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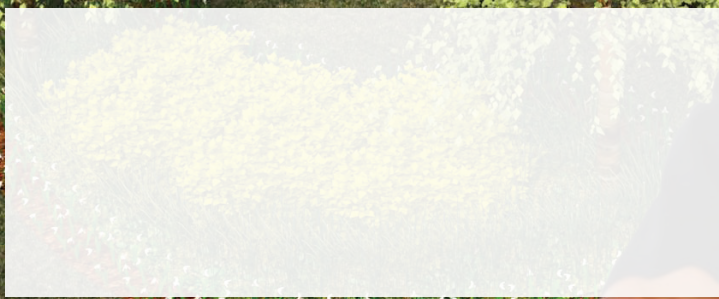


Net-Zero in the Fox Valley

Marty Lenss,
airport director,
Outagamie County
Regional Airport

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**Facility Maintenance – Drive Down Costs,
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Aviation's Hidden Threat Page 24**



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A photograph of a fuel technician wearing a blue long-sleeved shirt, a high-visibility yellow safety vest, a red hard hat, and safety glasses. The technician is wearing black gloves and is focused on working on a complex metal fuel system component on the side of a white aircraft. The background is a clear blue sky.

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What Would Thomas Jefferson Say About TSA?

by Art Kosatka






VIDEO

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Brad McAllister, Editor

Bizjets And The Economy

Historical market conditions provide insight for the future

According to JETNET, which presented its 'state of the industry report' during the National Business Aviation Association's (NBAA) 65th annual conference and exhibition, the world economy grew 2.6 percent each year during the last ten years — and the global jet fleet grew 4.2 percent, a ratio of fleet to GDP growth of 1.6 percent.

Considering that the U.S. has 61 percent of the world's business jets, it's interesting to see how GDP and business aviation aircraft track together. JETNET officials say that despite record corporate profits,

U.S. bizjet utilization has yet to fully recover from the effects of the economic downturn.

However, JETNET also forecasts that the business jet fleet will grow to just under 26,800 aircraft worldwide by the end of 2021, an increase of 45 percent over the ten-year forecast period. Some 2,100 jets will be retired or otherwise removed from service during this timeframe, says the company.

Also at NBAA this year, Honeywell forecasts nearly 10,000 new business jet deliveries worth about \$250 billion from 2012 to 2022. The company forecasts 2012 deliveries of approximately 680 to

720 new business jets, a single-digit increase over levels reported last year — so slow but steady growth.

In terms of flight activity, Honeywell says the pace of recovery has effectively paused on several fronts. According to its 21st annual Business Aviation Outlook, a full recovery remains several years away. Despite that, ... looking ahead, most operators surveyed for Honeywell's outlook believe that local economic growth will be stable or improve in the near term.

Thanks for your interest,
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industry news

Obama Signs Bill On EU Emissions Program

The new law was a response to an EU program that places a cap on carbon dioxide emissions from industrial polluters. Early this year, the law was expanded to include all airlines flying into and out of Europe. The National Business Aviation Association (NBAA) also welcomes final passage of the EU-ETS prohibition act. EU-ETS was unilaterally imposed on the aviation industry by the 27 member states of the European Union as a market-based solution to greenhouse gas emissions. Aviation operators were to have begun purchasing carbon credits for exchange on the open market by the end of April 2013. It was estimated that EU-ETS would cost the U.S. aviation industry \$3.1 billion and thousands of jobs over the next decade.

Report: Private Airport Towers Just As Safe, Cheaper

As reported by CNN, contract towers cost on average \$537,000 a year to operate, compared with \$2 million for comparably busy towers staffed by the Federal Aviation Administration, according to the Department of Transportation's Office of Inspector General. In addition, the contract towers had a "significantly lower number and rate of safety incidents," the report says. The report notes a large difference in operating costs mainly due to lower staffing and salary levels at contract towers. Contract towers had an average of six controllers, while FAA towers had 16. A typical contract controller near Tampa, Florida, received a base salary of \$56,000 per year compared with a base salary ranging from \$63,000 to \$85,000 a year for an FAA controller in Sarasota, Florida, the study relates.

Briefs:

ALASKA AIRLINES — At airports in Anchorage, Portland, and Seattle, the airline has finished installing 200 additional electrical outlets, each of which includes a 120-volt receptacle and two USB ports.

ATLANTIC CITY AIRPORT — is now equipped to handle scheduled foreign flights with the opening of a \$25 million expansion project expected to pave the way for new service. The 75,000-sq. ft. expansion adds three new gates at the airport for a total of ten, and expands the baggage-claim area.

(Continued on page 8)

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FBO snapshots

SHELTAIR AT ALBERT WHITTED AIRPORT

Sheltair SPG will be providing full FBO services out of the Galbraith terminal building at Albert Whitted Airport in St. Petersburg, FL as well as managing on behalf of the City more than 80 T-hangars and 27,000 sq. ft. of corporate hangar space.

The terminal is located on the northwest side of the airport in the heart of downtown St. Petersburg and adjacent to the historic Albert Whitted Hangar One where National Airlines, one of the nation's first airlines, began service in 1934.

Albert Whitted Airport is nationally recognized as the birthplace of scheduled airline flight as the first scheduled aircraft flight took off near the airport in 1914.

Sheltair is a privately owned, aviation development company offering FBOs, properties, and construction in Florida, Georgia, and New York. The company provides full-service FBOs to the aviation community at 15 of its 21 airport properties and employs more than 300 people throughout the network.



FBO snapshots

PHILLIPS 66, WORLD FUEL SERVICES, & JET AVIATION TETERBORO RALLY TO AID HURRICANE SANDY VICTIMS



Hurricane Sandy-damaged Teterboro Airport.

To keep aviation running in New York and New Jersey, World Fuel Services stationed refueler trucks filled with Phillips 66 gasoline at four area airports: Teterboro, Newark, LaGuardia, and John F. Kennedy. That kept ground operations moving and the gas tanks filled for employees of major national airlines and other fixed base operators.

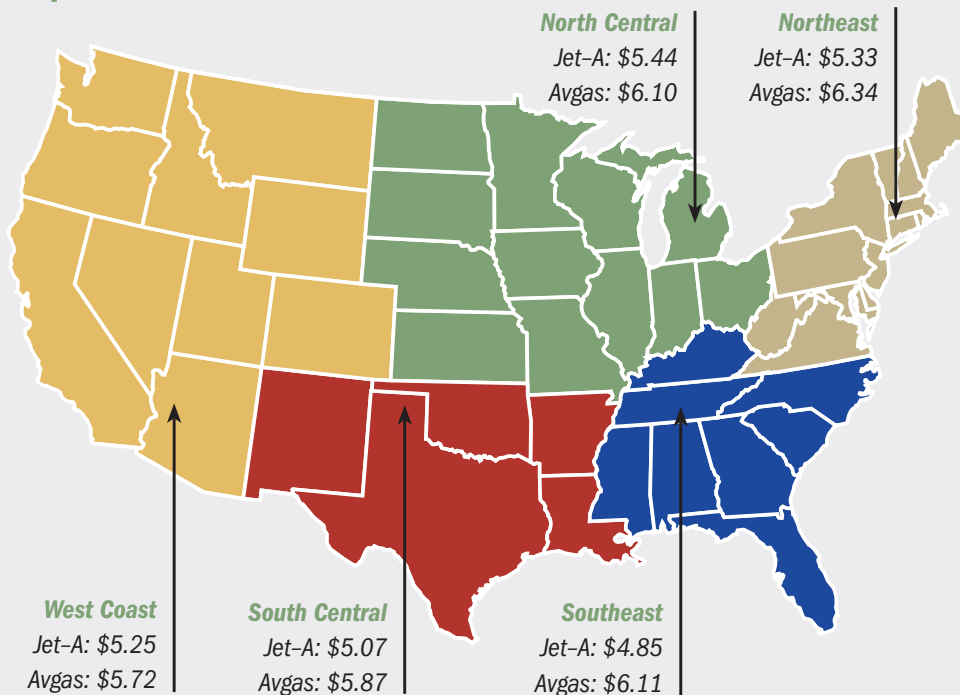
Shipping motor fuels from Upstate New York, World Fuel Services used local companies with meter trucks that dropped needed fuel along the way, stopping at Morristown Airport and Bayonne Docksider Park Airport, where fuel was shared with local emergency room doctors so they could get to hospitals.

At Teterboro, where the tarmac was turned into a lake by the storm, Jet Aviation has become a disaster relief station for its employees and airport tenants.

