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GROUND SUPPORT WORLDWIDE

MATT SHEEHAN:

2015 GROUND SUPPORT

TEAM LEADER

MAY 2015

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INTERNATIONAL

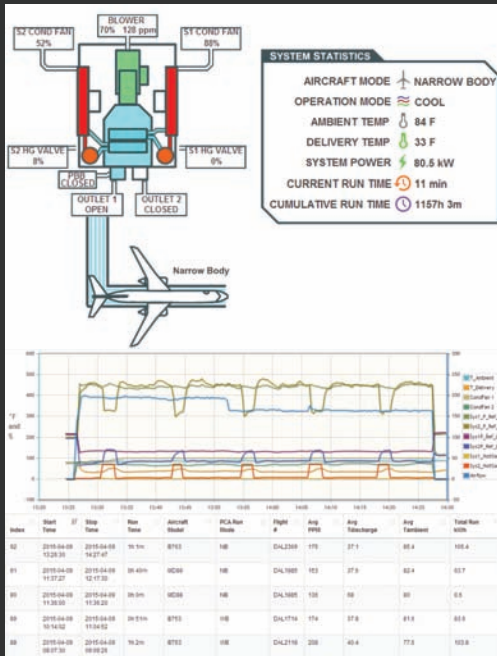
Europe Takes The Lead To Regulate The Safety Of Ground Handling

The European Aviation Safety Agency's proposals represent a departure to the traditional rule-making effort that typically translates standards and recommends practices of the International Civil Aviation Organization. **Page 14**



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Major Events in 2015



AAAE 87th Annual Conference & Expo
Philadelphia, PA



inter airport Europe
Munich, Germany



NBAA Business Aviation Conference & Exposition
Las Vegas, NV

Business Buzz

The Menzies Aviation team at Schiphol Airport received an award for Operational Excellence alongside easyJet. The team was recognized for its collaborative approach in working with easyJet throughout 2014 to make significant improvements to its operations. Among many of its successes last year, was a reduction in customer waiting times at easyJet check-in desks. The team analyzed data provided by easyJet and Schiphol Airport to identify which areas required additional resources at particular times, and shared this information throughout the teams. This attention to detail and sharing of information resulted in a reduction of the average queueing time for easyJet customers. In

other news, Menzies Aviation's head office in London recently launched a Safety & Security Program for its UK station managers.

Swissport International Ltd. announced that its Swissport Cargo station in Brussels had successfully completed the validation process for IATA's first-ever "Center of Excellence for Independent Validators" (CEIV) on Pharmaceutical Logistics. In 2014, IATA established the center in close cooperation with the pharmaceutical industry, regulators and industry stakeholders. The certification aims at helping airlines, handlers and forwarders improve their share of the \$60 billion a year pharmaceutical logistics market.

Airtow Trailers opened a new manufacturing facility in Wapakoneta, Ohio. The plant, which is its second manufacturing site, is part of the company's plans to drive the continued growth of its trailer business and expand further into central and eastern United States.

David Clark Company launched a new website highlighting its products and systems for ramp and maintenance communi-

cations. The site provides complete descriptions and technical information on the company's noise-attenuating headsets and components for wired and wireless communication systems. The new website features complete information for David Clark Company wired and wireless communication systems designed for pushback, deicing and MRO applications, including the Series 3800 (wired) systems as well as Wireless Series 9900 systems. Visit www.davidclarkcompany.com.

Ten of **Phillips 66 Aviation's** FBOs were recognized in this year's Aviation International News survey. More than 11,000 respondents completed AIN's questionnaire that ranks FBOs according to line service, passenger amenities, pilot amenities, facilities and customer service representatives.

Delta Air Lines Inc. said that first-quarter profit more than tripled as passengers flew more and jet fuel prices fell from a year ago. Delta reported first-quarter net income of \$746 million, or 90 cents per share, up from \$213 million, or 25 cents per share, in the same period last year.

US airlines are doing a poorer job of serving travelers, with more late flights, more lost bags and more customer complaints, according to the 25th annual Airline Quality Ratings report. Among the findings in the report:

Lateness: The percentage of flights arriving on time fell to 76.2 percent last year from 78.4 percent in 2013. Best: Hawaiian Airlines. Worst: Envoy Air, which operates most American Eagle flights.

Lost bags: The rate of lost, stolen or delayed bags rose 13 percent in 2014. Best: Virgin America. Worst: Envoy. Airlines lose 1 bag for every 275 or so passengers, but at Envoy, the rate is 1 lost bag for every 110 passengers, according to government figures.

Overbooking: The rate of passengers getting bumped from flights rose 3 percent. Best: Virgin America. Worst: a tie, between SkyWest and its ExpressJet subsidiary.

Complaints: Consumer complaints to the government jumped 22 percent in 2014. Best: Alaska Airlines. Worst: Frontier.

The **U.S. Department of Transportation** said that 16 domestic flights were stuck on the ground for more than three hours and eight

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international flights were delayed more than four hours in February. Eleven of the long delays, however, were American Airlines or American Eagle flights to or from Dallas-Fort Worth International Airport during a Feb. 27 snow storm. Overall, 72.8 percent of flights arrived on time in February, down from 76.8 percent in January, but up from 70.7 percent the previous February. Among the 14 airlines that carry enough traffic to report figures to the government, Alaska Airlines had the best on-time rating at 85.1 percent. Envoy Air, which operates many American Eagle flights, had the worst rating at 53.3 percent.

According to new market research published by **MarketsandMarkets**, the global aircraft deicing market is projected to reach \$1.3 billion by 2020. The market is expected to witness remarkable growth during

the forecast period. Canada, U.S., U.K, Germany, Russia, France, Finland, Norway, Switzerland, China and Japan are identified as revenue hot spots.

Germany's biggest airport is about to become even bigger after Fraport's supervisory board voted to build a third terminal at **Frankfurt Airport**. Fraport projects that the number of passengers could climb as high as 73 million annually in 2021, up from its present level of around 60 million and about 10 million higher than the airport's current maximum capacity. The new terminal is expected to serve an extra 25 million passengers a year.

New Deals

Hercules Engine Components completed a successful ownership transfer, with Douglas Brinkley acquiring

the company from its previous owners and founders, Jack Dienes and Bruce Weick. Hercules is an exclusive distributor of industrial engine components, a provider of engine remanufacturing services, and a refurbisher of flight line ground support equipment. The acquisition comes as a result of the previous owners' desire to seek new ownership to drive growth and build upon a well-earned reputation of superior customer service.

LEKTRO and long-time customer, **Jet Aviation**, kicked off ABACE 2015 by finalizing a deal on a new LEKTRO model AP8850SDA. The unit is slated to go to Jet Aviation's new Macau operation. Last year Jet Aviation bought the 4,500th LEKTRO for its new Dubai operation.

ASIG launched its new website, which focuses on recruiting for its global operations. The revamped site includes video stories of employees and makes it easy to apply for a job with the ground service provider. Visit www.asig.com.

Clariant and **Archer Daniels Midland Company** introduced ADM Evolution Chemical's line of biobased propylene glycol into Clariant's Safewing® and Octaflo™ brands of aircraft deicing fluids in North America. ADM's propylene glycol meets existing industry standards and can be used interchangeably with petroleum-derived propylene glycol traditionally used in aircraft deicing fluids. Safewing and Octaflo products made with ADM's biobased propylene gly-

col fulfill all performance expectations and reduce carbon footprint. ADM was the first company worldwide to make a biobased propylene glycol that complies with both industrial and USP requirements. Available since March 2011, it has also earned the USDA Certified Biobased Product Label, ensuring it contains 100 percent biobased content.

