
From: Hicks, Otis L Jr CIV USAF SAF-IE \(\US\) <otis.l.hicks.civ@mail.mil>
CC: CONESA, LEE A CIV USAF SAF-IE \(\US\) <lee.a.conesa.civ@mail.mil>
Sent: 10/28/2016 5:54:09 PM
Subject: FYSA//RE: AF testing???
Attachments: smime.p7s

Richard/All,

I'm back in the office now... I've "pasted" points developed with our SAF-PA and was shared with the OSD-PA folks, to use in response to queries:

- The Air Force did look at some forms of PFCs in the '80's for occupational exposure concerns. Those specific types of PFCs were never used in firefighting foam. Toxicity in rodents required extremely high exposure levels (even Aspirin can be fatal at high enough doses)
- AF does not conduct studies for public health exposures; we depend on EPA and CDC for that. No studies have yet proven causal link in humans between PFOS and PFOA and health impacts. Studies are still inconclusive. EPA named PFOS and PFOA "emerging contaminants" in 2009
- The Air Force is in the business of protecting people. Protecting Americans is what Congress-and our citizens-asks of their U.S. Air Force every single day. It's the mission that we wake up for each day and the mission we're passionate about
- The topic of PFCs in the foams we use to extinguish jet-fuel fires has the highest level interest from the Secretary of the Air Force on down. We are addressing it aggressively to protect people and the environment. The Air Force takes ownership of the possible negative impacts of our fire-fighting mission, and where we are responsible we will do the right thing to protect people and the environment
- Regarding the research conducted by Air Force laboratories over the years on PFCs or other chemical agents, I can tell you that, as in the past, the Air Force researches many chemicals and hazards involved in our line of work to ensure the occupational health and safety of the men and women who may have to handle various substances in their work
- Occupational exposures are distinct from public health and safe drinking water studies. Congress has endowed other federal agencies with the expertise, authorities and resources to study and set limits for public health, safe drinking water, and environmental safety levels-agencies such as the U.S. Environmental Protection Agency, the Centers for Disease Control, the Department of Agriculture, and the Federal Drug Administration
- With regard to the referenced 1981 study, we were able to research its history and determine that the chemical tested was never used in Aqueous Film Forming Foam (AFFF) and was only used in the research studies by the Air Force. To be clear, perfluorooctanoic acid (PFOA), an eight-chain carbon, and not NDFDA, a 10-chain carbon that was examined in the 1981 study, exists in AFFF, which-until recently-was the only fire-fighting product that met military specifications used to protect people and property from aviation fuel-based fires
- Based on technical guidance, the Air Force is required to use fire-fighting foam that has achieved military specification certification. As of November 2015, a more environmentally-responsible fire-fighting foam achieved certification, and the Air Force immediately announced nearly \$24 million in investments to retrofit our firetrucks, replace all stockpiled AFFF, and properly dispose of the old AFFF

- Ever since the USEPA identified perfluorinated compounds as contaminants of concern in 2009, the Air Force has actively worked to assess and address the presence of these chemicals at or near our installations and facilities. This is a two-pronged approach to assess the drinking water and ground water. The Air Force is sampling all of its drinking water with tests to be completed by the end of January next year
- Where the Air Force is responsible for contamination in drinking water the USEPA determines unsafe, we will immediately provide safe drinking water, and move out on longer-term steps to ensure safe drinking water. So far, 15 installations have begun mitigation processes to provide clean drinking water in areas where affected
- The Air Force has completed the preliminary assessment of ground water at 96 percent of the approximately 200 installations (active, Guard, Reserve and closed), where PFCs may have been released during fire-fighting activities, and we have begun site investigations to sample the ground water in those locations
- Additionally, the Air Force has restricted AFFF use for emergencies only and when AFFF is used, Air Force hazardous materials teams will treat the response scene as a hazardous site, and remove and destroy foam residue before contamination can occur

Hopefully this helps...To be continued...

Vr,
Otis

-----Original Message-----

From: Mach, Richard CIV OASN (EI&E), ODASN (Environment) [mailto:richard.mach@navy.mil]

Sent: Friday, October 28, 2016 10:01 AM

To: Hicks, Otis L Jr CIV USAF SAF-IE (US) ; Costantino, Joseph Col USAF SAF-IE (US)

Cc: Tesner, John E CIV USARMY HQDA ASA IEE (US) ; Long, Alexandria D CIV OSD OUSD ATL (US) ; Morefield, Deborah A CIV OSD OUSD ATL (US) ; Kivimaki, Kevin W CIV DLA INSTALLATION SUPPORT (US)

Subject: AF testing???

Otis and Joe,

What can you tell us about AF testing and the article below?

VR,
Richard

Intelligencer (PA)

October 24, 2016

Air Force Found Dangers from Firefighting Foam Decades Ago, Colorado Paper Reports

Kyle Bagenstose

The U.S. Air Force held private concerns about how its firefighting foams might be hazardous, even conducting its own studies showing harm to animals dating back decades, according to a news report from The Gazette of Colorado Springs, Colorado.

