



## Aerial Firefighting Airshow & Conference

McClellan Aero Park, Sacramento, California, U.S.A., 19-20 March 2014

### Chairman's Conference Report

#### Introduction

The return of Tangent Link's Aerial Firefighting conference to the McClellan Aero Park in Sacramento was endorsed by a record attendance of over 200 delegates from 15 countries including 23 Exhibitors. The excellent facilities for a Static aircraft park and a Live Aerial Fire Fighting Demonstration points to this venue as the natural home for the biennial North American event. As the home territory for CALFIRE and the principal sponsor DynCorp International (DI) Aviation, it attracts those with both a flying and an aircraft maintenance interest.

Other than for a brief period of light rain, the drought in this part of the United States has endured for 14 months and the recent decisions on the 'Next Generation' contracts for Air Tankers will be sorely tested in what is forecast to be a severe Wildfire season. Passion was the hallmark of the event with strongly held views expressed on both sides of the debates on meeting the public safety, and protection of the environment and property remits, against a background of fiscal constraint. This, notwithstanding the assurance given by the President, speaking on the death of firefighters, that 'we can provide all the resources they need'. While key issues were of necessity US-centric, there were broad lessons to be learned from the conduct of Aerial Firefighting by, and from other nations, with technological developments of benefit to the worldwide community.

#### Issues

##### Wildfire intensity

Increased Wildfire intensity is not unique to California and Stuart Midgley, the Assistant Commissioner for NSW Fire Service, attending the Wildland Urban Interface Conference in nearby Reno, was on hand to brief a level of fire activity in 2013 not seen for 50 years. The global nature was reflected in Chief Ken Pimlott (Head of CALFIRE)'s characteristically robust 'Welcome Address' in which the State is facing a 200% increase in fires over the 5 year average (with 730 fires since the start of the year). While bringing resources forward to counter the imminent threat, he also faces the challenge of stabilizing the budgets. In terms of aircraft availability, CALFIRE has, for the third year running, been awarded the FAA Diamond Award for Maintenance.

## **Principal VIP Sponsor**

Major General James Myles, VP DI's DynAviation Group has a distinguished military background and relates DI support to Aerial Firefighters as on a par with that deserving of 'Warriors' in high intensity warfare. Hence his topic the 'Battle against Wildfires' as a 'War with no End'. This reflects his and DynAviation commitment to Aerial Firefighting and the company's most welcome Sponsorship.

## **Water**

An electrifying 'Opening Address' was made by Senator Steve King of Colorado, who identified his concerns, which should be shared by the 40M in Colorado, California and Mexico, who depend upon the Western Slopes in Colorado for 80% of their water. This is threatened by 4 Million acres of tinder dry trees killed by bark beetles and under immediate threat from forest fire. 70% of this is on Federal land for which remedial legislation has been enacted, but not funded (meanwhile \$48M has been spent putting fires out). This has prompted the Senator to introduce his own legislation proposing a public-private funding model for aerial firefighting assets in Colorado. This is against a background of the Next Generation Contract for air tankers which promises to fall considerably short of its planned availability, owing to the costly task of upgrading most of them to an appropriate maintenance standard and the incorporation of essential role modifications.

## **Next Generation Contracts**

The next generation contracts for large air tankers (LAT with 3000 gallon delivery capacity and above), have been mired in controversy with legal challenge to the initial awards, followed by counter protests, all of which has left hitherto reliable providers without the contract assurance required to invest in appropriate platforms for the future. Of those contracts awarded, not all will be ready for the fire season. Seven C130s are being transferred from the USCG, but these require major overhaul and conversion and will not be ready for the forthcoming season, (nor perhaps the next), the whole falling well short of the estimated requirement for 18-28 LAT.

Tom Harbour, Director of the USFS, and architect of the new contracts, acknowledged, implicitly, the shortcomings of the various contracts and procurement, and the lessons learned. Other presenters were equally critical of the awards which threaten the availability of assets in the forthcoming season. Many assessments of Safety and Effectiveness identified by the 'Blue Ribbon' Panel convened in 2002 after the in-flight failure of two air tankers, have not been enacted. This included that there should be a separate Aerial Firefighting Organisation with the necessary competences, the lack of which was acknowledged by the Director at the conference two years ago and repeated at this. The budget holders in the Bureau of Land Management appear ill equipped to make the necessary investment judgments.

## **Workshop**

Before the Conference proper, a day long Workshop was held under the auspices of the Associated Aerial Firefighters (AAF), a volunteer group representing the fixed wing element of Aerial Firefighting. Their earlier Chairman Walt Darran, a lifelong champion of the cause of AFF, had promoted the key principles of SEE - Safety, Effectiveness & Efficiency and before his untimely death a few months before the conference, left as his legacy a valuable paper encouraging all parties to work together, avoiding private agendas pursued by individual groups. Walt's memory was

honoured at the conference gala dinner in the Aerospace Museum (most generously funded by the Principal Sponsor DI) with the Tangent Link inspired annual award for the greatest contribution to aerial firefighting. The first recipient, George Petterson had privately investigated the earlier in-flight wing failures, discovering maintenance omissions which would have avoided the accidents. (The award will be made next to a worthy recipient from the European theatre).

Under the present chair of the AAF, David Wardall, the workshop addressed Safety through the Fire Traffic Area (FTA) concept, and the standards of aircraft maintenance, where common practices are still not adhered to. Importantly it is now recognised that the stresses on aircraft airframes in Aerial Firefighting are significantly greater than in other operations, and hence their fatigue life shortened. Retired military aircraft are not necessarily suited to this arduous role, especially without depot overhaul; the essential repairs required to the box sections of the recently acquired 7 ex USCG C130s is likely to prove both time consuming and costly.