Vanderlande acquired Dinamic Industrial Business (Dinamic) as a key part of its ongoing strategy for profitable growth in Europe and the US.

Aviramp introduced the **Aviramp International**, which the company says is the only portable remote stand/walk through boarding bridge able to service wide-bodied aircraft, such as the A380. As a result, the International model achieves a step-free experience that improves safety, operational efficiency and a universal seamless passenger experience for everyone: the disabled, the elderly, and families with children.

World Fuel Services announced an expansion in the Asia-Pacific market to include 24/7 trip support operations staff that is fluent in local languages. To best serve its Asia-Pacific customers, World Fuel Services currently maintains two operational offices in Singapore and Mumbai, and a Shanghai office is scheduled to open in mid-2015. In addition to the Asia-based trip support operations staff that is fluent in Chinese, the organization expects to

SEA-TAC RAMP AGENT PARALYZED IN ACCIDENT AWARDED \$40 MILLION JUDGMENT

A King County jury awarded \$40 million to Brandon Afoa, a ramp agent who was paralyzed while working at Sea-Tac Airport. Afoa sued the Port of Seattle claiming it failed to provide a safe working environment, which contributed to the accident that left him without the use of his legs and right arm. Afoa was hurt when the pushback he was driving lost its brakes and steering and crashed into a broken cargo loader. Afoa was 25 at the time. Airport lawyers contended that the accident was caused solely by the malfunction of the pushback's mechanical systems, which were to be maintained by Afoa's employer, Evergreen Aviation Ground Logistics Enterprises, and that the airport had no duty or responsibility to ensure that Evergreen properly maintained its vehicles. The jury saw it otherwise, and apportioned 25 percent of the blame for the accident to Sea-Tac Airport. Jurors said a number of airlines, who weren't part of the lawsuit, bore the majority of the rest of the blame. The jury also said Afoa was 0.2 percent negligent.

have local staff on call that is fluent in Mandarin, Cantonese, Melayu, Bhasa Indonesian, and Tagalog by July 2015.

Universal Aviation, the ground handling division of Universal Weather and Aviation, Inc., announced it will expand its presence in the Asia-Pacific region, with the addition of Universal Aviation Philippines, an FBO joint venture with Asian Aerospace Corporation. The FBO, headquartered at Manila International Airport, will begin operating as Universal Aviation Philippines in May.

All Nippon Airways has secured Japanese antitrust clearance for its transpacific cargo joint venture with Star Alliance partner United Airlines. The partners said the partnership will create "a more efficient and comprehensive" transpacific cargo network.

The **Port of Portland Commission** approved a set of principles designed to "enhance the worker experience at PDX" for low-wage workers employed by concessionaires and airport service providers. Approval of the so-called PDX Workplace Initiative capped a months-long effort to develop broad guidelines aimed at improving working conditions and job security for baggage handlers, airplane cabin cleaners and wheelchair attendants, as well as food and retail shop employees at the airport. Commission President Jim Carter said that while the port was intentionally leaving the issue of raising the minimum wage to the state, the initiative does provide a framework for addressing other concerns involving worker benefits, hiring and retention practices, and management-labor relationships.

People



Laura Backhaus and **Angie Betterman**

joined WASP Inc. as sales support

managers. Both manage customer accounts and



ensure WASP's customers around the globe receive fast, personal service throughout the entire ordering process, from design to delivery. Backhaus brings more than four years of account management and customer service ex-

perience to her new position. Previously, she worked as an account manager for SecureConnect in Eden Prairie, and as a health educator for Pope County, both in Minnesota. With extensive experience in sales, account manage-

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ment and customer service, Betterman brings key skills to the position. Most recently, she worked as an account manager for Fastenal®, where she sold hardware and tools to customers, including WASP. Prior to that, she worked as a staffing coordinator for an employment agency where she paired job seekers with employers.



Travelers nationwide left about \$675,000 in loose change at airports in the last fiscal year, and nowhere was that forgetfulness more costly in California than at Los Angeles

International Airport, the Transportation Security Administration reports. Passengers at LAX lost \$41,506.64 after passing through security screening checkpoints between Oct. 1, 2013, and Sept. 30, 2014, TSA officials said. San Francisco International Airport's haul landed second on California's list at \$34,889.63. The two airports — California's busiest — far eclipsed the rest of the state's aviation hubs. Where does the money go? Back into the TSA. In 2005, Congress gave the agency authority to put the money it collects from airport checkpoints back into security operations. For fiscal year 2014, that amounted to \$674,841.06 nationally. In 2013, it collected \$638,142.64, and in 2012, it took in \$531,395.22.

Southwest Airlines is celebrating being named one of the top air cargo carriers in the world according to Air Cargo World magazine. The publication recently announced the carrier won its highly coveted Air Cargo Excellence "ACE" Diamond Award in the "up to 399,999 tonnes" category. Southwest Cargo® earned the award based on its legendary customer service, performance, value and use of technology. This is the 11th year for the Air Cargo Excellence Survey, of which Southwest has been awarded the Diamond or Platinum Award in its respective category for the sixth consecutive time.

Delta Air Lines says a checked-bag guarantee the airline introduced on a trial basis in February will become a permanent feature. The airline now guarantees fliers' checked luggage will arrive at the baggage carousel within 20 minutes when traveling on domestic flights. Delta will give 2,500 miles to customers whose bags take longer

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than that to reach the carousel. The guarantee was originally set to expire March 31. In other news, Delta is partnering with Ant Financial Services Group and UATP to make it easier for Chinese consumers to purchase airline tickets via delta.com. The move, which sees Delta become the first U.S. carrier to add Ant Financial's Alipay payment platform to its website, is part of the airline's ongoing effort to serve Chinese travelers. With the Alipay payment option, Chinese travelers will now be able to use China's most trusted payment method when they book Delta flights. Alipay is China's leading online payment provider and the primary means of online and mobile payment for Chinese consumers.

Prospect Airport Services Inc. said a pay raise is on the way for some subcontract workers at the Philadelphia International Airport who picketed in April to protest low wages. Non-unionized employees who work as wheelchair attendants, baggage handlers and airplane cleaners for Prospect and PrimeFlight Airline Services, both contractors that provide services for airlines, walked off the job. The workers have been pushing for higher pay and better working conditions over the past three years, including other one-day strikes. Last year, Mayor Michael Nutter signed an executive order that went into effect in January and raised the minimum wage for city contractors and subcontractors to \$12 an hour. But city officials have said they can't force contractors and subcontractors to pay the new minimum standard until new contracts and subcontracts are signed. Prospect didn't provide specifics but said the forthcoming raise would be "pursuant to the mayor's recent executive order." Paid sick leave also "will soon be available to all Prospect employees under the City of Philadelphia's new ordinance," the company said.

Boeing redesigned overhead bins on its new 737 planes enable 50 more bags than current models. While cur-

rent 737 models can fit 90 to 132 overhead bags, 737s outfitted with Space Bins will fit between 130 and 194. The new design, termed the "Space Bin," will fit six standard-sized bags, rather than the current four. The key innova-

tion makes the bins tall enough so that bags can be inserted on their sides, rather than flat. Boeing said that the lip of the bins will also descend lower, making the aisle-to-bin hoist easier on travelers.