Additionally, in a unique endeavor to fuel rapid responders and federal disaster relief teams, Phillips 66 Aviation is now providing gasoline — along with its customer Foster Fuels — to the Northeast through a special arrangement with the Defense Logistics Agency (DLA), which buys aviation fuel for the military. The fuel, mostly gasoline, is being used to power relief generators and mobilize responder vehicles.

Meanwhile, Phillips 66 is working to restore operations following the storm. Using third-party pipelines and marine transport to ensure fuel supplies, Phillips 66 brought its Linden fuel terminal back on line for 24-7 tanker truck loading.

fuel watch



The following fuel prices were derived from transactions completed with the AVCARD credit card during October. Not all operations sell both jet-A and avgas. The figures for jet fuel prices will be more representative than those for avgas, due to the higher number of transactions recorded. Prices reflect all taxes and discounts. Data is supplied from AVCARD in consolidated format; individual transactions are not disclosed.



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Mercedes-Benz

(Continued from page 4)

BOMBARDIER — delivers to NetJets its first Signature Series Global 6000 jet. NetJets recently introduced the NetJets Signature Series aircraft, which are new aircraft that will be entering the NetJets fleet that are customized from design through production.

DELTA AIR LINES — Corporate travel managers again rated Delta Air Lines No. 1 in this year's Business Travel News Annual Airline Survey. The airline ranked first among all carriers in key categories including: value of relationships with account managers and sales representatives; distribution channels; complaint/problem resolution; quality of customer service; and

networks, airline partnerships and frequencies.

DENVER INT'L AIRPORT — Jeppesen has completed the design and delivery of area navigation with required navigation performance-based (RNAV RNP) arrivals to improve efficiencies at the airport. Designed in collaboration with FAA and other stakeholders, the 24-month project will improve runway performance, reduce pilot and controller workload, aircraft fuel burn, greenhouse gas emissions, and cut aircraft noise.

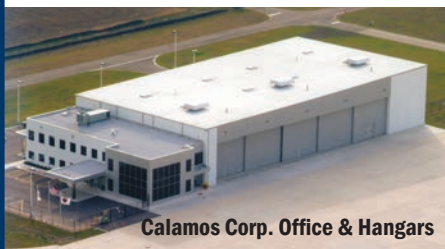
EMBRAER — The company's midsize Legacy 500 aircraft made a successful first flight, marking the beginning of its flight test program. Deliveries of the first aircraft are expected to begin in 2014.

FAA — Sen. Jim DeMint (R-SC), has lifted his hold on the nomination of Michael Huerta as administrator of the FAA, noting that the agency requires consistent leadership at a time of wide-ranging changes in the nation's aviation system. The South Carolina senator had blocked a final Senate vote on Huerta's nomination ever since Huerta was approved in July by the Senate Committee on Commerce, Science, and Transportation.

JET EDGE INTERNATIONAL — is the newest charter operator to join the Air Charter Safety Foundation (ACSF). Along with 96 other companies, Jet Edge now supports the ACSF's vision to enable on-demand air charter providers and fractional program managers to achieve the highest levels of safety.

LAX — runway separation plan advances despite groups' objections. The recommendation, if approved by L.A.'s Board of Airport Commissioners, could set the stage for more battles over the modernization of LAX, which has been delayed for decades by lawsuits, community opposition, and the changing visions of mayoral administrations. Opponents assert

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that the plan could have adverse effects on air and noise pollution and undermine an effort mandated by a 2006 court settlement to spread the growth of commercial air traffic to other airports in the region and prevent congestion at LAX.

METROPOLITAN NASHVILLE AIRPORT AUTHORITY — has earned the prestigious Excellence Award in the annual Excellence in Tennessee recognition program administered by the Tennessee Center for Performance Excellence (TNCPE). MNAA is the first airport in the U.S. to earn this award at its state's highest level.

NTSB — urges the implementation of fire suppression systems in all cargo planes. Federal investigators say the government should require fire suppression systems in all cargo containers or compartments of planes to prevent the kind of ferocious in-flight

blazes that have killed four cargo pilots over the past six years.

SIGNATURE FLIGHT SUPPORT — announces its Signature Select affiliate Jet Air Group of Austin Straubel International Airport (KGRB) in Green Bay, WI has completed its transition to become a Signature Select member location.

TAC AIR — Salt Lake City (SLC) and Provo (PVU) are now part of the Phillips 66 Aviation-branded dealer network. TAC Air acquired the Salt Lake City and Provo FBOs this year, building the general aviation chain to 14 locations, 12 of which are in the Phillips 66 Aviation network.

U.S. SENATE — passes S. 3542, legislation based on the No-Hassle Flying Act. The No-Hassle Flying Act streamlines baggage security measures for international flights. Because of an

ambiguity in law, passengers originating from some overseas airports must have baggage screened twice when returning home to the U.S.

WATERTOWN INT'L AIRPORT — the Jefferson County Industrial Development Agency looks to 45 acres of undeveloped land east of the airport's taxiway that it owns for the establishment of a corporate park. The park is envisioned as a hub for transportation and logistics businesses that rely on air transportation.

WESTJET — introduces self-serve baggage tagging for its guests flying to the U.S. from Vancouver, Edmonton, Winnipeg, Toronto, and Montreal. Having launched the same service Nov. 7, 2012, in Calgary, WestJet is the first Canadian airline to introduce self-serve baggage tagging on non-stop transborder flights. **ab**

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Benchmarking Service Quality At AUS

ACI's Airport Service Quality (ASQ) program provides a toolbox for managing and enhancing the passenger experience

Ghizlane Badawi, senior business process consultant, City of Austin Department of Aviation

Customer service is playing a larger role in the management of airports. It is a core value for airports. Understanding and meeting customer needs and expectations are the key to operating and managing an airport successfully.

The new realities of doing business in the 21st century require airports to think holistically about the services provided to their customers. Customers have rising expectations about the services and standard of service that an airport should provide. They expect their experience to be as effortless and enjoyable as possible.

The majority of travelers do not distinguish between who is responsible for the quality of services whether it is airlines, the Transportation Security Administration, Customs and Border Protection, concessionaires or other airport partners.

Nowadays, air travel can be challenging for passengers. From parking vehicles and checking bags to clearing security, customers want a seamless travel experience. Airports around the world are working hard to improve facilitation and bring convenience to travelers.

Airport Service Quality

Austin-Bergstrom International Airport



For the sixth consecutive year, AUS has earned a ranking in the top airports in both North America and the world for excellence in customer service.

(AUS) is focused on customer satisfaction for passengers, business partners, and aviation department staff. Customer needs are identified through many tools such as the quarterly Airport Service Quality (ASQ) Survey of passengers, customer feedback via the department's Customer Relationship Management System (CRMS), focus groups, meetings with business partners, and the annual Employee Survey.

Customer feedback is used by management as leading indicators of aviation department and business partners' performance. AUS is always looking to improve on the existing processes and find ways to deliver on the changing needs of its customers.

To measure and benchmark service quality, AUS joined the Airport Service Quality (ASQ) passenger survey in 2006. Prior to that, the airport tried other tools but none of them were as effective as the ASQ program.

The ASQ program was introduced by Airports Council International (ACI) in 2006 to help airports improve and invest in the passenger experience. Since its introduction, the ASQ program has led to the development of industry best practices.

The ASQ Survey is based on the results of more than 300,000 questionnaires completed by passengers at airports worldwide, and captures the passengers' perception of the quality of more than 30 aspects of service.

about the author



Ghizlane Badawi,
senior business process
consultant,
City of Austin,
Department of Aviation



A Comprehensive Survey

The ASQ Survey is a leading airport customer satisfaction benchmarking program with over 200 airports in more than 50 countries surveying passengers every month of the year. All airports use the same questionnaire and follow the same methodology. To ensure comparable results, a detailed sample plan tailored to each airport's traffic is used. The wide range of ASQ participants allows each airport to select an appropriate benchmarking panel.

The ASQ passenger survey measures customer satisfaction on a range of service delivery parameters. Each survey covers key parameters of the passenger experience: check-in, security, getting to the gate, signage, cleanliness, and amenities. Passengers are surveyed on various elements and are asked to rank them on a scale of one to five.

This powerful tool helps identify best practices in quality customer service from the world's top-performing airports. Excelling in customer service is a result of continued effort and commitment to providing the best possible service. ASQ helps airports understand where to focus their financial and human resources.

The ASQ Survey results indicate the key factors that influence passengers. These factors relate to the core processes and basic needs of passengers such as cleanliness of the termi-

nal, availability of washrooms, waiting times, courtesy, and helpfulness of staff.

