

GRAMERCY PARK

The Department paid \$100,000 in replacement costs for turnout gear that may have been contaminated during the massive steam leak in 1989. Photo by Steve Spak



Decontaminating Fire Gear

A sophisticated laundry operated by SOC goes into action whenever asbestos or bloodborne pathogen contamination is suspected at an operation.

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Forerunner

Downtown Brooklyn

purred by a series of events beginning with the massive steam leak in Gramercy Park four years ago, the FDNY has become a forerunner in developing an approved decontamination procedure for asbestos and bloodborne pathogens. The Special Operations Command Cleaning Facility in Downtown Brooklyn, in use since March of 1992, is a first among New York City agencies and among fire departments nationwide.

Gramercy Park

The U.S. Occupational Safety and Health Administration's final rules on asbestos and bloodborne pathogens mandate that the Department repair, replace, or launder any equipment suspected of having been contaminated at an operation.

Asbestos present

OSHA RULES: The relevant OSHA standard regarding asbestos can be found at 29 CFR 1910.1001 and the bloodborne pathogens standard at 29 CFR 1910.1030 (d). "CFR" stands for Code of Federal Regulations.

After several incidents where asbestos contamination had been a possibility, it became clear that the best option would be for the FDNY to set up

Con Ed cleaning

its own decon-capable laundry.

In August 1989, Fire Department units responded to a major steam leak in the Gramercy Park section of Manhattan. A high-pressure steam line insulated by several inches of asbestos had ruptured while under repair, spewing mud and asbestos particles over a large area.

Initial samples taken by Con Edison and the city's Department of Environmental Protection (DEP) at the location of the break suggested that asbestos was not a problem. But later tests from other sites, such as the upper floors of nearby buildings, proved positive. All operating personnel and their apparatus and equipment had to be decontaminated.

The Department bagged all the equipment it used at Gramercy Park, and it was delivered to Con Edison to be cleaned. In addition, Con Ed hired a firm to decontaminate the apparatus; that was done at the Fire Academy. Supply Store and Sup-

port Services personnel were ordered to report for duty because the Department-

REPLACEMENTS: The Department will temporarily issue turnout coats, helmets, and boots to members whose fire clothing is impounded because of suspected contamination. Through its Protective Clothing Storage Depot located at Special Operations Command headquarters on Roosevelt Island, the Department can replace up to 100 sets of fire clothing. See *All Borough Circular 13/85*, "Protective Clothing Storage Depot."

had exhausted its replacement inventory. The store was opened, the vendor was called to supply additional equipment, which was issued to those who had operated at the scene.

Con Ed bore the expense of cleaning the apparatus and laundering the impounded turnouts. However, the Uniformed Firefighters Association objected to the return of the laundered gear, because it wasn't possible to certify that the items were free of asbestos. The Fire Department had to absorb the \$100,000 replacement cost.

