The following is an excerpt form an article originally published in the **Aircraft Rescue & Fire Fighting Working Group (ARFFWG)** ARFF News May/June, 2011 edition by Edwin A. Jones, Assistant Chief/Training Officer, Cleveland Airport Fire- Rescue, Cleveland, OH. The **ARFFWG** is a non-profit international organization dedicated to the sharing of Aircraft Rescue &Fire Fighting (ARFF) information between airport firefighters, municipal fire departments, and all others concerned with aircraft fire fighting. With membership participation from around the world, your membership is welcomed. Please visit www.arffwg.org for more information.

Got Water?

As you all know, aircraft mishaps and other emergencies can occur at any time with or without notice. China Airlines flight 120 (Aug 2007) in Japan, UPS flight 1307 (Feb 2006) in Philadelphia, and most recently the Fuel Storage Tank fire in Miami (Mar, 2011) are all examples of large-scale emergencies where large volumes of water were needed to produce AFFF (Foam). Imagine being the IC at any of those emergencies and being told the water system is down. What would you do?

On May 14th, 2011, the Cleveland Hopkins International Airport (CLE) Aircraft Rescue and Firefighting Department (ARFF) hosted a water shuttle operations exercise in conjunction with the State of Ohio Emergency Response Plan, facilitated by the newly formed Ohio Fire Chiefs' Association Water Movement Technical Advisory Committee (TAC). The objective of the first-ever water shuttle exercise was to test our ability to summons outlying fire departments equipped with mobile water supply apparatus (water tenders) in order to deliver large volumes of water to ARFF apparatus during a water outage such as the 2003 blackout. Some of you may recall the Northeast Blackout of 2003, which was affected fifty- five million people in eight states in the Northeastern and Midwestern United States and Ontario, Canada in August, 2003. We wanted to be able to sustain a water flow utilizing a tender shuttle and nurse tender operation in order to provide extinguishing agent (foam).

Those of you at airports in rural areas may already have water-shuttles in your SOP's, MABAS, and AEP and this is "old-news". For those of you in urban areas such as Cleveland, if you don't have a system in place, you may want to think about developing one. Many of us rely too much on hydrants and generators to provide us with water during an emergency. It was this reason we wanted to get out of our comfort zone and think of a worst case scenario. Even though part of the CLE ARFF Vehicle fleet consists of a 3,000 gallon water tender, little planning had taken place to deal with a situation once the tender was exhausted.

Planning for the exercise began last October with several meetings, phone calls, and emails between Chief's, Assistant Chief's, and Training Officers as well as other agencies in order to coordinate the exercise. Since water-shuttle plans aren't in existence in the Cleveland area, several surrounding county plans were gathered and reviewed in preparation for the exercise and future development of SOP's. The scenario was to simulate a large aircraft mishap with fire and sustain a minimum of 500-1000 gallons per minute (gpm) for sixty (60) minutes. Fifteen (15) department tenders in addition to CLE ARFF's tender representing five (5) counties participated in the exercise.

Chief Briant Galgas of Middleburg Heights Fire Department (MHFD) - suburb 3-miles southeast of Hopkins agreed without hesitation to participate and quickly identified a fill site at a nearby lake. Chief Galgas briefed his personnel and they immediately began preparing for their part- the draft. Two other engines were assigned at the fill site. Two engines drafted and filled tenders simultaneously as they arrived at the fill site. The third engine was on standby in the event one of the other engines developed mechanical issues.
Three (3) portable dump tanks were set up for the tenders to dump into. A draft was established by CLE ARFF Engine-11 and three hundred feet of LDH supply line laid to an Oshkosh T-3000. The T-3000 discharged water through the roof turret on low and high flow averaging 1,200-1,500 gpms. The dump tanks were set up in-line with each other. ARFF-11's pump operator drafted from the center tank while the two outer tanks were filled by incoming tenders. Jet-Siphons were utilized by ARFF-11 to siphon water through a 6-inch hard suction in each of the outer tanks into the center tank. A 7,000 gallon water tender (tractor-trailer) was on hand for the sole purpose of ensuring the tanks were full in the event of a delay from the fill site (i.e. railroad crossing delays). Even with three tenders getting stopped by passing trains, the dump tanks never dropped below ½ tank. The large tender was not needed throughout the one hour and thirty minute exercise.

Since departments from multiple counties were involved, several portable Multi-Agency Radio Communications System (MARCS) radios from CLE and Cuyahoga EMA were utilized to minimize communications issues. With 16-departments participating, another challenge was the variety of hose threads. The diverse capabilities among departments meant Cleveland included Akron, NST threads and Storz couplings had to be taken into account. Fortunately, adapters were plentiful and water flow was not compromised.

A Spreadsheet was developed and sent to participating departments in order to obtain information about each type of apparatus. Once all eighty-six personnel arrived for the exercise, a safety and operations briefing was conducted. Key personnel were appointed positions in accordance with NIMS protocols. Personnel were briefed on the objectives and safety concerns such as wearing high-visibility vests, traffic routes to and from the fill site, and navigating railroad crossings.

Once each tender returned to CLE from its second trip to the fill site the exercise was terminated. Each round-trip averaged just under 30-minutes per tender. An informal debrief was conducted at the station before releasing the troops to get some well-deserved lunch. Several lessons were learned as a result of the exercise. SOP's will be developed in order to streamline the notification process, response, and enhance the interoperability between responding departments.

