

A preliminary assessment conducted on the site by EPA, at the request of NJDEP on May 4, 1990, revealed the presence of over 8,000 drums of various chemicals and wastes. Numerous carboys, tanks, vats, and other containers were observed to be stored in a haphazard and chemically incompatible manner throughout the site. On May 8, 1990, NJDEP issued a directive to WCC requiring them to perform a cleanup of the site. The NJDEP did not receive a response from WCC regarding their directive. On May 15, 1990, NJDEP initiated a removal action at the site under the authority of the New Jersey Spill Compensation and Control Act. That removal action was halted in August 1990 when the project funding ceiling was reached [2].

On August 24, 1990, NJDEP requested that EPA assess the site for Comprehensive Environmental Response Compensation and Liability Act (CERCLA) removal consideration. An assessment of the site was conducted by EPA on September 7, 1990. During the assessment, EPA noted the presence of approximately 9,000 drums, several hundred cylinders and tanks, fiberpacks, carboys and several hundred lab size containers, improperly stored and precariously stacked throughout the 4-acre site. Drums and other containers were reported to be in varying stages of deterioration and leaking onto pallets, other containers, and the soil. Drums containing corrosive materials were observed to be leaking their contents and causing both the deterioration of the drums and the pallets which support them. The contents of numerous containers were observed to be fuming. A large quantity of drums were observed to be in advanced stages of deterioration.

The chemicals reported to be stored on-site included flammable liquids (toluene and xylene), oxidizers, corrosives (hydrobromic acid, hydrochloric acid, phosphoric acid, phosphorus tribromide, hydriodic acid, sulfuric acid), acid chlorides (capryloyl chloride, pivaloyl chloride, valeryl chloride), shock-sensitive materials (peroxides, ether), and a variety of organic acids. The acids and acid chlorides are reactive with water. Many of these substances will fume and liberate heat when exposed to moisture in air. Storage of these chemicals was reported to be without regard to chemical compatibilities. Most of the chemicals are stored outside without protection from weathering [2,4].

On September 27, 1990, EPA Region II requested that ATSDR review site information and data for the WCC Site to determine if conditions on the site posed a threat to the health of individuals residing or working near the site. An ATSDR Emergency Response Coordinator was immediately dispatched to the site for direct observation. The ATSDR Emergency Response Coordinator observed an ongoing release of fumes from numerous drums and containers on the site, unsafe and unstable storage of large quantities of hazardous substances, unlabeled leaking containers, and

mixed storage of leaking or open containers of incompatible materials. On September 28, 1990, ATSDR prepared a Health Consultation addressing the observed health hazards. ATSDR concluded, on the basis of the limited available data and the direct observations of the ATSDR Emergency Response Coordinator, that the WCC Site poses an imminent and substantial threat to the health and safety of residents and workers near the site [1].

On September 28, 1990, the Administrator, EPA Region II, initiated a Removal Action under the authority of CERCLA.

On September 29, 1990, the on-scene ATSDR Emergency Response Coordinator interviewed Plant Managers at the Personality Handkerchiefs Corporation of Newark, New Jersey, located immediately adjacent to the site to the north; and at Cooper Sportswear Inc. located immediately adjacent and to the west of the site. The Personality Handkerchiefs Corporation Plant Manager reported that some of their employees had experienced symptoms of respiratory system irritation as a result of the continuing airborne releases occurring on the WCC Site. He reported that plant operations had been shutdown and the employees had been sent home on two occasions as a result of irritating emissions from the WCC Site. These reports were consistent with observations made earlier by the ATSDR Emergency Response Coordinator. The ATSDR Emergency Response Coordinator observed stressed vegetation between an area of drums staged by NJDEP during their removal operations and the company's building, and reported strong irritating odors in the same area. An interview with the Cooper Sportswear, Inc. Plant Manager revealed that he had noted complaints from employees regarding odors and symptoms of respiratory irritation periodically during the summer months of 1990 as well.

BASIS FOR A HEALTH ADVISORY

The close proximity of worker and resident populations, the leaking and deteriorated drums and other containers, the large quantity of known reactive chemical substances stored on-site, the improper storage of incompatible substances, and the evidence of ongoing airborne releases occurring on the site, are of significant public health concern. Inadvertent mixing of even small quantities of flammable liquids and mineral acids present on-site could result in fire. The presence of unlabeled containers and their unknown contents present additional concerns. Additionally, in order to stabilize conditions at the site, the EPA will be required to identify the contents of unlabeled containers, classify and appropriately segregate the materials, repackage materials in dangerously deteriorated containers, and dispose of unrecoverable commodities. This will necessitate the handling of a large quantity of reactive, flammable, corrosive, and, at the present time, unknown chemicals. Operations of this type, conducted under the conditions present on the WCC Site, pose the potential for further hazards, including vapor generation, fires, and even explosion. These hazards can be minimized by proper work practices but are inherent to drum handling operations of the type described above [8]. Conditions of storage on the

WCC Site (i.e. visibly deteriorated containers, leaking containers, improperly segregated incompatibles) would promote rapid spreading of a fire, which could involve large quantities of flammable and toxic materials and result in a significant airborne release of toxic organic and inorganic chemicals.

