



**FEDEXMEC**  
Air Line Pilots Association, Int'l

## Environmental Standards Committee

July 25, 2016

From: Capt. Bob Avery, Environmental Standards Committee Chairman

### Newsletter #5

- Use of insecticides onboard FedEx aircraft
- Insite reporting—a perfect example of what we need to do
- Update of discussions with the Company

Fellow Pilots,

The ESC is jumping over the next promised subject—medical and research information regarding reported adverse health conditions caused by contaminated air, to discuss the use of insecticides onboard our aircraft. This information will be coming soon.

The following incident recently happened to me and will continue to happen to others until safety procedures are created and implemented. I believe my ASAP report (following) will sufficiently explain the issue. Hopefully, this report will provide international crews useful insight and guidance for avoiding a potentially hazardous health threat in our work environment.

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### ASAP Report ID: 30027

Date: 18 July 2016 (Z)

FDX Flight 77, HNL-SYD

Submitted by: Capt. Bob Avery, MEM MD11

During flight preparation, just prior to closing up the aircraft for block out, a cabin smoke alert illuminated in the cockpit. Less than 30 seconds later, a pungent odor filled the cockpit. The captain went to the cabin area to investigate and found the smell to be more intense with a light fog present in the air. The captain queried the ramp agent present in the courier area and was informed that insecticide had just been sprayed on the upper cargo deck. This explained the cabin smoke alert. Because the cockpit odor was intense, the captain turned the packs off and instructed the other two crew members to deplane. After 15 minutes the smell was still present

in the courier area but had dissipated in the cockpit. The crew resumed normal duties.

The APU was running and all three packs were on when the ramp crew sprayed the insecticide in the cargo areas. The crew presumed the strong odor in the cockpit and jumpseat area occurred when the aircraft ventilation system circulated the insecticide sprayed in the upper cargo deck. The crew was not notified when the upper cargo deck was sprayed, which is normal, given there are no procedures for crew notification.

The ramp agent on board our aircraft informed the captain this incident was not uncommon and another crew had recently evacuated the aircraft because a fog and pungent smell filled the cockpit and cabin after insecticide was sprayed.

Within 30 minutes of the crew's exposure to the insecticide spray, the captain experienced a tightening of the throat and sneezing. The relief flight officer experienced irritated nostrils. The first officer did not experience symptoms.

The insecticide spray used in FedEx aircraft cargo compartments for all HNL-SYD flights is Callington 1-Shot (Callington is the manufacturer). Besides Honolulu and Sydney, disinsection is also required for Columbia, New Zealand, Penang and Curacao, according to the FOM.

[The attached 1-Shot material safety data sheet](#) (MSDS) warns of potential health hazards associated with the product. Two chemicals in 1-Shot, d-phenothrin and permethrin, are toxic and potentially hazardous to human health, according to OSHA and the World Health Organization (WHO). Permethrin is the most toxic of the two chemicals. Both d-phenothrin and permethrin are listed as probably carcinogens by the International Agency for the Research of Cancer.

Attached documents disallow spraying of permethrin insecticides when human contact is at risk, except when specified protective measures are used. Permethrin products should never be inhaled, according to medical and technical documents, including those attached. [The attached 1-Shot MSDS](#) warns to avoid personal contact with the product and advises that protective clothing and equipment, including a respirator, should be used by personnel dispensing the product when risk of inhalation or dermal exposure exists. The 1-Shot MSDS contains a number of other warnings.

[The attached WHO document](#), *Recommendations on the Disinsecting of Aircraft*, states, "The flight deck should be treated at a suitable time prior to the expected occupancy of the flight crew, the door of this compartment then being closed and kept closed, except when being opened momentarily to permit the passage of the crew members, until the 'blocks-away' (pre-flight) treatment and the take-off of the aircraft are completed." This blocks-away procedure is not accomplished on the HNL ramp. Only the pre-flight treatment is accomplished—and with the crew onboard.