The ASQ program is also vital to understanding airport customer service rankings relative to peer airports in order to prioritize resource investment. Analysis of this valuable information enables airports to clearly understand passenger needs and align service provision with customer expectations.

The Austin Experience

The ASQ survey has been the most important tool used by AUS to develop a clear focus and make data driven decisions on customer service. The airport exceeds its customers' expectations on the critical few items that are most important to them.

By dissecting and measuring each part of the passenger process, AUS is able to identify problems and performance gaps, which in turn facilitate improvement actions. Nonetheless AUS is always looking to improve on existing processes and find ways to deliver on the changing needs of its customers.

Every quarter, AUS's survey results are shared with its business partners to foster a collaboration relationship amongst the various parties. The goal is to consistently overachieve against our passengers' expectations and attempt to bring back the genuine pleasure of air travel by impressing upon our busi-

Live music performances at AUS are accessible to ticketed passengers only, and are made possible by the City of Austin Aviation Department, Delaware North Companies, and Pepsi.

ness partners the need to do the best job possible serving the travelers. Part of our on-boarding for new employees, includes extensive training on customer service. The executive director personally conducts quarterly briefings on the results of the ASQ survey.

For the sixth consecutive year, AUS has earned a ranking in the top airports in both North America and the world for excellence in customer service. It has been ranked as one of the best airports in the world according to the Airport Service Quality Awards. The awards recognize the airports which have achieved the highest passenger satisfaction ratings.

Additionally, AUS was recognized in 2011 in the first ACI's Director General's Roll of Excellence. The Director General's Roll of Excellence recognizes airports that have ranked among the top five in Airport Service Quality (ASQ) for five consecutive years. Only 14 airports in the world received this recognition.

The ASQ program has been very valuable to AUS in terms of improving its customer service as well as improving the management approach to running the airport.

Other ASQ Program Modules

The ASQ program provides airports with a toolbox for managing a passenger experience. It consists of five modules, each of which can be utilized individually. The modules are: ASQ Survey, ASQ Assured, ASQ Performance, ASQ Retail, and ASQ Management.

The ASQ Assured certification module benchmarks an airport's management approach to service quality against industry best practice.

It is a quality management certification designed for airports as a framework to assist in driving continual improvement and identify areas of improvement. The certification recognizes the airport's commitment



Austin-Bergstrom International joined ACI's Airport Service Quality (ASQ) passenger survey in 2006. Prior to that, the airport tried other tools but none of them were as effective as the ASQ program.

to service quality and the systems and processes that are in place to constantly improve customer service. AUS was the third airport in the world to receive ASQ Assured certification.

ASQ Performance measures the levels of service delivered by an airport and puts those measures into context through comparison with other airports. It allows airport management to measure the service performance actually delivered by the airport and accurately pinpoint underperformance, bottlenecks, and over-performance.

ASQ Performance measures pas-

senger processing times using 16 key performance indicators such as "waiting time at check in", "waiting time at security", and "delivery of first bag/last bag." Measurements are conducted at peak hours using the same methodology at all airports.

ASQ Management provides support and advisory services for airports looking to improve their quality of service. Advisory projects range from supporting airports looking to achieve ASQ Assured Certification to assistance in changing airport culture and implementing best practice throughout the

airport.

ASQ Retail measures passenger satisfaction with an airport's commercial services as well as its performance on key sales ratios, and puts those measures into context through comparison with other airports. It helps managers improve commercial performance through a better understanding of their airport's retail/food & beverage offering's strengths and weaknesses, and a deeper knowledge of global airport shopper profiles.

Excellent Customer Service has become a top priority of airport management today. Using a well-designed measurement tool such as the ASQ program allows airports to measure their performance year over year and compare results with peer airports. Always remember the management adage "what you cannot measure, you cannot manage."

Find more on ACI's ASQ program here: www.aci.aero/Services/Airport-Service-Quality-Programme. **ab**

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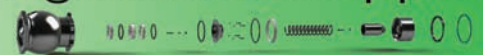
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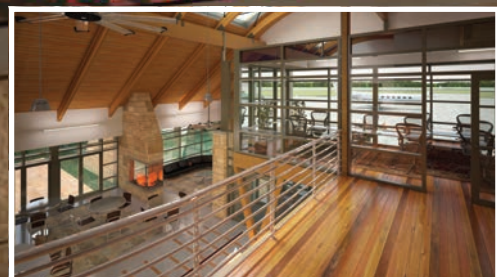


AMT Aircraft Maintenance Technology

Net-Zero In The **FOX** **VALLEY**

Outagamie County
Regional Airport
embarks on a net-zero
environmental impact
mission, incorporating
'smart' building
systems and setting
a green standard
for general aviation
support facilities

Brad McAllister, *Editor*



aPPLETON, WI — The Outagamie County Regional Airport (ATW), the fourth-busiest commercial airport in Wisconsin located just west of Appleton and serving the western Fox Cities, was one of ten airports selected by FAA to participate in its Sustainable Master Plan Program.

On the verge of completing a major repurposing of airport land to accommodate a healthy general aviation environment, the airport has invested heavily in infrastructure planning and development in recent years. Now, ATW has broken ground on a new FBO terminal and hangar development expected to be complete in time for EAA's AirVenture in Oshkosh, WI in late July, 2013.

Comments Marty Lens, airport director at ATW for five years, "Shortly after I took the role as director, we went through a core value process and identified sustainability as a major component.

"We started by looking at the 'low-hanging fruit' at the commercial terminal space. We put up a 50kW photovoltaic system on the terminal roof, and we installed a 12-panel solar heating system on the terminal that provides almost 100 percent of our domestic hot water supply.

"So we had an early approach into efforts related to sustainability. That's what spurred us to get involved in FAA's sustainable master plan pilot program."

As a part of that process, the airport has targeted the commercial terminal to be 70 percent more efficient than it is today by 2030.

"Then we started to take a look at GA," explains Lens. "We have put \$15 million into infrastructure — taxiways, roadways, aprons — to support FBO operations on the south side of the field.

"We asked, can we get to net-zero? Let's go for it."

Mead & Hunt partnered with the Sustainable Engineering Group (SEG) for the design and energy modeling for the new FBO terminal. Moving ahead, the bulk of the general aviation activities will transition away from the commercial terminal area, where the FBO is currently located, to the southside of the field.

"We want that separation between commercial and GA operations," says Lens. "The strategy will help with security and safety issues,

and also allow for further growth in both areas of operation.

"So this is really a long-term land use planning initiative, with environmental sustainability very top-of-mind."

Business Drives Growth

Airport fuel numbers are up over previous years at ATW, and things are good currently, relates Lens. The Tailwind Flight Center, colocated with the airport-owned Platinum Flight Center FBO, is very active.

"Some three-quarters of our business is in the GA private sector — and a big portion of that has to do with Gulfstream's presence here," remarks Lens. The Appleton Gulfstream facility is responsible for providing major service and modifications to Gulfstream business jets. The facility specializes in providing custom configurations; Appleton is responsible for the final phase of manufacturing for Gulfstream G450 and G550 business jets.

While the FBO is airport-owned, it is managed by a private company, Express Airport Services. "I have had a number of phone calls to talk about the model," says Lens. "Some airports have done different things regarding their FBOs; different models from traditional and more hands-off to a proprietary exclusive relationship where the airport actually owns and operates the FBO.

"We are kind of a hybrid between the two; it's not proprietary exclusive — it's not County employees; it's a private sector business running it on our behalf.

"For us, it's a model that has worked very well thus far. It's definitely not a model for everybody. What it does for us is, we are accountable. We have a vested interest in a much different way to ensure high quality service, reasonable rates and charges, and exceptional safety standards, etc.

"It's managed by the private sector, but we have a bit more leverage when it comes to fuel pricing. We have taken a different approach, and it gives us tremendous flexibility in a number of areas."

Green Features

The GA development at ATW encompasses the design and construction of a new 8,000-square foot FBO terminal and 12,000-square foot hangar complex at a cost of some \$5.5 million. The airport's investment was some 60 percent of that cost; the remainder came from Federal and State funding.





The new GA terminal at ATW includes occupancy sensors for lighting and mechanical systems.

Remarks Lens, “The terminal was interesting because it’s a greenfield development; so we had a clean sheet to work with. The way the GA terminal was approached in terms of design was from a performance standpoint; it was performance-driven.”

With a net-zero target, there is a bit higher premium per square foot, but considering the life of the building — an impressive 100-year lifespan — the economics begin to work in the airport’s favor over time, he adds.