With the support of 15-participating departments, CLE ARFF demonstrated their ability to effectively deliver extinguishing agent under less than desirable conditions. It was an impressive accomplishment for all involved. I would like to extend a special thanks to Parker Browne for his assistance. Parker serves as the Committee Chairman of the Ohio Fire Chiefs' Association Water Movement Technical Advisory Committee was the key advisor throughout the planning process.

CLE ARFF Chief Roosevelt Davis and officials at Cleveland Hopkins International Airport also deserve recognition for their support in this exercise. Thank you to all involved!
Article re-submitted with approval from the ARFFWG Board of Directors. See photos on adjoining pages.

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One of 15- water tenders offloads its water into a dump tank at the dump site while another waits its turn. Carlisle Townships' 7,000 gallon tractor trailer was positioned as a nurse-tanker if needed.

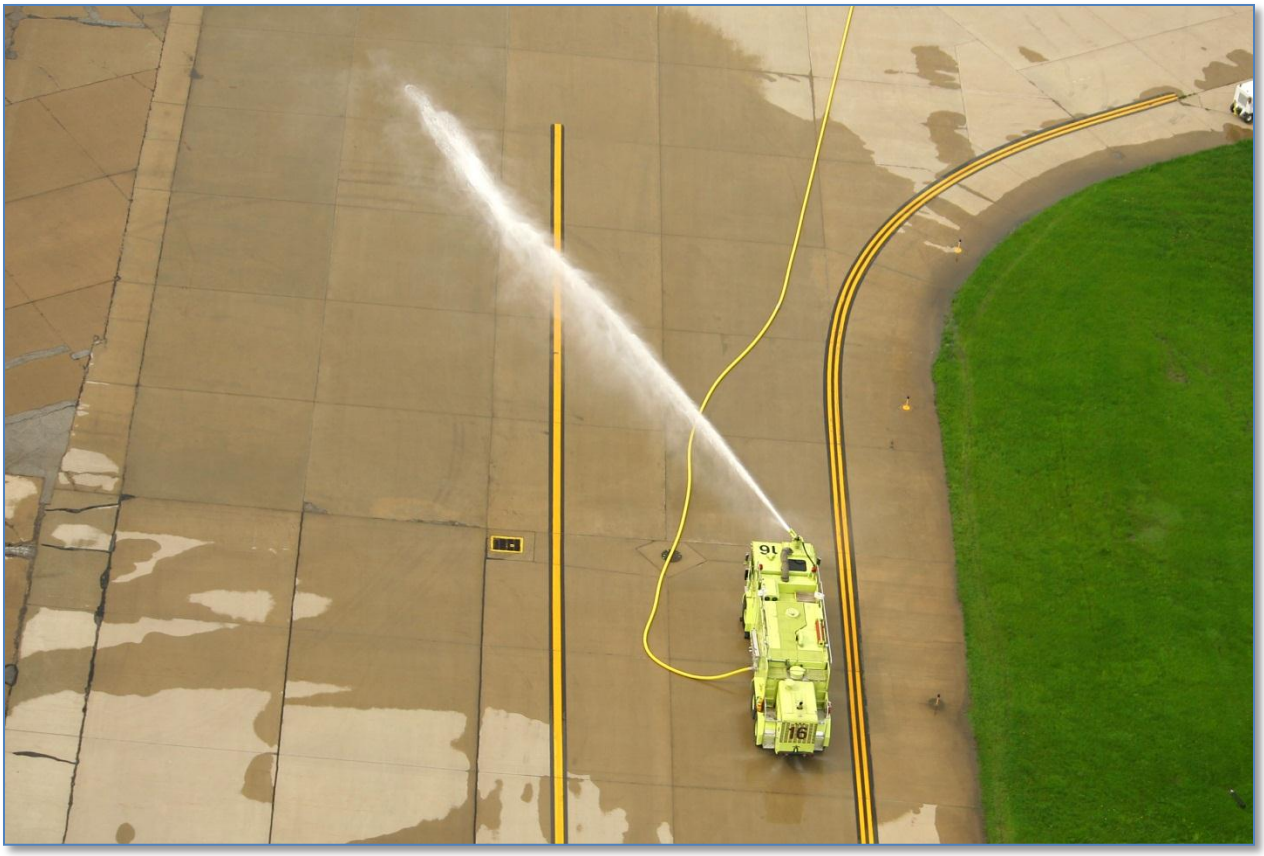
An aerial shot of the entire dump site operation is seen here. Site entry, Law Enforcement (Cleveland Police), dump site, ARFF apparatus resupply, and the site exit route (cones) can be seen here along with additional ARFF apparatus and observers.

Fill site operations were conducted 3-miles southeast of the airport in Middleburg Heights. Two engines filled tenders as they arrived. Two tenders are being filled here as two others (full) head back to the dump site. Brecksville FD's back up engine is also visible (bottom of photo).

Water tenders in position at the dump site. CLE ARFF-11 resupplied ARFF-16 with a single 4-inch LDH using the dump tanks as its source. Several observers were on hand for the exercise.

Water tenders traveled cautiously through local neighborhoods getting to and from the fill site in Middleburg Heights.

Middleburg Heights and Valley View FD's provided non-stop support at the fill site. Brecksville FD also provided an engine as a backup as well as a tender for shuttle operations. Water was discharged from the engines back into the lake in order to maintain the draft when not filling tenders.



CLE ARFF-16 flowed between 600-1200 gallons per minute (gpm) for sixty (60) minutes while alternating between roof & bumper turrets.

Photos taken by Ed Jones with the support of Cleveland Police Aviation Unit and Pilot Arthur Fantroy.