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MATT SHEEHAN: 2015 GROUND SUPPORT TEAM LEADER



From a humble start, Matt Sheehan keeps 16,000 customers happy thanks to the strong relationships he's built with personnel and GSE manufacturers to grow AERO Specialties.

By Steve Smith

Matthew Sheehan, this year's 2015 Ground Support Team Leader, started AERO Specialties, in 1987 sitting in his basement with just \$1,000.

"I took my first ad in *FBO Business* [the original name of our sister publication, *Airport Business*] and signed to exhibit at the NBAA trade show all on the same day and didn't really have a way to pay for either one of them in full," remembers Sheehan, president of his one-stop GSE shop based in Boise, Idaho. "I just put the costs on my credit card, and figured I'd better go sell some stuff."

HUMBLE START

From that humble beginning — Sheehan remembers starting out with a used fuel truck and a tug — AERO Specialties has grown to a powerhouse for all things GSE, in particular for the FBO and MRO markets, and currently counts about 16,000 customers around the world.

"Everything certainly started out small," he adds, "but it really took that bigger exposure with the advertising and the trade show along with that risk to start growing."

The company does a little bit of everything these days and does it all very well. AERO provides new, used and refurbished GSE to general and commercial customers throughout the world. AERO also manufactures a line of hybrid GPUs, lavatory, potable water, cleaning and oxygen/nitrogen servicing carts, as well as tow bars and towheads. Not stopping there, AERO is an authorized distributor of a long list of well-known GSE brand names, such as Eagle Tugs, TLD, Unitron, Clyde, Stinar and others. Finally, a secure online store provides customers with GSE and parts whatever the day or time.

Why so diversified?

"In this business, if you sell someone a tow tractor, they aren't likely to need another one from you for years," he explains. "That's a long time. So early on we decided that we needed to build other equipment if we wanted to have our own niche."

The first thing he built was a lav service cart. "We still build a model of

that cart today," he says. "We have hundreds and hundreds of those in service."

From there, he added other products such as tow bars and then started refurbishing equipment.

"We look at AERO being well suited to provide everything an FBO, MRO or regional airline could need," Sheehan adds. "In doing so we constantly figure out what a customer could need and set about providing it. Regional airlines have become a huge part of our business over the past years. The same can be said about the military, as we have a GSA contract GS-30F-0030X. Refurbishing is a natural since for whatever reason — maybe the customer has outgrown that

AERO Specialties manufactures a line of hybrid GPUs, tow bars and lavatory carts.



particular piece of GSE or it just doesn't fit their needs any longer — they need a conduit to help sell that off. So that feeds our used equipment side."

After an expansion into the equipment side, new and used, the company also diversified to sell the full array of GSE-related parts and accessories.

"Whether you need a flashlight, a marshalling wand, a chock or a brand-new GPU, for that matter," Sheehan says, "then that's what we want to be able to provide the customer."

TEAM BUILDER

Obviously, Sheehan knows he didn't accomplish this all by himself.

"AERO started very small and has grown steadily over the years," Sheehan told the magazine in a Q&A published in February 2009 issue of *Ground Support Worldwide*. "I have been blessed to have gathered together a great group to work with. They say you should aspire to hire only those smarter than yourself. Each and every one of my group strives to remind me daily of that fact!"

In reviewing Sheehan's background for our Team Leader honor, a couple of facts were clear to us: All of our past Team Leader honorees excelled in building the internal team of employees just like Sheehan.

The growth of AERO Specialties grew through advertising and trade show attendance. Here is an early ad from GSE Today, the former name of Ground Support Worldwide.





AERO Specialties is the exclusive U.S. corporate and FBO distributor for Eagle Tug diesel and electric tractors.

"We crossed that wonderful 50-employee boundary not very long ago," he adds. "We have people that have been with us for more than 25 years."

Many of those employees have also chosen to stay with the business even as the aviation industry weathered its darkest days following 9/11.

"When that second plane hit the towers it was like someone unplugged our phone system," Sheehan remembers. "I told my 25 employees, here's the deal: I could lay off a third of you right now or we can all go to part-time schedules and give up every one of our benefits. We'll scrape by and make it through this. I'm

happy to say we never lost one person, great testament to our Idaho work force."

But there's another way to build a team and that's by creating and maintaining solid relationships with outside manufacturers and vendors.

'EXTERNAL TEAMWORK'

Let's take a look at this "external" teamwork with just two examples of many.

- **JetGo:** Here's one of most striking pieces of GSE in the marketplace. JetGo's diesel-electric hybrid GPUs

are designed to meet the increasing demand within the aviation industry for a quieter, more fuel-efficient "green" ground power source. The unit differentiates itself not just by the technology inside, but also by its sleek, compact appearance.

"The most interesting thing about the JetGo is not its unusual design," Sheehan adds. "Its diesel-electric technology makes it the most efficient unit on the market. From the start JetGo's unique design grabbed people's attention, but without any initial name recognition, it made marketing the product quite challenging for the original manufacturer."

But Sheehan worked directly with manufacturer, Rod Gray, and helped sell the line to well-known FBO chain, Landmark Aviation.

"It took a real partnership to bring this about because we guaranteed Landmark that, No. 1, this light-weight GPU

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Work it did and sales grew. AERO ended up purchasing the company from Gray — who continues to work with AERO on the product line.

"Adding Rod Gray to our team was integral to the deal," Sheehan says, "and it's been a great partnership."

■ **Eagle Tugs:** Head to an AERO booth at any trade show, and you might think you made a wrong turn and walked into the Eagle Tug booth by mistake. But it's no error. AERO is the exclusive U.S. corporate and FBO distributor for the line of distinctive diesel and electric tractors.

"I bought the third or fourth TT tractor they ever built," Sheehan explains. "I saw a pencil sketch of this new tug and thought it was the most unusual design that I'd ever seen."

Cosmetically, Sheehan says the original model was built more to an industrial standard and certainly not the look an FBO owner would want parked next to \$30 million aircraft.

Appearance notwithstanding, however, Sheehan was intrigued by the all-wheel drive specs and other components. Eagle's unique TT Series tractor had specifically addressed aircraft handling requirements — it was not based on a baggage tug as all existing designs at that time were.

"I'm always looking for something that isn't a 'me-too' product," he explains. "That's a type of product that we can really get our teeth into."

Sheehan quickly struck up a relationship with the company's original owner, Dennis Morrow, to help refine the appearance of early equipment. His deal to distribute started with a handful of Western states and later extended to the U.S. FBO market. The distributorship continues today and prospers under a new owner, Jace Morgan. "The Morgans have driven Eagle Tugs to become the premier brand in corporate aircraft handling." Eagle Tug's newest "XL Series" offerings will make great inroads in the airline side of the business.

"We work hard for them and with them," Sheehan adds. "It's just been a great relationship."

AERO Specialties has many great partners and strives to keep the "customer is first" mentality.

"I'm always looking for something that isn't a 'me-too' product...that's a type of product that we can really get our teeth into."

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Europe Takes The Lead To Regulate The Safety Of Ground Handling



The European Aviation Safety Agency's proposals represent a departure to the traditional rule-making effort that typically translates standards and recommend practices of the International Civil Aviation Organization.