According to the attached WHO document, the aircraft ventilation system must be closed during pre-flight spraying, and for a period of not less than five minutes following dispensing of sprays containing permethrin." Section 5.1 of [the attached document](#), *Schedule of Aircraft Disinsection Procedures for Flights into Australia and New Zealand*, states the same minimum 5-minute warning. According to the manufacturer of 1-Shot, the ventilation system should be off for 10

minutes following spraying of this product. This time warning exists because 1-Shot is heavier than air and is designed to settle onto surfaces in undisturbed air. Settling onto surfaces mitigates the risk of inhalation when the aircraft ventilation system is turned on after spraying. If the product is drawn into a packs-on air system, the spray circulates to all areas, including the cockpit.

The WHO has describe disinsection as a procedure that would not cause risk to human health “if carried out with the recommended precautions,” according to the [attached Airline Cabin Environmental Research \(ACER\) document](#). This document states that adverse health effects have been reported by flight crews and that urine tests conducted on flight crews where disinsection was performed showed significantly higher levels of associated toxic chemicals after disinsection flights. Additionally, the document states, “The risks to crewmembers and the flying public associated with exposure to pyrethroids (permethrin) at the levels (stated within the document) need to be reviewed.” (ACER is funded through an FAA Cooperative Agreement entitled “National Air Transportation Center of Excellence for Research in the Intermodal Transport Environment”).

Over the past year, I have communicated my concerns on this subject to appropriate FedEx managers in MEM and HNL. HNL personnel I have spoken with say they have never been given training, advised of warnings or received procedural information for spraying insecticides onboard aircraft, except where to discharge the cans. This was confirmed again on July 18, the day of this incident. Additionally, pilots have never been given safety information regarding aircraft disinsection procedures.

The fact that ramp and flight crews have never received safety information is concerning. It is especially concerning for ramp crews because the same people are exposed to this safety threat every day over a period of years. Publishing readily available safety procedures and warnings would mitigate risks associated with aircraft disinsection, thus protect the health and safety of FedEx personnel—an action that seems necessary given commitments within our FedEx Safety Management System.

In the interest of health and safety for flight and ground crews, I recommend that FedEx Flight Safety and/or Ground Safety prepare and deliver information on the use of insecticides onboard our aircraft.

Note: I am aware of Callington 1-Shot dispensing recommendations and health and safety warnings regarding aircraft disinsection due to my former work with the FedEx Aircraft Cleaning Program and current work with the ALPA Environmental Standards Committee (ESC). Information I have obtained comes from government sources, technical and medical sources, speaking directly with Callington (the manufacturer) representatives, and a number of conversations with HNL ramp managers and ramp crew members.

(End of ASAP report)

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To arm you with information on your next disinsection flight, [here is a photo of Callington 1-Shot](#)

[Aircraft Insecticide](#) used by FedEx to spray all cargo holds, including the top deck. 1-Shot is always in this red can.

[This is a photo of Callington Pre-Spray](#), used by FedEx to disinsect the aircraft cockpit and courier area. [The Callington Pre-Spray Technical Data Sheet](#) states, "A preflight spray must be applied to the flight deck, all toilet areas (including upper deck where applicable), lockers and crew rest areas before crew and passengers board." At FedEx, Pre-Spray is dispensed when crew members are onboard. Pre-Spray is always in this green can.

[Here is an August 2016 news article](#) about the U.S. Air Force disinsecting cargo aircraft to fight the Zika virus. The Staff Sergeant in the photo is spraying 1-Shot—the same product used by FedEx, according to the story. Note that he is equipped with the proper protection, as specified in the 1-Shot MSDS—gloves, coveralls and a respirator. The article states, "After spraying, the aircraft are sealed for 20 minutes, then ventilated before crew can enter without respirators. The Air Force is diligent about following all safety procedures, according to this article.

[Here is a photo of a FedEx ramp crewmember spraying](#) 1-Shot in the upper deck of a FedEx aircraft. Not only is the ramp crew member wearing a t-shirt and shorts and using no safety equipment, he is standing in the middle of the fog created by the three cans he is discharging. This is especially concerning because HNL ramp personnel spray these products every day over a period of years. Additionally, the spray is not being distributed through the length of the cargo compartment, as attached documents specify should be done.