Based on a review of the chemical inventory at the site, [5,6] storage conditions, ATSDR observations of leakage and ongoing releases, and threats of further releases from containers of known and unknown substances at the site, ATSDR considers a scenario such as the one described above to be a possibility. A release of this type would likely cause the generation of a plume that could contain relatively high concentrations of acid gases, or irritating and toxic substances which would significantly endanger the public and workers in the area. Inhalation exposure to vapors of acid gases (i.e., hydrochloric, phosphoric, and sulfuric acids) or any of the many acid chlorides present on-site can cause severe irritation of the eyes and upper respiratory tract, and may result in pulmonary edema. Persons who suffer from impaired pulmonary function, asthma, chronic bronchitis, or chronic obstructive pulmonary disease would be at greater health risk than the general population.

CONCLUSIONS

Based on ATSDR observations of storage conditions on-site, and the presence of large quantities of reactive chemicals, improperly segregated and in badly deteriorated containers, ATSDR concludes that:

- The threat of a catastrophic release posed by the uncontrolled storage of hazardous substances at the White Chemical Company Site in Newark, New Jersey, poses an imminent and substantial threat to residents and workers near the site, and
- The evidence of continuous airborne releases from the site, and reports of adverse health effects in nearby worker populations are of public health concern.

RECOMMENDATIONS AND PROPOSED ACTIONS

The ATSDR recommends that the EPA:

- Immediately undertake actions to stabilize the site. Such actions should abate the on-going releases occurring on the site, and identify and abate mixed storage of incompatible substances. Appropriate engineering controls and work practices should be instituted to minimize the hazards inherent to material handling operations of this type.
- Ensure restriction of public access to the site.

- Ensure restriction of public access to the site.
- Initiate appropriate continuous air monitoring activities at the site in order to detect and characterize contaminant migration from the site.
- Develop practices and procedures to notify the public of the need for protective actions in the event of a release.
- Develop an estimate of the impact of a release from the site caused by fire or explosion events that involve drum storage areas.
- Develop, in conjunction with the City of Newark, the State of New Jersey, and the ATSDR, contingency plans for the protection of the public health of workers and residents likely to be impacted by a release from the site. Such plans must include consideration for dissociation of the impacted populations from released contaminants. Development of these plans should be coordinated with employers and public facilities in the potential impact area.
- Continue to coordinate with ATSDR and other Federal health agencies to determine if nearby workers are at risk from the continuing emissions from the site.

The ATSDR and the State of New Jersey will:

- Assist the EPA and the City of Newark in the development of contingency plans for the protection of the public health.
- Provide appropriate health information, training services, and other assistance to local Emergency Medical Services and hospitals for the development of contingency plans and procedures for the care of chemically injured or contaminated patients.
- Continue to coordinate with EPA and other Federal health agencies to determine if nearby workers are at risk from the continuing emissions from the site.

For additional information, please contact ATSDR at the following address:

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 Agency for Toxic Substances and Disease Registry
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 Atlanta, Georgia 30333
 (404) 639-0610
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REFERENCES

1. Health Consultation: White Chemical Company Site, Newark, Essex County, New Jersey, Agency for Toxic Substances and Disease Registry, September 28, 1990.
2. Action Memorandum -- Verbal Approval and Funding Request for Removal Action Approval at the White Chemical Company Site, Newark, Essex County, New Jersey, U.S. Environmental Protection Agency, Region II, September 28, 1990.
3. Conversation between David M. Barry, Dr. Alan Susten and Scott Wright, Agency for Toxic Substances and Disease Registry, September 28, 1990. Refer to ATSDR Superfund Record of Communication dated September 28, 1990.
4. Memorandum from Yacoub Yacoub, Chief, Metro Bureau of Field Operations, New Jersey Department of Environmental Protection, to Wayne C. Howitz, Assistant Director, Hazardous Waste Enforcement Element, New Jersey Department of Environmental Protection. Subject: White Chemical Company case file # 07-14-83, dated October 4, 1990
5. Drum Inventory, White Chemical Company, U.S. Environmental Protection Agency, Region II.
6. Assessment Chemical List, New Jersey Department of Environmental Protection, revised by EPA Region II Technical Assistance Team, October 1990.
7. Facsimile transmission of preliminary analytical data, October 12, 1990. Transmitted by: Lisa Voyce, Public Health Advisor, ATSDR Regional Services, Region II, Agency for Toxic Substances and Disease Registry, Edison, New Jersey. Transmitted to: Scott Wright, Emergency Response and Consultation Branch, Division of Health Assessment and Consultation, Agency for Toxic Substances and Disease Registry.
8. Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, prepared by the National Institute for Occupational Safety and Health, Occupational Safety and Health Administration (OSHA), U.S. Coast Guard (USCG), and the U.S. Environmental Protection Agency (EPA), October 1985.
9. Situation Report #1, White Chemical Company, Environmental Health Scientist, Division of Health Assessment and Consultation, Agency for Toxic Substances and Disease Registry, October 09, 1990.