But the Air Force never sounded any alarm bells, the report said.

Responding to the findings, Pennsylvania lawmakers have re-issued calls for the military to disclose more information about what and when it knew about the dangers of firefighting foam.

"To learn now, through investigative reporting rather than notification from the military, that it has been aware of these risks for decades yet continued its aggressive use of (foam) without public disclosure is beyond unacceptable. It is enraging. And it only strengthens my call for a full, official congressional investigation," Congressman Brendan Boyle, D-13, Philadelphia, said in a statement emailed to this news organization Monday.

In an emailed statement, Jeffrey Sheridan, spokesman for Gov. Tom Wolf, said it would be "very concerning" if the Air Force did have historical knowledge of potential dangers and did not disclose it.

"While we are not aware of the content of toxicological studies in question, if the Air Force had knowledge of the potential dangers of these compounds and did nothing to protect citizens we would obviously find that very concerning," Sheridan wrote. "The governor and his administration will continue to work with state, local, and federal officials to address the issues stemming from the PFOS/PFOA water contamination."

The Gazette report, published Sunday, has national implications for communities struggling with drinking water contaminated by perfluorinated compounds, which are found in firefighting foams.

Use of firefighting foam at the former Naval Air Station-Joint Reserve Base Willow Grove in Horsham and the former Naval Air Warfare Center in Warminster is believed to have started in the early 1970s.

By 1979, the Air Force Research Laboratory at Wright-Patterson Air Force Base in Ohio, had conducted a study on a perfluorinated compound in the same family as PFOS and PFOA and determined it caused damage to the "thymus, bone marrow, stomach, mesentery, liver, and testes in the male rats," according to The Gazette.

Follow-up studies by the Air Force in 1981, 1983, 1985 and 1993 found more damaging effects to mouse tissue and cellular growth, and rat livers and birth weight, the paper reported.

Which specific perfluorinated compounds were studied by the Air Force were not disclosed by the report. While dozens exist, only a handful have been widely sampled or studied. But more recent studies conducted by independent scientists on PFOS and PFOA, the two compounds found in high concentrations in local water supplies, have found links to similar effects.

According to The Gazette, Air Force researchers explicitly stated that two of the studies were conducted due to concerns about how the perfluorinated compounds in foam might harm men and women in the Air Force.

As reported previously by this news organization, the Navy and Air National Guard didn't begin investigating perfluorinated compounds at local bases until 2011, some 40 years after the foams were first used.

Despite early detection of the chemicals in soil and groundwater on the bases in 2011, it took until 2014 for the military to begin testing nearby, off-base public water supplies. Testing by the military and Environmental Protection Agency has since led to closing 22 public and more than 150 private drinking wells in the area due to contamination. The chemicals could have reached the drinking water of more than 100,000 area residents, not including past residents.

In 2014, drinking water at the active Horsham Air Guard Station was tested and was found to contain PFOS at hundreds of times the level the EPA considers safe. Personnel there have been consuming bottled water since. This news organization asked a Navy spokesperson if the Air Force sent its studies to the Navy, and if the Navy conducted any of its own health effects studies. A response was not received.

The Gazette did report that in 1997, "A Navy study (attempted) to break down the toxic chemicals of firefighting foam using bacteria," but that the attempt failed.

The studies referenced by The Gazette were not publicly posted, and the paper did not reveal how it had obtained them.

Asked by this news organization to verify the authenticity of the studies referenced by The Gazette, Air Force spokeswoman Ann Stefanek said reporters for The Gazette sent only one of the referenced studies to the Air Force for comment. She said that study, conducted in 1981, analyzed perfluorodecanoic acid, not PFOA or PFOS.

"The Air Force has no knowledge that the chemical tested was used in the Aqueous Film Forming Foam and was used only in the research studies by the Air Force," Stefanek wrote in an email.

However, The Gazette reported the study's authors wrote the chemical was related to the firefighting foams used by the Air Force, and also that the study was conducted to gauge potential risks to female service members from foam. Stefanek said the EPA and U.S. Centers for Disease Control and Prevention are the federal agencies tasked with

conducting health studies.

"The studies that are referenced are for another purpose," said Stefanek, who did not clarify what the purposes had been.

She added that the Air Force had recently identified a substitute for the foam and "announced nearly \$24 million in investments to retrofit our firetrucks, replace all stockpiled AFFF, and properly dispose of the old AFFF."

Congressmen Patrick Meehan, R-7, of Upper Darby, on Monday issued a statement calling for the Air Force to disclose all of its materials.

"The Air Force needs to come clean immediately by making public all documents regarding its investigations into the health effects of PFCs, and I'll soon be formally calling on the Pentagon to do exactly that," Meehan wrote. "This is a question of who knew what and when did they know it. Many residents of our area already feel they're not getting the full story from Washington, and these sorts of disclosures do little to reassure them that they're getting the they answers need in a transparent and straightforward manner."