

Smother Cancer Exposure with Clean Gear

BY HALEY JORGENSEN

All kinds of hazardous contaminants get into firefighter turnout gear,” says Fire Chief Mitchell Floyd, of Towns County Fire and Rescue (Towns County), in Hiawassee, Ga. But, just how bad are such exposures to firefighter health?

A comprehensive study by the University of Cincinnati determined that firefighters are twice as likely to develop testicular cancer and have significantly higher rates of non-Hodgkin’s lymphoma and prostate cancer than non-firefighters.

“The carbons and chemicals that impregnate gear during a fire can be inhaled or absorbed through the skin,” maintains Floyd. Dirty gear, he warns, must be promptly and properly cleaned to ensure firefighter health and safety.

FIREFIGHTERS AT MUCH HIGHER RISK OF DEVELOPING CANCER

Assistant Chief Scott Harmon, of Coweta County Fire Dept. (Coweta County), in Newnan, Ga., agrees. “Carcinogens stay on gear and are a major cause of death due to cancer,” he says.

The University of Cincinnati study supports what Floyd and Harmon have known for years. Firefighters are twice as likely to develop testicular cancer, have significantly higher rates of non-Hodgkin’s lymphoma and prostate cancer than non-firefighters, and are

at greater risk for multiple myeloma. Grace LeMasters, PhD, Ash Genaidy, PhD, and James Lockey, MD, report these findings in the *Journal of Occupational and Environmental Medicine*. “We believe there’s a direct correlation between the chemical exposures firefighters experience on the job and their increased risk for cancer,” says LeMasters, professor at UC.

As part of their work, firefighters are exposed to many carcinogens, including benzene, chloroform, soot, styrene, diesel engine exhaust and formaldehyde. Soot, in particular, easily permeates the skin near the groin, contributing heavily to testicular cancer.

REDUCING THE RISKS

Floyd and Harmon insist clean gear is critical to firefighter health. And, while Floyd and Harmon represent unique fire departments—Coweta County employs 142 full-time and 41 part-time firefighters serving an area of 442 square miles; while Towns County operates with three full-time, two part-time, and 50 volunteer firefighters serving 166 square miles—they face the same hazards. That’s why both fire departments recently installed a Continental Washer-Extractor and ExpressDry Gear Dryer.

SENDING GEAR OUT FOR CLEANING: EXPENSIVE & TIME CONSUMING

Now, rather than outsourcing the cleaning of gear a couple of times per year, it’s immediately and properly cleaned in-house according to NFPA Standards—better protecting the firefighters and those they serve.

“We sent gear out to a local company every two months to be cleaned,” says Harmon. “We spent about \$125 a set for each cleaning. Now that we have a washer in-house, gear is cleaned after every major—reducing our exposure and saving us money during hard economic times.”

AFG FUNDS LAUNDRY EQUIPMENT

That same savings is being realized at Towns County, where the purchase of the department’s laundry equipment was funded through the Assistance to Firefighter Grant Program (AFGP). AFGP offers

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millions in grants to fire departments nationally to improve firefighter safety. Floyd applied and received funds for 35 sets of turnout gear and the Continental laundry equipment to care for the new gear. “It isn’t a difficult process,” he says of the grant application. “It just takes a little time.”



process. This high-level programmability allows for turnout gear liners and shells to be properly cleaned according to NFPA guidelines: liners and shells are washed separately; water temperatures do not exceed 105 F; extract speeds do not exceed 100 G-Force; and a mild detergent with a Ph level between 10.5 and six is used. Once



and it’s dry in a few hours,” says Floyd. “In my 40 years, I’ve used a number of dryers and this is the most efficient, plus it allows us to dry boots, helmets, pants and jackets all at once. In the past, it was hard to dry boots thoroughly,” he says.

The dryer works by blowing a large volume of air, at high pressure, safely

Left Photo: Continental gear dryers allow fire departments to dry boots, helmets, pants and jackets all at once. Right photo: Mitchell Floyd of Towns County Fire and Rescue in Hiawassee, Ga installed a Continental E-Series Washer-Extractor to properly clean gear and reduce his firefighters’ exposure to cancer-causing carcinogens.

CLEANING TURNAROUND CRITICAL WITH ONE SET OF GEAR

As a volunteer-based fire department, Towns County owns only one set of turnout gear per person, at a cost of \$1,500-1,650 each. “There used to be a delay in the sending our gear out to be cleaned, and getting it back and returned to service,” says Floyd. “That was a big problem.”

Now, five sets of gear liners or shells are washed in one load using Towns County’s new 55-pound capacity Continental E-Series Washer-Extractor; whereas Coweta County washes three sets in one load in its 40-pound capacity Continental M-Series Washer-Extractor. NFPA 1851 guidelines indicate that soiled protective gear be washed in a highly programmable, front-load washer-extractor to eliminate the possibility of damage from agitation.

That’s what led these two fire departments to Continental distributor Wholesale Commercial Laundry Equipment S.E., in Southside, Ala. The team at Wholesale helped the fire departments select the appropriate equipment to meet their unique needs. While both washers offer exceptional programmability, the M-Series is a hard-mount machine and the E-Series is freestanding, offering installation without a concrete, reinforced foundation and bolts. At Towns County, it sits atop a wooden base in the firehouse’s truck bay.

PROGRAMMABILITY & FLEXIBILITY: CRITICAL TO NFPA 1851

Continental washers allow for programmability of every variable of the wash

the machine is programmed the user just enters a specific wash cycle number and presses start. The gear is cleaned automatically and properly every time—with the right mix of chemicals, water temperature, water levels and extract speed. So no matter who is doing the wash, the load results are perfectly consistent every time.

FIREFIGHTERS DO THE WASH

At Coweta County and Towns County, firefighters wash their own gear after exposure to fires or biohazards. Coweta County uses three programs: one for general cleaning, one for cleaning after a structural fire, and one for blood-borne pathogens exposure.

At both fire departments, firefighters doing the wash simply select a program number, and press start. “The automatic injection system puts detergents and other products into the system so there’s no measuring it out,” adds Floyd. “If someone says a cup of detergent is good, another will think a cup and a half is better. With automatic chemical injection, we don’t have to worry about mixing products and over-using chemicals, which could damage protective fabrics.”

RETURNING GEAR TO SERVICE SOONER: CONTINENTAL GEAR DRYER

Following a 30-40 minute wash cycle, items are placed on a Continental ExpressDry Gear Dryer, which safely and quickly dries personal protective equipment, including turnout gear, helmets, gloves, boots, face masks, and self-contained breathing apparatuses (SCBA). “Our firefighters put items on our six-position rack

through the garment—drying even hard-to-reach areas. NFPA compliant, the Continental ExpressDry Gear Dryer ensures firefighter gear is safely dried and returned to service in hours, not days. This is particularly critical for Towns County firefighters, who have access to just one set of gear.

“When you have a department with limited staff, you have to fulfill needs like this to provide optimum safety,” says Floyd. “Having the Continental equipment in-house is certainly more cost-effective than sending gear out for cleaning. We can properly clean gear according to our schedules, and know we’re providing optimum safety for our firefighters.”

To find out more about Continental laundry equipment – specially engineered for fire department applications – visit <http://www.continentalgirbau.com/opl/firedepartments.html>, or call 800-256-1073. To learn more about the AFGP grant application process, visit <http://www.usfa.fema.gov/fireservice/grants/afgp/>.