By Mario Pierobon

Europe is taking the lead to regulate airport ground handling from the safety point of view. This will be something different compared to any traditional safety rule-making effort, which is normally a translation of standards and recommended practices of the International Civil Aviation Organization into national or, in the case of Europe, community regulations.

There are currently no ICAO requirements for ground handling, although an ICAO working group (the aerodrome panel) in April 2014 agreed to establish

a task force to determine what ICAO provisions are needed to complement and complete the existing international package of provisions and best practices,

stated the UK Civil Aviation Authority. This was in response to questions raised by the European Aviation Safety Agency (EASA) in the first document



it released in 2014 to communicate to the stakeholders of the European aviation system what it was considering to include ground handling within the rule-making scope of EASA.

MISSING PART

In 2014 EASA published an advanced notice of proposed amendment (A-NPA 2014/12) where it communicated that the European commission and EASA

Rulemaking At EASA

A brief digression is perhaps needed regarding the rule-making process at EASA.

EASA is not a regulator nor is it an authority. European aviation safety regulations are issued by the European parliament and the European Commission, the enforcement of these regulations is of competence of European national aviation authorities, whose oversight functions are also dictated by European law.

EASA simply acts as a subject matter expert in relation to European institutions by producing the content of European aviation safety regulations in consultation with industry stakeholders. EASA also monitors the enforcement of regulations across European countries and it acts as an "authority" only in the certification of aircraft types and in the certification of non-European aeronautical service providers wanting to be certified in accordance with European aviation safety



regulatory standards.

Before any aviation safety regulation is published in the *Official Journal of the European Union* and, thus, becomes legally binding, the proposed regulation goes through a rule-making process managed by EASA whereby the content of the rule is discussed with industry stakeholders, most eminently by means of a very transparent Web-based comment response tool where everyone is allowed to provide feedback regarding the subject matter either by answering direct questions formulated by EASA or by providing any further comments on the subject matter.

It is based on the feedback of the industry and national aviation authorities that the content of the proposed rule progressively takes shape and becomes European regulation after being approved by the European parliament or the European Commission.

had been invited repeatedly by European member states and stakeholders to initiate the possibility to directly address safety requirements for ground handling service providers.

The status quo is that the basic regulation on aviation safety — the rule mandating a common aviation safety regulatory framework in Europe — currently addresses safety provisions with regard to ground handling services only indirectly, as both air and aerodrome operators are expected to ensure the safety of ground handling service providers (GHSP) within the scope of their own respective responsibilities, reported EASA in the advanced notice of proposed amendment.

“This indirect solution is seen as incomplete as it seems to shift legal and liability issues to the operators’ part, while the absence of safety requirements addressed to the GHSPs directly is found to be a gap and a weak link in the chain of safety regulation in Europe. GHSP actions come with immediate safety implications, and practice

seems to suggest room for improvement in this area,” reported EASA.

In A-NPA 2014/12 EASA asked for input from the stakeholders of the aviation system regarding whether they confirmed the emergence of safety issues from ground handling service provider activities not addressed adequately in the current scope of European safety rules. Suggestions of possible policy options to address safety rules and details on possible benefits from including ground handling service providers’ activities in the scope of the basic regulations were also requested by EASA from the industry.

EXISTING EFFORTS

At the beginning of 2015 EASA published an opinion document (Opinion 01/2015) where the inputs to the above mentioned advanced notice of proposed amendment are reflected.

The feedback to EASA seemed to confirm that the safety of aircraft ground handling is indeed recognized as an eminent issue in European aviation system.

In the opinion document, EASA reports that answers to the question of inclusion of ground service providers in the scope of the European basic regulation on aviation safety “have been numerous and nearly consensual, as the vast majority of the affected stakeholders responded positively to the idea. They agreed to see unaddressed safety issues in the area of ground handling and stated they wish to see benefits in addressing GHSP safety obligations by including this subject in the scope of the Basic Regulation, hereby filling in a significant gap as there are currently no safety rules at European level to cater for these providers.”

In its comments to the questions raised by EASA, the UK CAA stated that ground handling has been identified as a key safety issue for the UK. Safety concerns within ground handling activities arise from a lack of a mature safety and just culture for reporting within ground handling communities and from a lack of standardization among operators.

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this makes a time critical task more difficult and prone to error. These risks often manifest themselves in loading errors or unreported damage by ground vehicles to aircraft. Ground handlers are not currently within the EASA remit and yet they are an important part of the aviation safety chain," reported the UK CAA.

In relation to policy options to address ground safety, the UK CAA is not convinced that "further prescriptive rulemaking is required to address this safety issue. Recent national safety initiatives have achieved real safety improvements without prescriptive regulation. Instead, training and cultural development have proven effective at improving safety in this area."

The UK CAA, in its comments to EASA's advanced notice of proposed amendment, also noted that policy options include continuing with existing regulation, potentially supported by a "just culture" campaign and initiatives to standardize processes or through direct ground handling regulation.

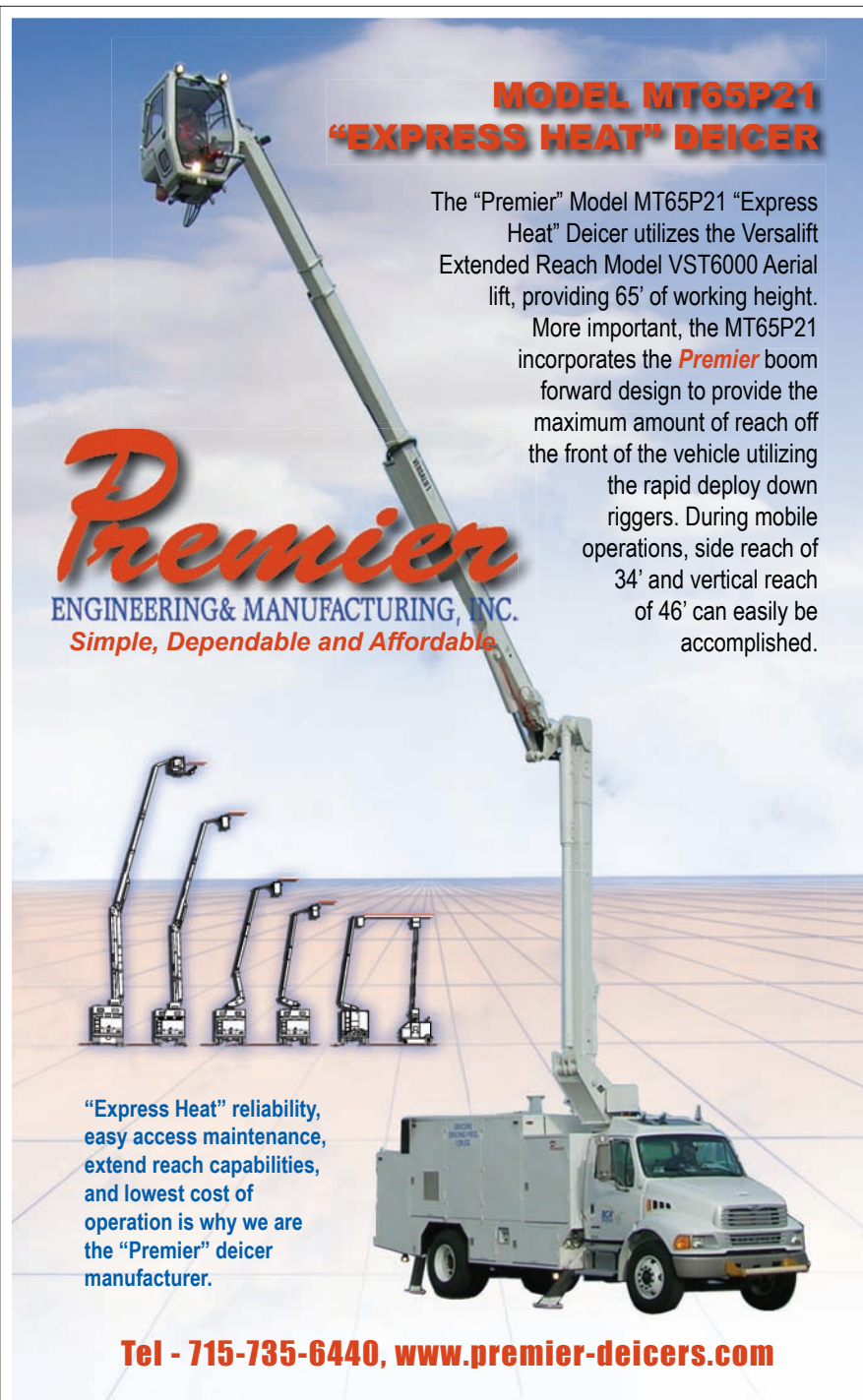
"However, before considering rule-making, it is logical to first assess whether the desired outcomes could be achieved by other means as mentioned above. More safety benefit may accrue from non-legislative action such as a just culture campaign, or by strengthened implementation of existing rules governing operators. In the event that new rules are to be proposed, they should be subject to a robust cost benefit analysis," commented the UK CAA.