“We looked at dimensions, site orientation to maximize daylight, opportunities for solar panel systems and geothermal systems ... and then it was a lot of heavy insulation — a very tight building envelope. We employed durable and sustainable finishes that were sourced from the local area.”

The design features geothermal heating and cooling, in-floor radiant conditioning, and photovoltaic solar energy roof panels.



The heating, ventilation, and air conditioning (HVAC) features were tied heavily with ‘smart’ building automation solutions, so that if a window is open, the air conditioning system will not turn on. Similarly, if there is enough natural daylighting coming into the structure, the lights, which are LED, will not turn on.

The airport is also harvesting rain-water for use on the grounds, and employs natural rain gardens to manage some of the runoff.

The design of the terminal incorporates high efficiency systems such as radiant floor heating. “We looked at everything from the colors we used — are they absorbing heat? — to a lot of modeling so we could tweak the design,” relates Lens.

Regarding the human side of sustainability — the receptionist at the terminal station has full command of the primary areas in the facility in order to maximize the visibility for employees. “So they can always meet and greet guests appropriately as they arrive, and it helps us utilize our staff more efficiently,” he adds.

A Net-Zero Mentality

When the development is complete, it will be LEED-certified.

“A lot of airports are embracing sustainability, and we certainly did with regard to the master planning,” comments Lens. “We conducted a greenhouse gas emissions inventory so we know where we are at.

COMING TO ATW: FOX VALLEY TECHNICAL COLLEGE

Four disciplines Of Public Safety In One Training Site

Thanks to the passage of a \$66.5 million public referendum by nearly a 2-1 margin, Fox Valley Technical College (FVTC), Appleton, WI, recently broke ground on its flagship project as part of the successful vote.

The more than 90,000-square foot Public Safety Training Center (PSTC) at the Outagamie County Regional Airport (ATW) is scheduled to open in late fall of 2014. The \$34 million center will be the only facility in the nation to integrate emergency medical services, structural firefighting, law enforcement, and wildland fire training for enhanced responses to virtually any type of public safety call.



“Public safety leaders understand the significance of continuous education in a post 9/11 era,” says Dr. Patricia Robinson, dean of FVTC’s Public Safety Division. “This new center is a model for interdisciplinary training in public safety.”

The PSTC will include technology to simulate almost any emergency situation. Tactical training features include a mock village, an expanded shooting range, an emergency vehicle operation driving pad, trench and water rescue scenarios, and more.

Enrollment in FVTC’s Criminal Justice training programs has increased 60 percent between 2008 and 2011, but growing demands for continuous education for public safety practitioners locally and nationwide serve as the primary impetus behind the effort. The college also estimates that some 500 trainees will use the new facility on a daily basis.

For more info, visit: www.fvtc.edu/pstc.

“I firmly believe there will be more of those activities coming from a regulatory standpoint. And if you don’t know where you are at today, it’s hard to even respond in the rulemaking process. Without that, you can only provide emotional responses to the regulations, as opposed to a data-drive response.

“That’s one reason we put our toe in. And, at the end of the day, it’s the right thing to do.

“We fully intend to have a net-zero impact from an environmental standpoint, that is — we will not have a carbon footprint, and any environmental impact we do have will be offset by measures of sustainability present throughout the organization.”

ATW has wrapped up its sustainable master plan; the County board has accepted. Now, says Lenss, the airport will start to develop metrics around the sustainability features so it can track the projects, and determine what the return is with regard to energy consumption.

“Then we will start to model that; it will take us a few years to build the data, but then we should really start to see some clear trendlines, he explains.”

For example, the commercial terminal represents about \$350,000 per year in utilities; that cost goes to the rate-base of the carriers and tenants. “So if we can drive that cost down, or even flatline it, we are winning, and saving,” adds Lenss.

“We always circle back to, in some shape or fashion, enhancing air service for the community.”

The New Economy

Another new development for ATW is coming into fruition as well. The Fox Valley Technical College has agreed to lease airport land and develop a public safety training center (see sidebar).

Lenss relates the airport started working on the proposal some four and a half years ago. The parcel of land owned by the airport was a \$5,000 per year agriculture lease; now it will bring in some \$150,000 of non-aeronautical revenue.

The lease was negotiated for a total

FACTS & FIGURES

Airport Owner: Outagamie County; the airport organization is a self-sufficient enterprise fund.

Based Aircraft: 60

FBO: Platinum Flight Center (airport-owned, privately managed)

Annual Revenues: Just over \$9 million

Fuel Flowage Fee: Five and a half cents

FBO Fuel Sales (Sept. ‘12): Jet A — 31,961 gallons; 100LL — 3,673 gallons

Annual Operations: 35-40,000; 70 percent are general aviation (jet/piston) — Of the 70 percent, 50 percent are jet/turbine

Commercial Airlines: Some 20 flights per day

Hangarage: Some 50,000 square feet of common hangar space, includes the 12,000-square foot executive hangar that will be constructed adjacent to the new FBO terminal.



DEVELOPMENT DETAILS

General Contractor: SMA Construction Services, LLC.

Design (Architectural/Civil/Mechanical/Structural/Plumbing/Fire/Electrical): Mead & Hunt, Inc.

Energy Modeling and Commissioning: Sustainable Engineering Group (SEG); Madison, WI

term of 50 years; a 20-year initial term with three ten year options. The goal is to break ground March 1, 2013 with a construction time of some two years; a \$34 million development.

“We have had preliminary discussions with the technical college to do some of the continuous commissioning of our HVAC systems, and make sure they are always in that 95 percent efficiency rating,” says Lenss.

“So, as a public building, in part-



**Marty Lenss, airport director,
Outagamie County Regional Airport**

nership with the tech college, it would become a living lab ... the only net-zero energy use building that I am aware of, on an airport.

“That furthers that community-airport partnership, which drives a positive perception by the public at large of what we are doing out here. The relationship just really gives us some neat opportunities to explore possible synergies that may exist, and work together for a common benefit.

“That’s the type of thing we want to do. Collaborate with local businesses and organizations in ways we haven’t done before ... in my opinion, that is what airports need to do in the new economy.

“In 2008, aeronautical revenue was at 59 percent. In our 2013 budget, airline revenue is now at 43 percent. So in a couple years, we should be below 40 percent of our revenue being derived from airlines.

“The need to grow non-aeronautical revenue at the airport is critical in this new economy.” **ab**

NBAA '12 Annual Conference Report

Operators share views on the state of the industry, bizav activity

Brad McAllister, Editor

ORLANDO — Attendance was down at the National Business Aviation Association's (NBAA) 65th Annual Meeting & Convention held here in late October, but much of that was due to a temporary flight restriction for a presidential visit to the city, and a dangerous Hurricane Sandy striking the East Coast and preventing many potential attendees from flying South.

According to NBAA, 25,250 people attended and 1,073 companies exhibited — down slightly compared with the 2011 event. For the most part, cautious optimism remains apparent as FBOs look to climb back to pre-recession activity levels at many locations.

In some cases, having a diverse product base has insulated operators from the effects of the downturn; and in many cases, fuel sales and aircraft activity has not yet returned to pre-

recession levels.

Comments Bernie Klotz, owner, J.A. Air Center at Aurora Municipal Airport (located some 50 miles west of Chicago), “Right now, avionics is the most successful profit center for us, followed by fuel.

“The FBO is doing very well. On the maintenance side, we have stayed alive mainly because of airplanes we have bought and modified ... a lot of work was done internally, and then the planes were sold off.”

NBAA's annual meeting drew 25,250 attendees; 1,073 companies exhibited.



“To keep market share, you've had to squeeze profits.”
— Brian Kirkdoffer, Clay Lacy Aviation

Maintenance is picking up, relates Klotz. The company has recently opened an interiors shop.

“We had to be very cautious of what we did. It was difficult because we had to use a lot of our financial capability to stay alive that first year of the recession.

“When you take nine departments ... at the end of the day, the strengths are in our full-service capabilities, and the diversification of our service offerings.”

Brian Kirkdoffer, senior management for Clay Lacy Aviation, remarks, “In terms of fuel, the business is kind of flat; we are now on the third year of that.

“We have a lot of other lines of business; for us that has worked out very well. We do maintenance, jet charter, management, interiors ... we are fully invested in aviation, but across different product lines.”

Aircraft management and maintenance have been the most successful of the products lately, adds Kirkdoffer.

