

tor discharge at 1 foot and 4 foot elevations. The results of the test indicated that a 380 degree drop in temperature occurred at the 4 foot level and a 100 degree drop occurred at the 1 foot level with a short burst of water/agent (3-5 seconds) from the penetrator tip.

The ability of the foam to break the surface tension of the water allows for greater penetration into the burning materials on the aircraft. Water is held in suspension in the form of the foam bubble. Depending on the amount of foam solution these bubbles will cling to the horizontal and vertical surfaces as the bubbles pop they gradually release their water contents. This allows for a longer time for water to persist in the fire area, penetrate, and perform extinguishment process. Our members are trained to use water and foam for the penetration operation.

At our ARFF station we have two members that were involved with the initial inception and implementation of the flash over training for our department. Their credibility and expertise has been invaluable in the justification and evaluation of the penetrator usage for the aircraft scenario. With the experience with the flash over

conditions and actual testing we are instructing our members to use only short bursts in the passenger cabin environment when trying to affect the thermal layer.

The deluge option the thermal layer and steam is force down into the survivable area on the floor which is unacceptable. With the HRET and penetrator option we have the ability to increase the survivability inside of the aircraft so that more passengers will have the time to be rescued or self evacuate. The key to the passenger scenario is, **“time equals lives”**

CARGO AIRCRAFT

With the cargo scenario we want to make a few assumptions.

- not a catastrophic crash.
- no external pool fire, aircraft is intact and on the landing gear.
- not a hazardous material ULD that would have a extinguisher system attached.
- we only have available water/foam no clean agent for our penetrator.

Not like the passenger scenario where we are trying to change or reduce the thermal layer and increase the survivability time inside the fuselage the cargo scenario is one where we anticipate making a pin point attack on the seat of the fire. As with the passenger aircraft

we can use a number of identifiers to locate the heat source. Physical indications and information from the pilot are good sources but again the most accurate indicator for the heat source will be the TI camera.

You again will want to get the best possible information from the flight deck. If this information is limited or unclear Snozzle operators communicating with incident commanders will determine the possible options. When the operator has determined the beat possible location announcing over the radio will allow companies on scene, other members, and at LAX the other Snozzle apparatus how they can assist with the operation.

Incident command at this point would notify the flight deck and inform them of the ARFF intentions. The pilots have a responsibility in securing the aircraft and performing their emergency procedures so a informed pilot and ARFF group will best serve the abatement of the incident.

In placement of the apparatus and penetrator in a cargo incident a number of factors should be considered. There are basically two options with the penetrator placement if the extinguishing agent is water/foam. You can target the ULD “Unit Load Device” and hopefully contain the fire to the involved igloo or target above the igloos to rain down over the top of the cargo. When the target area is above the ULDs the penetrator tip location will be 18-20” above the window line. (Photo left)

We have found that the option of targeting 18-20” above the window creates a problem with the penetrator tip to gain a purchase so the tip can pierce the fuselage skin. To reach that height for a wide body aircraft on the landing gear the upper arm of the boom would be above horizontal (level).