In the opinion document, EASA recognized that future regulations addressing ground handling safety will probably not primarily be by means of strict technical standards.

EASA stated that "a certain degree of hesitation and opposition has been voiced by predominantly air operators which point to the natural interest of the involved parties to act safely, hence stating that regulation beyond the existing national rules would not be required. Elements of indicated opposition are widely based on feared future, overly detailed technical rules, and possible stringent future certification requirements."

In their comments to EASA, the European stakeholders pointed to existing

More safety benefit may accrue from non-legislative action such as a just culture campaign, or by strengthened implementation of existing rules governing operators.



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efficient industry standards, such as the International Air Transport Association framework with the IATA Ground Operations Manual and the IATA Safety Audit for Ground Operations, with the latter mentioned by the UK CAA as an example of existing measures to achieve standardization of common ground handling processes that would be helpful to ground handling operations.

In response to industry concerns in the opinion document, EASA notes that by addressing the requirements on ground service providers via the European basic regulation on aviation safety, a certification requirement does not necessarily need to be introduced since a set of alternative technical mechanisms would be at hand at implementation level.

"In addition, it appears promising indeed to consider industry practices and standards when performing such future work. The focus of this work would be to create a well-measured legal and en-

forceable obligation rather than to introduce technically new requirements," reported EASA.

The UK CAA with regard to policy options recommended that any economic - and safety-driven legislation initiatives relating to ground handling activities originating from different areas within the European Union be fully coordinated. The UK CAA also suggested considering a coordinated and sustained European "just culture" campaign for ground handling, similar to the European Action Plans for the Prevention of Runway Incursions and Excursions.

Of course, EASA is still far from having at hand any draft of the proposed regulation, since it is only at the beginning of the rule-making process. Its proposed way forward is, however, to create a vehicle to directly address the safety obligations of these providers.

"A well-measured approach not leading to a certification requirement, but making full use of existing industry

standards will address the remaining concerns," stated EASA.

RULEMAKING PRINCIPLES

The future rule-making effort of EASA should follow a number of principles in order to be effective and improve the safety performance of aircraft ground handling.

In its comments to the advanced proposed amendment, the UK CAA notes that the link with the aircraft operator is also a key opportunity to safeguard safety.

"It must remain clear that while the rules continue to permit the activity to be outsourced, accountability for it remains with the operator. The operator must then ensure, via its safety management system, that any subcontractors have adequate safety processes in place," commented the UK CAA, which also expressed a wish to see more emphasis on ground handling in SMS guidance.

A good outcome would be an improved safety culture in ground handling and one where the SMS of ground service providers are effectively integrated with those of airport and aircraft operators, also noted the UK CAA.

Another UK CAA recommendation is that new proposed rules should be subject to a robust cost-benefit analysis.

"This should include the cost of compliance for the ground handlers and the airlines, as well as the costs to the National Aviation Authorities, balanced against the safety impact that is expected to be achieved. Although the potential safety impact of undetected ground damage could be substantial and the cost of aircraft ground damage can be high, EASA should examine the severity and likelihood of the risk in comparison to other aviation risks," recommended the UK CAA.

The UK CAA also reiterated that legislation "should take into account the significant work already undertaken in this area, for example, by the IATA Ground Handling Operations Manual and the IATA Safety Audit for Ground Operations programs. This work has been undertaken by working groups involving airlines, ground handlers and NAAs."

These industry programs need to be recognized. The merit of filling a regu-

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latory gap by means of self-regulation long before regulators started to address the matter and those who are involved in these programs have positive experiences with them, should have some sort of more "scientific" analysis before a full endorsement is made of existing industry standards as means of compliance with future regulations.

The likes of statistical experiments proving a causal relationship between the implementation of an industry standard and an improved safety performance should be used as additional evidence proving the suitability of these standards as means of regulatory compliance on top of user satisfaction.

A last guiding principle should be international coordination in rule-making. The UK CAA remarked on the importance of close liaison and coordination of legislation regarding ground service providers' activities so that there is consistency in approach and achievement of a common desired outcome. In this respect EASA has a positive role to play given its leading role in international aviation affairs as well as its pioneering effort in aiming to regulate aircraft ground handling.

"Considerable international work in developing improved management and oversight of these activities has been undertaken, and is currently underway by ICAO, and this should be taken into account in determining EASA's future direction. Given that the safety risk to EASA operators includes those arising at airports beyond the EASA countries, such international cooperation is very important," stated the UK CAA. ✈️

About the author:



Mario Pierobon holds a Master's Degree in Air Transport Management from City University London and works in business development and project support at Great Circle Services in Lucerne, Switzerland. Mario regularly writes about aviation safety and his main professional and research interests are in the areas of air-side safety.

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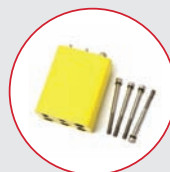
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Zero Injuries Is Not A Good Safety Target

The evolution of safety from lagging to leading indicators has only been marginally successful in preventing incidents.

By Ian Bell

Most organizations measure safety performance by numbers because that's what businesses are used to and senior managers are comfortable with. The numbers are clear and precise and achievements are measurable. You have either been successful or not.

Take for instance the target of "Zero Injuries" (or "Goal Zero" in the organization I have most recently worked for).

I have never been able to provide the plan that says that if I do A and B, I will be able to get zero injuries. This is very unlike the plan that says, if I close off bag acceptance 20 minutes before departure and dispatch the last barrow from the bag room at 17 minutes before departure and get the baggage belt removed from the

aircraft at five minutes before departure, then we will get an on-time departure.