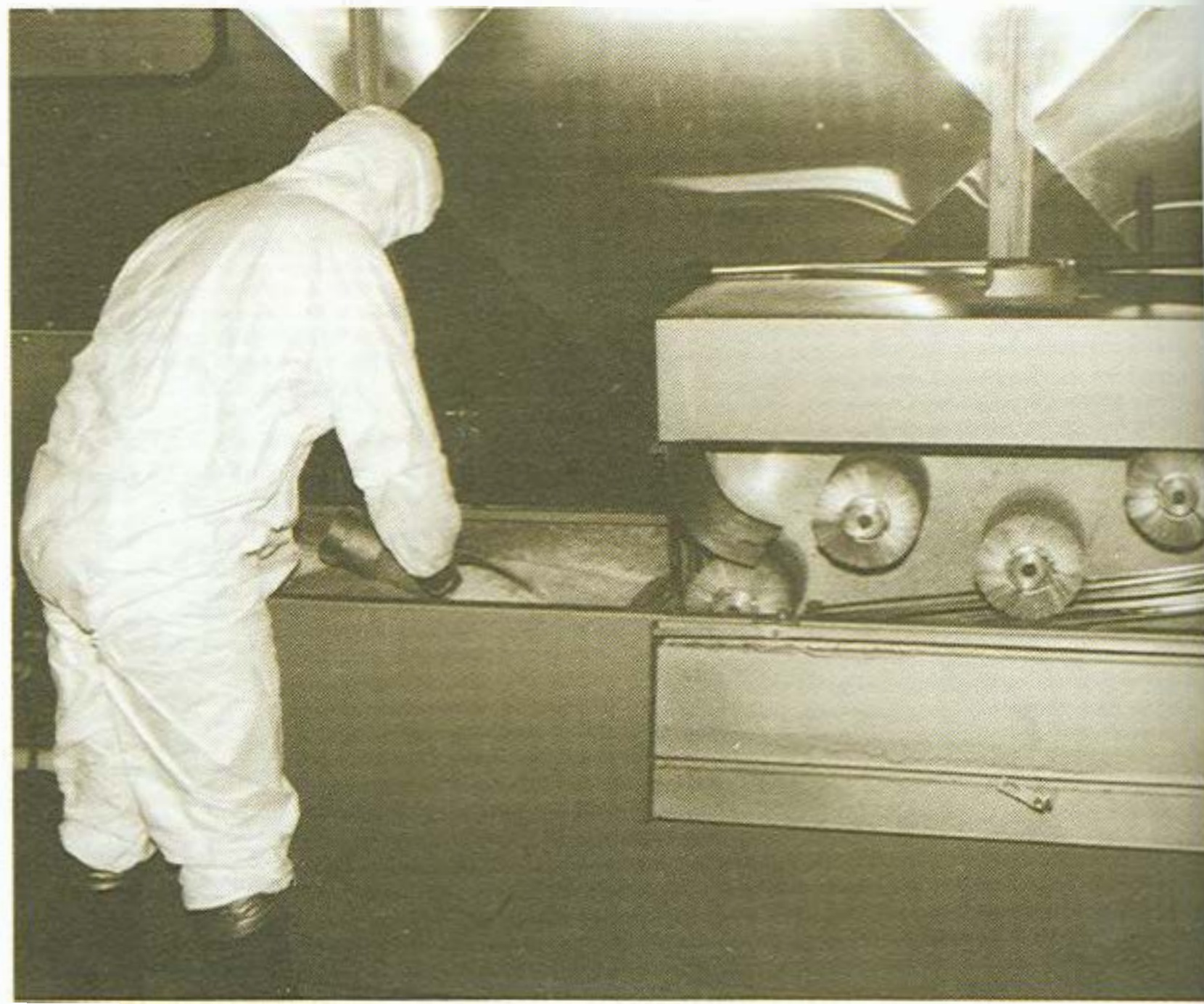
Then-D.A.C. Donald Devine contacted an independent lab with Underwriters Laboratories credentials to arrange a destruct test on a random sampling of items impounded at Gramercy Park. The lab informed us that no method had yet been developed to certify a garment totally free from asbestos, and it recommended laundering.

During the next few months, other operations occurred where asbestos contamination was suspected, and more equipment had to be issued. There was still no approved cleaning procedure. After the February 1990 fire at the former U.S. Gypsum plant in Staten Island, Fire Commissioner Carlos Rivera held a Sunday meeting at the Fire Academy.

Obviously, it was fiscally impossible to continue to absorb replacement costs, and imperative that the FDNY come up with an alternative. Commissioner Rivera directed Chief Devine, then in the Bureau of Operations, to submit a draft of approved procedures for laundering items suspected of asbestos contamination.

Chief officers assigned to Operations and to the Special Operations Command researched the problem by canvassing manufacturers of decon equipment; visiting their facilities; and meeting with Con Ed's OSHA director, DEP's director of asbestos operations, and the Health Department's deputy commissioner for occupational safety. At least one of the experts consulted told us that hosing off the gear would be sufficient; but Commissioner Rivera wanted a procedure that would provide the optimum level of protection to our members.