“Revenues are back to pre-recession levels; we are fortunate. We are back from a volume standpoint, but not necessarily from a profitability standpoint. To keep market share, you’ve had to squeeze profits.”

Remarks David Ivey, VP, Wilson Air Center, “At the Houston location, and not just with Wilson Air Center, but we are evidencing a return to pre-recession levels with the entire Eastern Aviation Fuels market there.

“Memphis is flat, on the other hand. We aren’t getting any worse, but we are not getting any better.

“Over the past four and five years, we have expanded into other areas to gain additional revenue, such as airline

CUTTER AVIATION TURNS 85

At NBAA’s 2012 annual conference held in Orlando, Cutter Aviation was recognized for its contributions to the aviation industry and for being the longest-running branded dealer in the Phillips 66 Aviation network. Cutter Aviation started selling Phillips fuel at Albuquerque’s West Mesa Airport some 75 years ago.

Now an industry leader in the Southwest, Cutter’s impact has gone beyond the rural air charter business. Cutter Aviation’s reach now extends to seven major airports with facilities serving Phoenix Sky Harbor (PHX) and Phoenix Deer Valley (DVT), Colorado Springs (COS), El Paso (ELP), San Antonio (SAT), Dallas-McKinney (TKI) and Albuquerque (ABQ).

Airport Business caught up with president Will Cutter at the event and asked about business today. He comments, “Our fuel is about, gallon-wise, back to ’08 levels. We watched our costs real well, so we are doing OK in the fuel business. “Aircraft sales have been real good for us this year; our Piper dealership is the top Piper dealership.



“So we are selling some airplanes, mainly because we are in Texas; it’s either oil or agriculture that’s buying all the airplanes. The used business is OK. “And charter has been very strong. We are struggling in the maintenance world; we can’t get the volume to sustain enough mechanics to keep everything going good. As the fuel volume gets going and people are flying more, maintenance will catch up.”

As a full-service aviation company, Cutter Aviation provides a range of GA services including: fuel and line service support, new and pre-owned aircraft sales, aircraft maintenance, avionics design/installation/repair, aircraft management services, and aircraft charter.

JOIN US AT AVIATIONPROS LIVE 2013 IN VEGAS

Boyd Group International To Provide Perspective On Key Issues

Michael Boyd, chairman of aviation consulting and research firm Boyd Group International, will deliver the keynote presentation at the AviationPros LIVE event in Las Vegas, NV, March 13-14, 2013.

Following is a breakdown of some of the content at this year’s event targeted at business and general aviation professionals, and airport managers and directors:

The Restructuring Of Business Aviation

This sector of aviation is facing major changes in operating and business dynamics. As a key part of the national and international transportation and communication chains, the industry will have very different market applications than in the past. Boyd Group will cover these shifts on a futurist basis.

Transformation Of Rural Airports & Business Opportunities

As the raw economics of scheduled air transportation cause route systems to shrink, it is rural airports that will have a greater role in keeping entire sections of the nation connected to the national and international business base. This will mean that rural airports will need to re-think facility planning, financing, and competitive struc-

tures, based on the economic needs of the region they serve.

Expanding The Economic Impact And Economic Role

Every part of the industry – airports, OEMs, suppliers, vendors – are facing a situation where general and business aviation must deal with new regulatory and cost challenges at the same time that reductions in government spending is threatening basic infrastructure. Boyd Group will be keynoting the need to assure that the public more fully understands the enormous economic impact of this sector.

Sessions covering more granular areas of the challenges and opportunities facing the airport industry will focus on topics such as taxes and regulations, 100LL challenges and opportunities, and growth options for GA.

Please join us in Las Vegas this coming March for a comprehensive educational program and a resource rich exhibition hall.

For more information, and to register for the event, visit: <http://aviationproslive.com/>



deicing. We are opportunistic. We did downsize headcount-wise some during the recession.”

Ivey anticipates 2013 will consist of low single-digit increases in fuel deliveries.

Robert Stallings, president of Eastern Aviation Fuels, relates that business is definitely not back to where it was before the recession. “It really depends on the FBO; some FBOs are getting by on the customer base they have,” he says. “We are cautiously optimistic.”

David Bird, executive director for the Dupage Airport Authority, says the consistency of the business just hasn’t been there. “It’s been very up and down,” he explains. “We are not back to pre-recession levels. The good thing is, it looks like for 2012, you are either going to stay at 2011 levels, or see a small increase ... but we are not seeing any additional drops.

“At Dupage, we are starting to see movement again.” **ab**



Ralph Hood
Certified Speaking Professional;
Member, Alabama Aviation
Hall of Fame

Change It Up

As airline seats get smaller and airline food disappears, airports over the years have stepped up to provide a range of services for the flying traveler

Once upon a time, long ago and far away, at a bankers' convention, a world-class banker gave a presentation about 'The Most Important Changes In Banking.' The audience — all bankers themselves — expected to learn much about banking, arcane regulations, and world economics, but it didn't happen. The speaker said they were looking at it from the banker's side of the fence. From the customer's point of view, he said, the biggest change had been the ATM, which changed how customers use the bank.

I'd never thought of it that way but had to agree. I wonder, do we make the same mistake about airports/airlines and customers?

For the customer, what are the important changes since, say, the 1960s, when my own use of airlines and their airports began?

One big change was the addition of Jetways so pax never had to wait in the rain to climb slippery stairs. If you doubt this for a minute, remember that it was pax who demanded the Jetway. Personally, it didn't occur to me at the time. I was much like a surgeon/pilot friend of mine who said he preferred the old steps over the Jetway. When asked why, his answer, filled with nostalgia, was, "Aw, you know, Casablanca, and all that." Maybe so, but Frank Mickle, then on the board at the Huntsville (AL) Airport, told me that they had to get jetways because customers insisted. Now, who among us would go back to the old outdoor ramps?

“Now, who among us would go back to the old outdoor ramps?”

Other changes weren't demanded by the customers at all. I remember when I could cancel a flight and get a full refund. Also, if I couldn't use the ticket it could be given to someone else and she could use it. Not my idea, but it saved the airlines a fortune and I do like the resultant cheap fares. Remember when you could smoke in any seat on the airline? Glad we don't do that anymore.

Then, of course, there was the mess after 9/11. It changed parking lots, security — you name it. Let's credit the airports and TSA for improving that mess. (Yes, I really did just say something nice about TSA.) Airport restaurants and restrooms have improved much, as has parking (although some parking improvements must be credited to off-airport parking lots).

Another great improvement is Wi-Fi in airports. How did we ever get along without it?

You can actually get a decent meal at most airports, now, and even find a real bookstore. In the meantime, airline seats are smaller and food onboard has mostly vanished.

As they say, you can't go back. I loved it when there was one terminal and gates weren't so far away. But, as the old cartoon said, "Them days are gone forever." Trains, thank goodness, have helped.

But, dadgummit, signage inside airports is still terrible.

ab

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Access Control Technology

TransCore was selected by Amana-Walbridge Joint Venture to design, implement, and maintain through June 2017 a state-of-the-art, radio frequency identification (RFID)-based parking and car/bus terminal access control system for authorized staff of the New Doha International Airport Authority; www.transcore.com.

Baggage Scanner

Smiths Detection's scanner for screening checked airport baggage has been tested under the European Civil Aviation Conference (ECAC) Common Evaluation Programme (CEP) and met the EU's EDS (Explosives Detection Systems) Standard 3, required for all new EDS aviation applications from September 2014 onwards; www.smithsdetection.com.

Biometric Secure Identification

CLEAR launches its expedited traveler service at Westchester County Airport (HPN). Certified by the Department of Homeland Security as Qualified Anti-Terrorism Technology, CLEAR transforms the travel experience by allowing members to use their biometrics (fingerprint or iris) to speed through the checkpoint, saving time, adding predictability, and eliminating stress for all travelers, according to the company; www.clearme.com.

Logic Suite

Lockheed Martin announces the availability of The Logic Suite, a comprehensive set of decision support tools that helps connect more passengers to their flights, reduces surface congestion at airports, and lowers operating costs for airlines, says the company. The solution includes Ramp Logic, which forecasts when an aircraft is ready to depart and analyzes and predicts passenger and baggage connections and aircraft taxi times; www.lockheedmartin.com.

Mobile Louisville

Louisville International Airport launches its FlyLouisville.com mobile website. The site, which is optimized for smartphones and most small tablet and pad devices, allows customers in the terminal, visitors on their way to the airport, and people meeting passengers to access current airport information. Information accessible on the mobile site includes flight information, special fares, directions and options for shopping and dining in the terminal, parking, and ground transportation.