EVOLUTION OF SAFETY

The evolution of safety from lagging to leading indicators has only been marginally successful in preventing incidents. Having been part of this evolution, I have been frustrated that neither has led to serious safety improvements and, as a

result, everyone has spent considerably more time focusing on behaviors and organizational safety cultures as a means of achieving significant safety improvements.

- *Lagging* indicators tell us the safety performance we have had.

I think by the time we report these, we all know we have suffered incidents. And anyone injured certainly knows our safety effort has failed. Traditionally with this approach, we review the incident rates, set new and aspirational targets and, generally, review why we were unsuccessful.

If we were successful, it is often through luck than anything else.

- *Leading* indicators are an attempt to rectify this by monitoring the causes of prior incidents in an attempt to monitor the safety environment so we can correct deficiencies before we have incidents.

Traditionally with this approach, we establish that near-misses are good predictors of hazardous conditions. We set targets for near-miss reports, analyse these for trends and see whether there is something we can do to eliminate the precondition of incidents.

The issue with this is that you need to be more like a "day trader" in the stock market. For stocks, the day trader is receiving and analyzing stock data to try to pick the stock to buy or sell before the rest of the crowd. To use the analogy for safety, you would need to be receiving high quality near-miss information and analyzing it before an inci-

LAGGING INDICATORS

RESULTS

LEADING INDICATORS

DESIRABLE ACTIVITIES

TRANSFORMATIONAL INDICATORS

CONTRIBUTION OF VALUE

dent occurs. This is both dependent on quality information that we rarely have and being able to see the hazards and eliminate them quickly.

TRANSFORMATIONAL INDICATORS

Then I saw an article written by Shaun Galloway on transformational indicators.

These do not measure the lagging or leading indicators but, rather, look at the concept of contribution of value. For safety, these include emotions, knowledge levels, competence, behaviors, cultures and effective story-telling.

Consider all these for an airport environment:

Lagging indicators would be the number of injuries we have from catering activities, ramp activities, fueling activities or any other categorization we choose to make.

The leading indicators would include the measurement of what we believe may be the precursor causes of these incidents including air-side driving infringements as an indicator of the potential to have a vehicle collision, reported soreness as a precursor to a manual handling injury, drug tests in the hope that we will prevent drug-affected employees hurting themselves or others.

Meanwhile, the transformational indicators focus on the knowledge of people and their self-management. For instance, attendance at training events is a leading

indicator, but ensuring that ramp staff actually understand the hazard, potential consequence and why the procedure is as it is will be far more powerful in establishing the safety culture needed to prevent incidents and deliver the zero injury result that boards and senior management groups like to see.

There are some fundamental things that supervisors and leading hands need to do to get seriously good safety results:

- Spend time educating staff in the hazards they are likely to encounter and discuss these on a regular basis through toolbox or pre-start meetings.
- Listen to the workers to understand why they do not follow procedures and rules to be able to either change the procedures to meet the needs of the task if safe to do so or enforce the current procedures and explain why.
- Challenge your managers and safety people by asking what each safety initiative will deliver and how because if they can't link them, they won't work.
- Finally, spend time on the ramp observing what is happening, pull people up when they are not performing properly and recognize those who do.

Oh, and managers, use transformational safety indicators and recognize the supervisors who achieve the safety culture needed to get the zero injuries result you crave. But understand that this is an outcome of transformational indicators, not the target! ✈️

Educate staff on the hazards they are likely to encounter.



About the author:



Ian Bell, director of Global Safety Partners, has a long history in the aviation industry first with Trans Australian Airlines and Australian Airlines (the forerunners to Qantas). He spent 11 years in airline operational roles before joining the Shell Company of Australia where he spent 23 years in a range of senior management roles including having primary operational responsibility for the Shell Aviation operations throughout Australia and Papua New Guinea. Ian has also been involved with the Australian Aviation Ground Safety Council, which is focused on improving ground safety performance in airports across the Australasian region. He can be contacted at globalsafetypartners@gmail.com.

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The Forces Influencing What Your GSE Mechanic Earns

Research does reveal that GSE mechanics, on average, do earn lower than average wages when compared to many mechanics employed at automotive, truck, and equipment repair shops and dealerships.

By William Mathew Ryder

The perception of being paid fairly is a key component of job satisfaction for any employee, so recognizing factors that affect a GSE mechanic's earnings can be a benefit to both the technician and the employer.

A decade ago the U.S. Department of Labor estimated that there were employed in the United States more than 600,000 automotive and diesel mechanics working on bus, truck, heavy-duty equipment, GSE and farm equipment. At the time, the department estimated that, by 2015, the maintenance industry would need an additional 200,000-plus mechan-

ics to fill a void created by workers who would retire or change fields or by newly created positions that come about in an upward moving economy.

The situation began to change around 2008 when the U.S. economy took a turn for the worse and, by the end of the recession, there was a significant reduction in the workforce as many mechanics were

out of work because of all the dealerships and "Mom & Pop Shops" that closed during the downturn.

After the recession, around 2012, as the economy began to stabilize, employment figures showed that there remained just over 250,000 mechanics across the country. Since then, there has been a resurgence in the economy and there now exists fierce competition for recruitment and retention of skilled mechanics in most industry sectors. The U.S. Department of Labor's latest projections anticipate an employment demand in 2022 of 272,500 mechanics, which is a 9 percent increase over the decade 2012-2022.

MECHANIC SHORTAGE

Recruiters and GSE maintenance managers now seem to be spending more time dealing with the result of this mechanic shortage. Attracting mechanics into the GSE maintenance field is difficult, although data shows a majority of mechanics who transition into GSE maintenance from trade schools or other industry sectors tend to stick with it.

Among GSE mechanics, there seems to be a widespread assumption that they are not being paid fairly for the work they do. Research does reveal that mechanics in this sector, on average, do earn lower than average wages when compared to many mechanics employed at automotive, truck, and equipment repair shops and dealerships.

It's important to note that salaries for mechanics in all industry sectors can vary greatly due to company, location, work experience, and benefits being offered.

According to the U.S. Department of Labor, mechanics working outside of the aircraft operations area are earning

Ground Service Equipment Mechanic Years of Experience

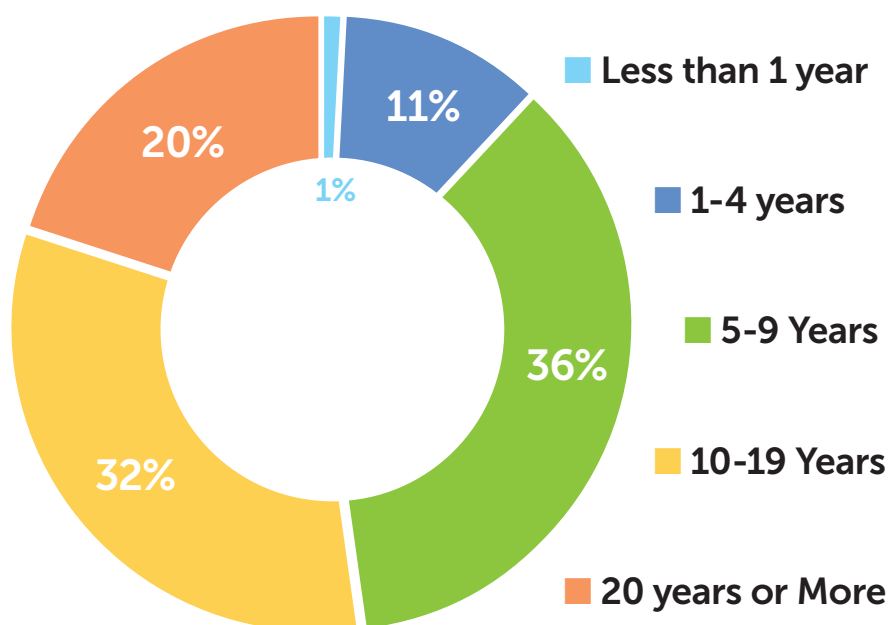


Chart Source: PayScale.com



on average an annual wage of \$44,000, with some top techs making upwards of \$80,000 per year. The effect of flat-rate pay versus a fixed hourly pay rate should also be taken into consideration. Some mechanics work at repair shops and dealerships that use established "book time" estimates as a guide for their employees to follow and as means to determine what a next paycheck will look like.