The original plan called for construction of a room, within an FDNY facility, that could easily be cleaned after each operation. Then, while visiting Mystic, Connecticut, to learn about the respirator cleaner manufactured by General



DECON ROOM

(Clockwise from above right)

- Decontamination is conducted in a prefabricated, steel room.
 - The process begins with vacuuming the gear.
 - Facepieces are placed in a respirator cleaner that looks like a dishwasher.
 - Another machine is used to wash fire hose.
- Photos by D.C. Joseph Gallagher



Recommended laundering

U.S. Gypsum fire

Canvass of manufacturers

Optimum level

Respirator cleaner

Decon room

Negative pressure

Filters and vacuums

Decon team

Dynamics Corp., Chiefs Devine and Gallagher also saw the prefabricated decon room that General Dynamics marketed to the atomic energy industry. This unit is equipped with stainless steel walls, an air lock, and openings for negative-pressure equipment (which prevents leakage from the room by maintaining a pressure less than that of the surrounding atmosphere).

The FDNY chose both the decon room and the respirator cleaner for its decon facility, which is located in Ladder 105's old quarters at 648 Pacific Street. Other equipment purchased included programmable washing machines; three-stage filtered pumps; high-efficiency particulate air vacuums, which capture particles as small as 5 microns; pressure washers; a fire hose washer tub; a negative-pressure unit; and air monitors.

Designated members of SOC attended classes to receive certification as asbestos



mander, then by Hazardous Materials Co. 1.

■ The Decon Unit is called, and the Emergency Medical Service's Emergency Response Squad responds to provide medical evaluation.

EMS ROLE: See "Personal Decontamination," by Zachary Goldfarb, WNYF, 3rd/89, p.16.

Impounding

■ Samples are sent to DEP for testing. (Results are available in about one hour.)

■ The Decon Unit impounds and double-bags equipment at the scene.

Shower and exam

■ Members who might have been exposed to asbestos on the fireground shower and undergo preliminary medical examinations.

■ An FDNY utility truck takes the impounded equipment to the laundering facility. (The cargo compartment of this truck is separated from the cab to prevent exposure of the vehicle's operator.)

■ The bags of equipment remain in the laundering room until cleaning is scheduled. Then, decon team members vacuum the items before washing each in the appropriate manner:

Types of gear

— Turnout coats are placed in the washer for a complete wash cycle. After that, they're air-dried, because tests have shown that putting them in a dryer may damage the vapor barrier. The spin cycle of the washer removes most of the water, and air drying will occur in less than 24 hours. Bunker gear may take 48 hours.

Turnouts air-dried

— Boots and helmets are pressure-washed.

— Radios are wet-wiped.

— Hose is passed through the hose washer.

— Mask cylinders, harnesses, and regulators are wet-wiped, or washed with soap and water where possible.

— Mask facepieces are put through a wash cycle in the respirator cleaner.