## Air National Guard

As a consequence It is possible that a greater call will be made on the MAFFS Equipped Air National Guard (ANG) C130Js, and they presented an ambitious readiness to do more; but currency in the role and a more rapid response will be key elements. The ANG also presented the valuable potential for integrating the Predator Unmanned Air System /Remotely Piloted Aircraft (UAS/RPA) with its fused electro-optic, Infrared and low light TV available directly to the Incident Commander. This can be particularly valuable at night when fires are less active and easier to combat. There is however reluctance to see these used in National Air Space and required Secretary of Defence and FAA approval for the first flight.

## Legal

In a break from normal topics, representatives from the Los Angeles office of Crowell and Moring (Government Contracts Group) gave an illuminating address on 'Doing Business with US State and Federal Government – Opportunities and Risks', of which there are many! Normal commercial contract rules do not apply and those which do are counter intuitive. Contractors can be at risk of a unique Compliance Code and can fall foul of both the Truth in Negotiations Act and the Buy American Act. An incorrect Invoice risks the False Claims Act with draconian impact on your and any related company. Falling short on contract Performance, risks alternative development at your expense. AND your contract can be terminated for government convenience – Caveat Emptor!

## Country Profiles

Valuable insights were given by a number of countries, starting with Croatia, already identified as the venue for AFF Europe 2015. Their comprehensive capability allows Croatia to offer aerial assets to other regional nations to combat wildfires.

Australia has an efficient arrangement of contracting for external assets eg Air Cranes through the National Aerial Firefighting Centre, which are then flexed between States as Wildfires demand. Voluntary firefighting is widely supported with 72,000 volunteers to 915 paid staff.

Chile has the demands of a long thin geographical nature (and no appetite for voluntary work!) With some 5,500 fires caused each season by the population in this heavily wooded country, Initial Attack is a high priority and AFF assets are regularly upgraded.

France is on a par with the US for Aerial Firefighting technology and competence, managing the airspace (FTA equivalent), air-ground coordination and quality of the drop.

## Aircraft

Two Russian aircraft were given exposure: the now dated Illyushin II-76 converted for water bombing has never found favour in the USA. However, the impressive new amphibious Beriev – 200 is making steady progress towards Certification in North America, although current events in Crimea are likely to prove an impediment to the current ‘special clause of the US-Russian Bilateral Agreement. The aircraft was ably presented by Dina Krivonosova supported by their in-country customer David Baskett, President of TTE International.

## Chemicals

Updates included Phos Check’s Retardant and other products with an emphasis on the right product for the right task. This was complemented by a new product, Blazetamer 380 Suppressant, together with the importance of assessing Performance and reviewing Aerial firefighting programme effectiveness.

## Technology

After an early set back for NVG operations in the 1970s, the Los Angeles County Fire Department is fully committed to prosecuting fires at night using Night Vision Goggles.

Their ex military Senior Pilot Michael Sagely, compared the single pilot night AFF operations to the most challenging of those on active operations. These helicopter operations have a significantly higher risk and require the highest level of control over training, qualification and current proficiency. Leading on fixed wing safety, Chief Dennis Brown gave an update on the impressive Interagency Air Attack Training conducted by CALFIRE.

Nitrofirex, the brain child of Luis Bordallo of Spain, seeks to reduce the risk to aircrew fighting fires at night by the innovative use of autonomous glider containers (AGC) carrying large amounts of extinguishing agent in their integrated tanks. These are launched from any heavy transport aircraft, navigating their way to the drop and subsequent recovery to home base. Cost effectiveness and integration with manned aircraft will be major considerations, but there was no doubting the enthusiasm of the Nitrofirex team.

FUEGO, Fire Urgency Estimator in Geosynchronous Orbit, was presented by Carlton Pennypacker of the Space Sciences Laboratory UC Berkeley, a prize winner and near Nobel laureate. Intended to be a small payload on a host geosynchronous satellite FUEGO can detect and monitor very small fires, enabling an efficient use of precious fire fighting resources.

Elbit Systems of Israel in the shape of Shlomo Alkaher has progressed a new delivery system first trailed in 2012 by Colonel Yoram Lilan-Lipovsky using ‘pellets’ delivered from a safe height of 500 - 3000 feet. These were dropped from a Cromon S61 helicopter mounted ‘tank’ in the live demonstration.

## **Live Demonstration**

The Elbit ‘pellets’ are degradable polythene sachets containing 200 grams of the selected retardant etc. When dropped from a height of 12 feet they split and delivered a promising spread of fluid. It was not possible however to determine from the live drop from 500 feet onto grass the proportion which bounced without breaking. Patents have been applied for and trials continue of ‘Hydrop’.

SKYIMD (Aerial Imaging Mapping Data) demonstrated live video streaming from an aircraft of the various water drops and rescue operations. Its particular attraction was an App for iPhones, Tablets and Androids allowing close up viewing for Incident Commanders (and in this case delegates)

## **Summary**

The detail of this premier Aerial Firefighting Event is reflected in the length of this report, which itself cannot encompass all the information imparted and the debates enjoined. If there are errors of fact or interpretation they are entirely mine for which (along with the English spelling!) I apologize.

This report will be available on the Tangent Link Web Site, while copies of the presentations are available on a secure portal to Delegates only. Feedback indicates a high level of satisfaction at the content of both Conference and Exhibition with, as ever, the opportunity for quality Networking and business contact. The contribution of Sponsors, Exhibitors, Presenters and Delegates alike cannot be overestimated. The Tangent Link Team enjoyed the opportunity to provide the arrangements to friends old and new and hope to see you in Croatia in 2015 and, inshallah, Sacramento in 2016.

Terry Loughran  
Rear Admiral CB FRAeS  
Conference Chairman