That's not the method used by most companies involved in GSE maintenance; a vast majority of companies involved in GSE maintenance lack standard job times and GSE mechanics are compensated for the amount of time they work versus the amount of work they accomplish. As a result, a skilled flat-rate mechanic has greater potential to earn more pay than the mechanic working within the AOA.

By comparison, today in the United States pay can vary for GSE mechanics anywhere from \$25,500 to \$67,000. However, the average earnings for a GSE mechanic is approximately \$17.50 per hour or an annual wage of \$36,400. It's important to understand some of the contributing factors for that variance.

If, by comparison, the hourly pay rate becomes a source of contention, consideration should be given to the findings that reveal what an employee may lack in pay is generally recouped in the more generous benefits offered than those mechanics employed in other sectors are afforded.

Competition is an important force in shaping wages for GSE mechanics in America. Today, most GSE maintenance service providers whose core business is maintenance must compete with larg-

er firms like Swissport, ASIG, Menzies and TUG where their core business is ground handling or building ground support equipment. Maintenance is just an additional service that they offer. The size and growth of large ground handlers and GSE manufacturers make it possible for these companies to sustain their business without having to rely solely on the revenue generated by their GSE maintenance mechanics. They tend to incentivize the service buyers with lower than average service rates. The only way that a smaller service provider can compete for business in this environment is to keep wages low. ✈️

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About the author:



Will Ryder is Global Aviation Services' director of maintenance for the company's West Region. His experience includes 24 years in fleet maintenance and GSE support leadership. Global Aviation Services provides GSE and fleet maintenance service to the aviation industry and has more than 180 technicians serving more than 50 airports.

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GPU Harmonic Distortion And Power Factor Values

Severe harmonic distortion leads to premature failure of transformers, capacitors, wiring insulation, noise in telephone lines and computer signals.

By Mark Frink

Well, harmonic distortion is not what we hear when an inconsiderate teenager walks by with his headphones acting like speakers spewing some sort of sound into the surrounding area. Nor is it the dissonance we hear in some modern concert pieces.

Rather, it is the distortion of the sinusoidal waveform of the electrical current that is powering the equipment at the airport. When there is severe harmonic distortion, there is premature failure of transformers, capacitors, wiring insulation, noise in telephone lines and computer signals. Therefore, the wrong decision at the time of procurement may lead to considerable costs for the airport once the equipment has been installed.

During the early 20th century, we weren't worried about power quality and issues like harmonic distortion, because everything was pretty much linear loads. However, after the development of solid-state components and their use in variable frequency drives (VFD) and solid-state frequency converters (SSFC) in the 1980s and beyond, which are non-linear loads and thus sources of harmonic distortion, power quality has become much more important to facility planners and maintenance staffs.

We can see an ideal waveform in Figure 1. But as can be seen from the waveform in Figure 2, the ideal waveform can be severely distorted by non-linear loads such as older 6-pulse VFD' or SSFCs. This distortion is caused by multiple waveforms, which are har-

monics of the fundamental waveform. For a 60 Hertz waveform the harmonics are at 120 Hz, 180 Hz, 240 Hz, etc.

The total harmonic distortion (THD) is thus the sum of all of the harmonic waveforms imposed onto the fundamental voltage or current waveform (VTHD and ITHD). It is expressed as a percentage of the fundamental waveform. The higher the percentage, the more distortion there is in the fundamental waveform.

Current harmonic distortion causes the most problems in electrical equipment. The distortions in the current waveform cause excess heat to develop in motors, transformers and capacitors. This extra heat degrades the insulation and can cause premature failure of the devices and thus unexpected down time. The higher frequency harmonics can also interfere with communication transmission lines when they are run in the same conduits.

While there is no national or international standard dictating the THD limits on electrical systems, there are recommended values for acceptable harmonic distortion. IEEE Std. 519 provides suggested harmonic values for power systems of no more than 5 percent harmonic distortion factor, with the largest single harmonic being no more than 3 percent of the fundamental voltage.

GREATEST CONTRIBUTORS

At an airport, the greatest contributors of ITHD in the electrical system are the VFDs in the baggage handling system and HVAC systems, the charging systems for electric vehicles and the SSFC units at the boarding gates and in central 400 Hz power plants. While the VFDs are typically small to mid-size motors (5 to 20 kVA), there are a lot of them and thus their contribution to the ITHD of the system can be large.

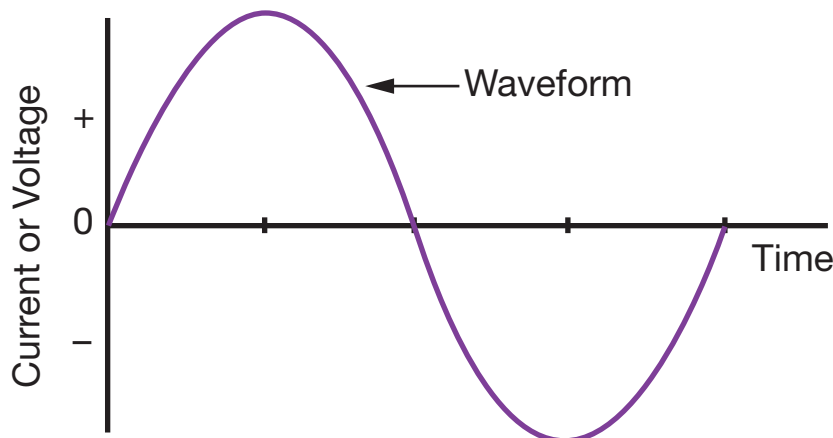


Figure 1 – Ideal Sinusoidal waveform



Figure 2 - Distorted waveform from 6-pulse VFD

The SSFC units are typically 60 kVA to 180 kVA, while there are fewer of them they can have a large effect on the electrical systems at the airport.

Over the last two decades, SSFC manufacturers have developed different versions of their units which have

lower values of full load ITHD. The lowest priced units typically have 6-pulse rectifiers which have full load ITHD values of more than 30 percent. By doubling the number of SCR elements in the rectifier to 12 or even 24, the full load ITHD values have been lowered to 12 percent and 10 percent respectively. Active rectifiers using IGBTs offer values between 7 and 10 percent, while the

new "Magnetic Wave Shaping" feature in the Hobart PoWerMaster® 2400 unit has a full load ITHD of 5 percent.