In no way is the ALPA ESC attempting to create or modify any FedEx procedure with this newsletter. That said, we recommend pilots consider these steps to guard your own health and safety on disinsection flights:

- Make a request to the ramp manager and load team to notify the crew before insecticides are sprayed and when spraying is complete on the upper cargo deck.
- Before spraying commences, make sure the packs are off and the cockpit door is closed, and remains closed, for at least 10 minutes after disinsection is complete.
- If spraying of insecticide results in a strong odor in the cockpit, consider deplaning until the odor dissipates.

Even this precaution may fall short of published procedures, but it's a start.

Given the numerous safety procedures and warning in the attached documents, the ESC believes this is a serious matter that should be addressed immediately. The cost of implementing changes is very low for FedEx while benefits for flight and ramp crew members are very high.

If you are directly exposed to insecticides during an aircraft disinsection event, the ESC strongly recommends submitting an ASAP report. Besides notifying FedEx Flight Safety and the FAA of unsafe operations (a FOM 2.15 requirement), the ASAP will serve as a record of exposure in the event you suffer medical consequences from the spray.

#### **Insite reporting - a perfect example of what we need to do**

During cabin preflight, a pilot on a recent MEM-NRT flight opened the paper towel dispenser door

in the lavatory during his search for hand soap. [He found these paper towels](#), which were covered with grease and dirt—apparently from the person’s hands who installed the towels in the holder. The pilot asked these valid questions: *Who thinks it's okay to handle clean paper towels with such filthy hands? Did this same person also handle the coffee pot or touch the galley with the same filthy hands? The seats? The bedding materials? Did he stock the ice chest? Did this person connect and operate the toilet servicing cart before all the above?* These and more cross contamination questions come to mind regarding proper training for personnel servicing our lavatories, ice chests and catering. (By the way, the pilot reported there was no hand soap on the airplane.)

The pilot submitted an Insite report with the photo, which is exactly what we must do if we expect to achieve reasonable hygienic and cleanliness standards. Management cannot fix what they don't know about.

Remember: *No data = no problem = no change.*

Many thanks to this pilot and all pilots who have taken the time to file Insite reports for environmental standards issues. Every report takes us one step closer to acceptable hygienic conditions in our work environment. The more reports filed, the faster we will get there. If you have not read the Insite report discussion in [ESC newsletter #4](#) (What we can do to help ourselves), please do so.

### **Update of discussions with the Company**

FDX ALPA leadership recently received word that FedEx will conduct air testing on our aircraft. It is encouraging to report that the ALPA ESC has been invited to participate in this testing, with consultation from the industrial hygienist who serves as our subject matter expert.

### **We need your feedback**

If you have a story, question or comment on aircraft disinsection or any other work environment issue, please send it to [FedEx-ESC@alpa.org](mailto:FedEx-ESC@alpa.org) or call/text ESC Chairman Bob Avery. We continue to receive a lot of valuable information from pilots who are engaged. This recent proactivity has been a tremendous help in supporting our efforts. We cannot do this alone.

### **About the FDX ALPA Environmental Standards Committee (ESC)**

The ESC was established to foster acceptable hygiene and health environmental standards in our pilot workplace. The ESC mission is to research, document, report on and positively impact health, safety and hygiene related environmental threats and issues that exist on board the aircraft we fly. We will work in a diligent, responsible and professional manner with a sharp focus on our reason to exist—guarding the health and wellness of every FedEx pilot, every day they fly.

[Review ESC newsletter #1 \(introduction of ALPA ESC Committee\)](#)

[Review ESC newsletter #2 \(report on March 31 ALPA briefing to FedEx\)](#)

[Review ESC newsletter #3 \(discussion of environmental issues and threats\)](#)

[Review ESC newsletter #4 \(helping ourselves\)](#)

We live forever with the standards we accept today. Fly safe and fly healthy,

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