Situation Management

NICE has been named a Tier 1 PSIM (Physical Security Information Management) company by market researcher Frost & Sullivan. The company's situation management solution enables the unified integration of all security systems to provide top level situational awareness. NICE's Situator and Inform software consolidate disparate security systems for a 360 degree perspective, and also provide coordinated incident analysis and adaptive response so that everyone in the operational chain knows what is happening and what to do; www.nice.com.

Wide Area Multilateration

NAV CANADA is deploying Saab Sensis' Wide Area Multilateration (WAM) technology at Springbank, Alberta. The WAM system will enhance the safety of flight around Springbank Airport by providing NAV CANADA air traffic controllers with additional surveillance coverage not available with the existing radar. The WAM system will provide additional coverage from 100 feet to 1,000 feet Above Ground Level (AGL) around the airport, providing surveillance data to a NAV CANADA radar data processor; www.saabsensis.com.

ab

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Drive Down Energy Costs, Maximize Efficiency

Airports are making an impact on energy bills and achieving favorable returns on investment by improving building system capabilities and performance

Neil Maldeis, energy solutions engineering leader, Trane

airport operators have a lot on their plates these days, including finding ways to reduce costs while still meeting the needs of the traveling public for airports that are safe, secure, efficient, and comfortable. Many are facing the challenge by adopting high performance building technologies and practices, combined with intelligent services offerings, which enable them to control energy consumption and operating costs, shrink their environmental footprint, and meet airline passengers' needs.

Airports are large consumers of energy, according to data provided by the Intergovernmental Panel

on Climate Change (IPCC) and International Energy Agency (IEA). In fact, the IPCC says that airports account for 5 percent of annual energy use and a comparable percentage of greenhouse gas emissions for the entire air transportation sector, which also includes all of the aircraft fuel used each year. Airports consume more than 12 million tons of oil equivalents of energy each year, a number that the IEA expects to triple by 2050 as airports expand and their number grows.

Management teams at many airports are finding that they can have the greatest impact on energy bills and achieve the most favorable return on investment by improving the capabilities and performance of heating, ventilating, and air conditioning (HVAC), lighting, water, and other building systems in terminals and other airport facilities.

Solutions Tailored For Airports

It is a significant challenge to maintain a safe, healthy, and comfortable indoor environment in large buildings like airport terminals, which often include vast open spaces, long passageways, high ceilings, and large banks of windows.

Constant foot traffic allows unconditioned air to enter the building. Wide swings in occupancy occur within minutes as flights arrive and depart. A sudden change in weather or air

traffic can cause unplanned flight delays and cancellations as well as overcrowded terminals for extended periods. Meanwhile, the airport itself has evolved from a utilitarian waiting room to a full-blown shopping, dining, and entertainment destination with its own set of requirements.

Regional and feeder airports are excellent candidates for implementation of high performance concepts. Utility costs usually account for a much higher percentage of total operating costs at smaller airports, so a boost in energy-efficiency and operational performance can have a dramatic impact on the profit-loss statement at a time when many smaller airports are striving to stay competitive.

High performance buildings use proven technologies, practices, and service offerings to reduce energy use by 20-30 percent compared to conventional buildings, according to Energy Star and the U.S. Green Building Council (USGBC). They also deliver operational benefits that go well beyond cost savings by providing a better, more efficient, and more comfortable environment for airline passengers, airport visitors, and employees.

Operated To Perform Within Set Standards

In a high performance airport, the facilities team sets performance standards that are linked to the airport mission and most important operational, financial, and passenger-ser-



San Diego International Airport expansion.



Regional and feeder airports are excellent candidates for implementation of high performance concepts.

vice objectives. Desired outcomes might be set for resource consumption, building system reliability and uptime, indoor air quality, or occupant comfort. The building is operated to perform within acceptable tolerances of these standards and outcomes.

For example, reliability standards could take the impact of an HVAC system failure and its disruption on normal operations into account. Comfort standards might consider the optimum temperature range to make waiting for a flight as pleasant as possible. Indoor air quality standards could be established to prevent odors from jet fuel, exhaust, or deicing agents from infiltrating the boarding areas.

Recent expansion and renovation at the San Diego International Airport (SAN) included the use of commercial air handler units capable of moving a combined total of 434,000 cubic feet of air per minute (CFM). The units also use a catalytic air cleaning system to improve indoor air quality by controlling the infiltration airborne contaminants.

The new terminal at Poland's Warsaw Chopin Airport includes large water cooled centrifugal chillers and a chiller plant control system that maintains indoor air quality for passengers and airport personnel. The control system provides centralized system operation supervision that can be accessed remotely. The new terminal features high performance infrastructure systems that are estimated during the first ten years of operation to save an amount of energy equivalent to that needed to supply a city of 11,000 inhabitants for a year.

Advanced Technologies And Practices

Technology advancements and the ability to turn raw building system data into usable information have enabled a significant improvement in the way airports are operated and maintained. For example, sophisticated sensors can detect conditions — occupancy levels, for example — in a boarding area and the advanced building automation system (BAS) can adjust temperature, humidity, lighting and other factors to maintain optimum conditions.

BAS technologies enable airport facilities professionals to automatically control mechanical and lighting systems throughout the airport and in multiple terminals from a central location. Predictive maintenance technologies continuously monitor the performance of mechanical systems to detect potential problems before they can cause system failures. Intelligent services combine technology, proprietary analytics, and human knowledge to continuously collect, interpret, and act on data from building equipment and controls to optimize building performance and respond quickly if problems occur.

Software solutions such as Tracer XT from Trane integrate data from standalone systems into a common interface

with intuitive dashboards, customized for the specific needs of airport operators. The platform can be configured to provide a holistic view of critical systems such as HVAC, power, lighting, safety, and security to enable data-driven decision making and an enterprise-wide view.

With security the top transportation industry priority, high performance building solutions can be fully integrated with new and existing surveillance systems to help bolster and streamline the security check-in process.

Achieving Superior Building Performance



High performance building and intelligent services options pay for themselves many times over during an airport terminal's occupied life. Still, most operators will need to build a business case to launch a high performance building or intelligent services initiative by identifying how improving building performance will create economic value and help the organization achieve its primary passenger-service mission.



A critical systems audit (CSA) to assess current building system performance and create a baseline to estimate the financial benefit of improvements is a good place to start. Most organizations use a qualified energy engineer or energy services company (ESCO) to conduct their CSA and identify, prioritize, and implement energy conservation measures. **ab**

about the author

Neil Maldeis, a professional engineer and an Association of Energy Engineers Certified Energy Manager. Maldeis is responsible for the technical development, support, and review of performance-based contracting solutions and activities on a national basis. He has more than 30 years of experience as a mechanical/project engineer in the building construction and energy conservation fields.


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Aviation's Hidden Threat

Casual fuel contamination undermines the safety of aircraft and passengers

Mike Mooney, VP & chief risk officer, EPIC Aviation, LLC



I feel there is a hidden threat to the safety of aviation; it appears to me that some FBOs and fuel suppliers like to live in the past when it comes to risk management. I just hope they realize that in doing so it brings a tremendous amount of risk upon their customers, the aircraft they operate, the passengers and crews, and ultimately upon their own organizations.

I am not sure if they live by the adage that 'we have always done it that way and have never had a problem.' Interestingly enough these are the exact same words uttered by people in the wake of some serious incidents; they just add one word at the end — 'before.'

On the other end of the spectrum are those that do it right. I have been in the aviation industry for 34 years and I have witnessed some superb examples of FBOs and fuel suppliers that have exceptional safety standards. One of those FBOs is Castle & Cooke Aviation at Paine Field in Everett, Washington (PAE).

General manager Terry Wilcoxson has been in the business for decades, so I asked him about the old days and the practice of "free access" to the fuel farm. "The mailboxes were a dead giveaway," Terry recalls. This

As a fuel supplier it is incumbent to invest in risk management practices and personnel.

matched my own memory of my first day on the job as line manager and seeing these mailboxes at the large airport fuel farm used by the three different branded FBOs on the field. They were the typical rural mail boxes you see along country roads. Some had the red flag up but not to signal the mailman that there was outgoing mail, but to signal the line personnel that they had received a load of fuel and the paperwork could be found inside the mail box.

Free access meant that nobody from the FBO was conducting quality control (QC) checks and supervising the off-loading of the fuel. This sounds crazy given the industry standards and fire regulations that this practice violates today. However, I can tell you with certainty that some line personnel still meet the driver, take the paperwork, then walk away without checking the fuel (violation of ATA 103) or monitor the off-loading (violation of NFPA 407).