Of course, most SSFC units are not operated at full load while an aircraft is at the boarding gates. Most of the time the SSFC units are operating between

30 and 70 percent of their full load capability. However, the ITHD values at these lower loads are actually much higher than at full load. A 6-pulse unit can have ITHD values ranging from 60 to 100 percent. Twelve-pulse units might range from 20 to 35 percent, and the new Hobart unit will range from 9 to 15 percent. While there is less power behind these high distortion values, there is still a lot of distortion in the older, cheaper 6-pulse units.

While high ITHD values are a cause for concern, if there is less power behind them then the potential harm that can be done is lower as well. Conversely, if there is a lot of power in the system, it doesn't take a lot of distortion to cause problems.

To get a better understanding of this, we can compare an electrical power system to a river of water. The number and size of the rocks in the river are equivalent to the ITHD in an electrical system. The amount of water and its

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PRODUCT PROFILE

speed is equivalent to the power (kVA) of the electrical system/equipment. If the river is flowing slowly (say 1 to 25 percent of maximum), any rocks in the river aren't causing much of a disturbance. (No rapids to maybe a Class 1 rapid.) But, as the river flows faster the rocks cause more distortion in the flow. And so a Class 1 rapid can easily become a Class 4 or 5 rapid.

FUTURE PURCHASES

So, when considering future purchases of VFDs, electric vehicle chargers, and SSFCs, it might be prudent to request the ITHD values at various load points. This will provide a better understanding of the potential disturbances in the electrical system during normal operations.

The other long-term energy consideration that should be taken during the purchasing decision, is the power factor at the input of the unit. The power factor of a piece of equipment (or aircraft)

is the amount of energy required to do actual work versus the total amount of energy consumed by the equipment. An easier way to look at this is to say that if a beer mug contains the total power to be consumed, then the ratio of beer to foam is the power factor. A mug that is 80 percent filled with beer and 20 percent with foam is equivalent to 0.8 PF (power factor) which is what all legacy aircraft are rated as requiring from a power source.

Utilities have to provide the full amount of power to the airport, whether the power is useful (beer) or not (foam). Because of this, they often charge a penalty if the overall airport power factor is too low. There are devices that can be added where the power enters the facility, to help correct the overall power factor. But, using equipment that has an input power factor that is 1.0 or close to it, minimizes the need for power factor correcting equipment.

So when considering the purchase of new equipment for the airport, remember that equipment that costs less initially may cost much more (system wide) over a longer period of time. For the lowest cost over a long time period, choose equipment with a high input power factor and low input distortion values across its load profile, possibly also with magnetic wave shaping as this will considerably lower the operating and maintenance costs in the long run. ✈️

About the author:

Mark Frink is sales engineer for Hobart Ground Power - ITW GSE Group. He is responsible for engineering support to the company's sales force and customers of utility and diesel-powered PCA units, 400 Hz frequency converters and 28v DC power supplies.

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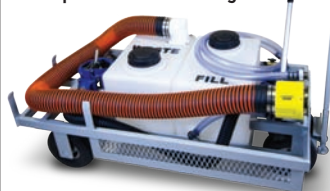
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Steve Smith

A House Divided

A couple of items recently caught our eye regarding the often-times acrimonious relationships between airline and airport and passenger and airline.

By Steve Smith

Have you been following the debate over the controversial Passenger Facility Charge? The proposal would give airports a fee of up to \$4.50 for each airline passenger. Why? Airport organizations, such as AAAE and ACI-NA, figure airports will need almost \$76 billion to make improvements to airport infrastructure through just the next five years.

No surprise though that the airline industry, most notably voiced by the A4A, take a decidedly dim view on this "airport tax." The funding is a "crisis of invented proportions," says A4A. The group adds airports have plenty of funding resources to pay for capital improvements, ranging from billions in government taxes to the bond market.

Most recently, however, ACI-NA and AAAE took their case directly to Congress. Airports, they said, are "eager to address the needs of the communities we serve ... In contrast, airlines ... are more concerned about the next financial report ... "

Besides, that PFC of \$4.50 is nothing compared to those billions in baggage fees racked up tax-free by the airlines that go straight to the bottom line.

With friends like these, huh?

BAGGAGE

Baggage fees are as good as any segue to talk about the thing that passengers hate the most: Waiting patiently behind a bunch of others who think nothing of cramming items just short of a refrigerator into the overhead bins (because we know you wouldn't be guilty of this.)

Of course, this cram session has only gotten worse ever since most airlines started

charging for checked luggage. But the answer isn't letting passengers check as many bags as they want for free. After all, bag fees are "fair" if for no other reason than fuel, despite recent dips in price, remains a huge part of an airline's operation cost.

Paying for the fuel makes sense. And we recently read that a better solution would be to charge passengers based on the weight of all the bags — checked and carry-on — they take on their travels.

Since passengers don't have to pay for the weight of carry-ons, they lack any incentive to pack any less. A few extra pairs of shoes or bunch of books drive fuel costs for everyone on the plane. Decouple the cost of tickets from the cost of bags and charge accordingly.

On a personal note, this is my last Editor's Note. I've enjoyed covering the industry for nearly four years. While I don't know who will take my spot, I do know that readers remain in good hands since I leave behind Missy Zingsheim, surely the most dedicated publisher I've worked with.

A handwritten signature in black ink, appearing to read 'Steve Smith'.

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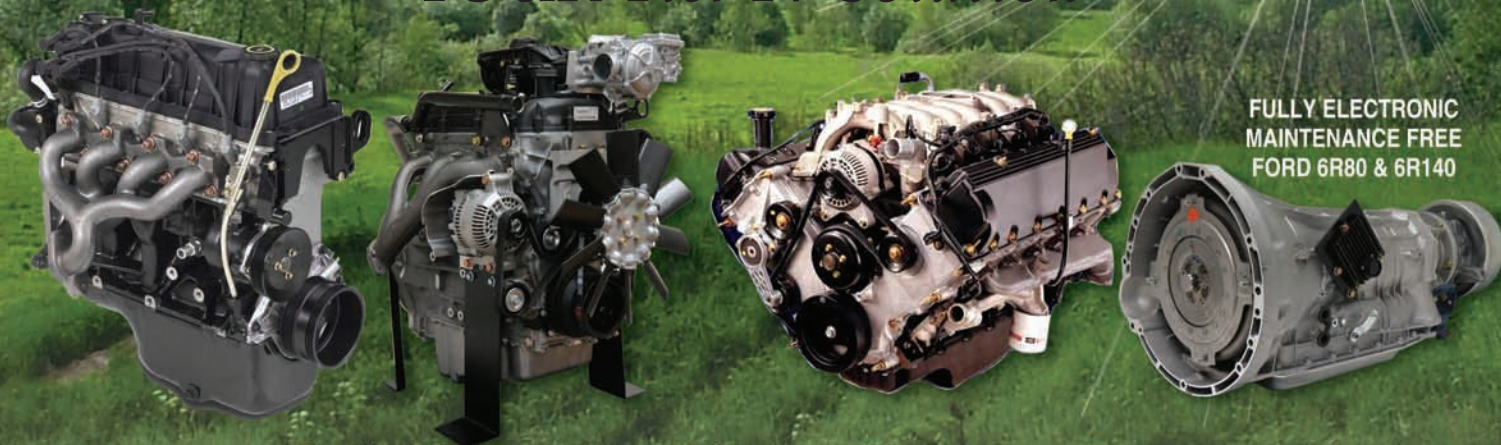
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