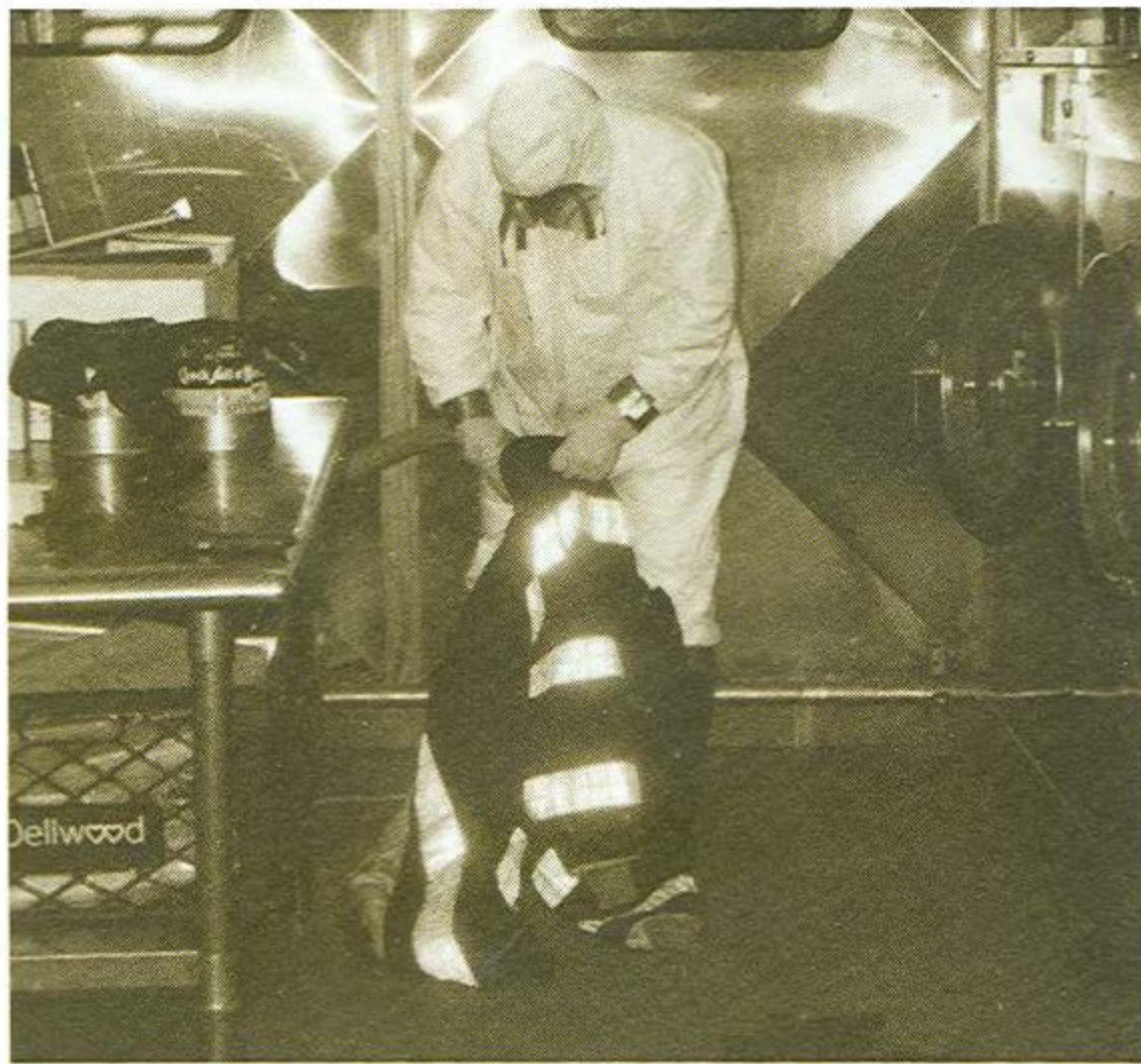
Work/duty uniforms are the responsibility of each member. Garments worn under turnout gear won't be contaminated if all the safety equipment is used as required.

Work-duty uniforms

Setting up the Department's specialized laundry has cost about \$70,000. The costs *avoided* by not sending equipment out to a contractor for decontamination were recorded through February of 1993, and they totaled \$2.3 million. Whereas the wait for impounded equipment to be returned could be more than a month with outside contractors, it's now 96 hours or less.

Costs avoided

The DEP's asbestos experts estimate that 99 percent of the Fire Department operations where asbestos is present pose no problem to the operating force. But as long as the perception of danger exists, the Department will continue to take all necessary precautions.



handlers, supervisors, and inspectors.

They'll be the cadre for the decon team and laundry facility, which recently has been used to clean equipment suspected of contamination with bloodborne pathogens, as well.

Bloodborne pathogens

Also integral to the asbestos decon operation are the members of Ladder Companies 15 and 20, who operate the

DECON UNIT: See "The Decon Unit," by James E. Curran, WNYF, 3rd/89, p.15.

Hazardous Materials Decon Unit apparatus. They

received training on asbestos awareness and were fitted for respirators to enable them to operate safely.

Cleaning procedure

Whenever asbestos contamination is suspected at a Fire Department operation, the following procedure applies. It's been approved by the city's Health Department and the Public Employee Safety and Health Division of the state's Department of Labor:

Decon zone

■ A decontamination zone is established, initially by the incident com-