It is a recipe for disaster when you combine this practice with fuel suppliers who do not confirm that individual fuel delivery drivers are trained and certified in aviation fuel handling and do not require and confirm that only grade dedicated equipment is used to haul the fuel. This means that the truck and/or trailer are dedicated to hauling just avgas or jet fuel, not both and not other products. We don't even like trucks that have been steamed and dried preferring full time grade dedicated equipment.

The airline fuel quality control standard followed by the airlines, the U.S. Government, and the Military titled ATA-103, requires the use of grade dedicated equipment. ATA-103 is THE industry standard applying to how aviation fuel should be handled.

Education & Quality Control

Educating FBOs to the importance of meeting or exceeding industry standards is incorporated into our annual on site inspections of every branded location, our regional QC seminars, and on our training website.

As a fuel supplier it is incumbent to invest in risk management practices and personnel. Some seem to be content to follow the practices of others in an effort to limit overhead cost. In fact carriers have recently expressed concern that many suppliers do not require grade dedicated equipment. This is a practice we adopted ten years ago and believe it is vital to proper quality control practices.

Business 101 teaches us that responsible business conduct includes product quality, workplace health and safety, protection of the environment, protection of workers, and compliance with laws and industry standards. The first order of business for a smart opposing attorney in a lawsuit against a fuel supplier or FBO in the wake of a loss would be to educate the jury of the existence of some very detailed industry standards that apply to aviation fuel

manufacture, transfer, storage, and delivery into aircraft.

Non-compliance with our industry's standards brings tremendous risk.

It is due to incidents like the following that ATA-103 was modified to require grade dedicated equipment and therefore should be a fuel supplier's policy; our QC training team was on site at a dealer's location when a transport truck arrived to deliver a load of jet fuel.

They took the opportunity to use the delivery as a training exercise. During the visual inspection of the fuel they saw a brown scum lining the bucket. Multiple samples were drawn after wiping the bucket clean but the scum returned every time. They asked the delivery truck driver about the previous load. He indicated it was jet fuel. They asked what was on before that and again he indicated jet fuel.

The airline fuel quality control standard followed by the airlines, the U.S. Government, and the Military titled ATA-103, requires the use of grade dedicated equipment.



Then they asked about the previous load to that and the driver admitted hauling biodiesel which contains FAME (fatty acid methyl esters). Further investigation revealed that the truck had hauled biodiesel, and then two separate loads of jet fuel from the supplier that does not require grade dedicated equipment to one of their branded FBOs that did not inspect the fuel before it was delivered. They refused the delivery before it was put into our FBO's tank. The FAA and aircraft engine manufacturers take FAME contamination very seriously.

Meeting all applicable industry standards and therefore operating within the law is the only way those entrusted with the safety of aircraft and passengers should operate.

Casual Contamination

Even the automotive industry is con-

cerned about 'casual' contamination. In a study released in September by the Battelle Memorial Institute sponsored by the Petroleum Equipment Institute (PEI), carry-over contamination of ethanol from transport trucks was sighted as a possible link in the severe and rapid corrosion caused by microbial growth that has been observed in systems storing and dispensing ultra-low sulfur diesel (ULSD) since 2007. This study can be found at: www.pei.org/Portals/0/resources/documents/ulsd_final_report.pdf.

Untrained drivers are not aware of the risks associated with hauling aviation fuel. They don't know what they don't know. Clean trucks, residual

fluids from previous loads, and clean hoses are not a concern to them. Some drivers believe that all aviation fuel is the same and therefore it is okay to mix avgas and jet fuel.

Terry Wilcoxson at Castle & Cooke related another incident when a driver attempted to make a delivery and he noticed that the driver was having a very difficult time wrestling with the delivery hose he was going to use.

"I grabbed the hose from the driver and it felt very heavy" relates Wilcoxson. "So I took the cap off the end and discovered the hose was full of automatic transmission fluid."

"It scares me to death to think of what could have happened if we had



not discovered his mistake,” he recalls. Wilcoxson knows that even the best of aviation fuel filters on tanks farms, refuelers, and aircraft will not stop chemical contaminants.

We wonder if several different cases we have seen might somehow be related to ‘casual’ contamination of fuel from the residue of previous loads when suppliers do not use grade dedicated delivery equipment. These include corrosion in aircraft wing tanks, gross amounts of microscopic particles in aircraft fuel filters, and clear evidence of the effects of microbial growth.

I also wonder about aircraft operators who may have had to complete an engine hot section overhaul hundreds of hours before it was due caused by deposits in the engine. I know from experience that chemical contamination of aviation fuel can cause deposits in the hot section leading to cracking of components. One of our helicopter customers experienced this and deter-

mined the root cause was that his supplier had used delivery trucks that had previously hauled lube oils.

Safety First

A fuel supplier training drivers of the important differences in handling aviation fuel takes time and resources, as does confirming that the individual driver is actually trained and that the trucks are grade dedicated before the load is dispatched.

It’s always easier and cheaper to run your business by ignoring industry standards. It’s harder and more expensive to do it right. An example: at a time of limited carrier resources caused by natural disasters, refinery shutdowns, and market price spikes, just finding a truck and driver is tough enough, but doubly tough when you require they are aviation trained and the equipment grade dedicated. Short cuts and saving money do not go hand-in-hand with ensuring aviation safety.

Meeting all applicable industry

about the author

Michael Mooney,
VP & chief risk
officer, EPIC
Aviation, LLC



Michael Mooney began his aviation business career in 1978 and since that time has served a management role in aviation-related operations including, FBOs, airline ground support, into-plane fueling, and a corporate flight department that operated a large fleet of aircraft.

standards and therefore operating within the law is the only way those entrusted with the safety of aircraft and passengers should operate. If you are in the aviation fuel business, you can’t just talk about safety; talk the walk, and walk the talk. **ab**

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Fuel Consortia: A 30-Year Success Story

The consortia model offers an opportunity for airlines to work together — and with airport management — to manage collective activities more efficiently and cost-effectively

Grant Smith, *director, aviation services, Burns & McDonnell Engineering*

fuel costs constitute a large share — often up to 30 percent — of airline operating expenses. That has made effective management and efficient distribution of fuel supplies at large airports an industry priority for decades.

In the late 1970s, airlines at several major airports began looking at a consortium model to lower costs and increase efficiencies. The fuel consortium model has also helped airports garner similar benefits.

Looking For Options

Before the fuel consortium era, fuel storage and distribution at major airports typically was controlled by major oil companies. In many cases, each oil company had its own distribution system to supply specific concourses.

The San Francisco and Los Angeles airports, for example, operated in this manner. These structures limited competition and the opportunity for airlines to introduce new supply sources to the airport, and resulted in higher fuel costs for the airlines. The oil companies' costs associated with these facilities were passed on to the airlines as part of their fuel cost.

Competing airlines came together in a revolutionary response, collectively seeking a free market for fuel pricing and fuel system operations at major airports. The first airports to establish airline consortia were in Chicago, Honolulu, and Anchorage, Alaska. In the mid-1980s, many airline consortia were formed to manage facilities in Las Vegas, Phoenix, Seattle, and Los Angeles.

The LAXFUEL Corp. consortium at the Los Angeles International Airport (LAX) represented a major breakthrough because it included off-airport storage and access to ports, which enabled airlines to import jet fuel to the West Coast for the first time. It also let airlines take advantage of bonded fuel, which eliminated the import duty on international flights out of LAX. United Airlines led this effort, with significant support from American, Delta, Pan Am, Western, Flying Tigers, KLM, and Lufthansa.

Coming Together at LAX

Oil companies — including Chevron, Shell, Unocal, ARCO, Mobil, and GATX — owned and operated several large fuel storage and hydrant sys-

tems at LAX. Some larger airlines — American, Pacific Southwest Airlines, and Trans World Airlines — owned their own fuel storage and/or hydrant systems. Because each oil company pipeline into the airport connected directly to refineries in the area and no common carrier pipelines existed,

about the author



Grant A. Smith

Grant A. Smith is the director of aviation services at Burns & McDonnell Engineering. He has been primarily involved with design and construction of facility infrastructure at large airports and industrial facilities. Smith's primary focus includes commercial aviation fueling systems working for airline fuel consortiums. He can be reached at gsmith@burnsmcd.com.



The LAXFUEL Corp. consortium at the Los Angeles International Airport (LAX) represented a major breakthrough because it included off-airport storage and access to ports.

the airlines were at the mercy of the oil companies that served the airport.

In 1985, airlines formed a California Mutual Benefit Corporation to purchase the oil company facilities on the airport, lease the property and rights-of-way from the airport authority, finance the acquisitions and improvements, and manage the fuel infrastructure and operations. LAXFUEL was designed to create an open market and enable the sharing of one fuel storage facility on airport property for all member airlines' use.

The cooperation of the LAX Airport Authority was essential to facilitate the creation of this integrated fuel storage and distribution system. LAXFUEL leases additional off-site storage facilities to better position the airlines to purchase and store fuel near the airport. Each airline purchases its own fuel as needed and uses the common facilities. The fuel is comingled and accounting of fuel usage and inventory is handled by the fuel system operator.

Burns & McDonnell worked with LAXFUEL to design and build a 600,000-barrel fuel storage facility that integrates the oil company facilities and new storage capacity with existing fuel hydrant systems. Consortium

members share the infrastructure, operation, and maintenance costs for the facilities based on each carrier's consumption as a percentage of total airport volume.

A Spreading Model

Fuel consortia have become a common operational model at major airports in the U.S. and around the world with airlines operating at midsize to smaller airports adopting the model of shared facilities to reduce costs. Airlines and airport authorities continue to evaluate whether this model can apply to other airport operations. Consortia offer an opportunity for airlines to work together — and with airport management — to manage collective activities more efficiently and cost-effectively.

Other services could be managed by an airline consortium and range from the procurement of common

needs, such as skycap services, to maintenance of collectively used equipment, such as baggage handling systems or passenger boarding bridges. Going forward, it may be possible to translate the benefits of airline consortia management to other activities, including ground support equipment maintenance and aircraft deicing.

Airports have benefited from the airlines forming fuel consortiums. It is easier for an airport to work on lease terms and master planning with airlines instead of oil companies. There is a familiarity with the companies operating multiple facilities at the airport rather than large oil companies that are only interested in the fuel facility.

“It is easier for an airport to work on lease terms and master planning with airlines instead of oil companies.”

In situations where the airport has owned and operated the fueling facilities, there is a reduced need for staff expertise in fueling design, construction, and operations when the airlines take on those responsibilities.

Typically the fuel consortium will integrate several parts of a fuel system at an airport into one more efficient system. This has been the case in Honolulu, Los Angeles, San Francisco, and other large airports where multiple oil companies operated several independent fuel farms at one airport.

Moving further into the 21st century, efficiency in operations is the goal of all parties. Airlines are faced with higher fuel and operating costs, and they continue to look for ways to be more competitive — Delta Airlines buying a refinery in the Northeast in April 2012 is one more example of building out tighter control of the supply chain.

Perhaps we may soon see airlines buying leases in the Gulf of Mexico or purchasing fuel tanker ships or pipelines to move jet fuel to major airports.

ab

AIRPORT FUEL FACILITY — SAN JOSE INTERNATIONAL

A new airport fuel facility at San Jose International Airport for the airline consortium replaced the aging city-owned facility which had environmental issues and was scheduled for closure.

The new facility consists of three 15,000-barrel aboveground Jet A fuel storage tanks with provisions for three future tanks, three truck off-load positions, a fuel transfer pipeline underneath Highway 101, and an operations building.

The Fuel Storage Facility receives jet fuel deliveries by truck with provisions for future fuel delivery by pipeline. Fuel is issued by a pumping station (1200 gpm) at the fuel storage facility and routed through a fuel transfer pipeline to a new airside refueler loading facility north of Terminal A. The Airside Facility consists of four refueler truck loading positions covered by a canopy. The operations building was designed to comply with the 2005 California Energy Code, which means it incorporates sustainable design features that maximize the energy efficiency of lighting, heating and cooling functions, as well as reduces construction waste through a material recycling effort.



Improving Interoperability

Is the aviation community adequately prepared for another terrorist attack? PSIM is transforming interagency communication and collaboration, allowing airports to share information more effectively and simultaneously at all levels

Michael P. Jackson, CEO, VidSys, Inc., former deputy secretary of the U.S. Department of Homeland Security

a tragic aspect of the 9/11 terrorist attacks was the inability of public sector first responders and critical infrastructure operators in the private sector to share critical incident management information in real-time. Meaningful, actionable interoperability was virtually non-existent. Nowhere was that more evident than in the aviation sector.

Improving interoperability for commercial aviation is a function of two crucial factors: (1) maintaining a persistent commitment to fostering institutional cooperation and coordination; and (2) strengthening the nation's ability to field better technology in support of security operations. When bad things happen, better technology can enable real-time, effective interoperable communications among public and private sectors at all levels – local, state and federal.

Where do things stand today, eleven years after the 9/11 attacks? I'd argue that institutionally, we have made significant progress. At most commercial airports, the airport operator, airlines, TSA and local law enforcement have created strong partnerships. Communication is not perfect, security operations are too costly and the pace of innovation is frustratingly slow, all for a multitude of reasons.



On the other hand, airports globally are increasingly adopting a commercial software tool for command center management that is relatively low-cost and provides a transformational boost to operational efficiency, security performance and incident management interoperability. As a class, these software tools are known as physical security information management (PSIM) platforms. Full dis-

closure, VidSys is a leading supplier of such a PSIM platform.

About PSIM

PSIM technology was nonexistent on 9/11. Today it is in use by public sector and enterprise clients globally – by leading firms (from Fortune 100 technology firms to global financial institutions), as well as by a multitude of public agencies in the U.S. and around the

PSIM software correlates, analyzes, and presents data from disparate technologies into one common operating picture.



With PSIM software, operators and authorized personnel have visibility into evacuation patterns, can leverage pre-recorded public announcements, and can lock and unlock key evacuation pathways as needed.



world. In addition to airports, these include the military, transit agencies, ports and other transportation providers, police and operations centers for traffic management and emergency management.

PSIM software is a command center tool that rides on top of existing systems. It continuously fuses, instantly correlates and effectively presents vast amounts of data gathered from virtually any type, brand or generation of physical security system or sensor – and from many other networked management applications critical to enabling nimble operations.

These platforms provide automated tools needed for safe, effective and timely resolution of basic alarms and for management of more complex incidents that involve multiple simultaneous alarms at one or more locations. As a secure web-based solution, the VidSys PSIM platform allows operators easily to manage geographically dispersed assets and to share among various entities, as authorized. With these capabilities, PSIM has transformed real-time interagency communications, operations and collaboration.

Example: Exit Lane Breach Control

How does PSIM work at an airport? Take, for example, the problem of exit lane breach control. PSIM software can reliably integrate with proven behavior recognition software. First of all, PSIM can in most cases enable an airport to use technology rather than individuals to manage the mind-numbing and otherwise expensive job of monitoring exit lanes. More importantly, with off-the-shelf video surveillance tools, PSIM would instantly trigger an alarm for an exit lane breach. If an unauthorized individual enters into a secure area, cameras and video recorders ordinarily operated independently by TSA and the airport can be immediately fused to provide a common operating picture for both. On-site police would instantly be notified, audio alarms can

be activated and all video cameras adjacent to the breach would synchronize to track the location of an intruder and, if required, prior movements.

PSIM then would provide step-by-step, automated instructions to help guide operators through pre-defined response procedures. Specific actions, customizable by the airport or TSA, may include alerting all authorized security and law enforcement officials of the incident via their mobile devices with pictures of the intruder or locking accessible doors. As a result, situations are identified, managed and

even resolved in minutes. PSIM may help avoid terminal closures entirely, potentially saving the airport and airlines millions. Complete incident records are automatically retained for after-action analysis, training or prosecution.

In short, PSIM can deliver real-time interoperability. And it can provide materially enhanced security performance.

But imagine a given exit lane breach incident is not a benign incident, rather a quick attack. And imagine further that the same thing is happening simultaneously at several airports at the exact same time. Obviously, this second scenario is more grave than an isolated incident. With PSIM, airports could establish continuous connectivity with local police and with TSA's national command center in Virginia. Those entities would not have operational control of the airport's cameras or other security assets, but they could be granted immediate situational awareness for specified incidents that could save lives and trigger more complex response protocols.

With PSIM, a targeted airport could also quickly be informed that other exit lane breach incidents are occurring simultaneously. Obviously, that would impact each airport's response and may elevate the number and type of assets deployed.

To conclude, the attacks of 9/11 underscored the importance of real-time information sharing and interoperability. The aviation community has come far since then. But with now-proven technology, the aviation community can readily take interoperability to a higher level, improving security, decreasing costs and strengthening critical interoperability. **ab**

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