

Speed and safety in refuelling

Refuelling aircraft can be hazardous without stringent safety precautions, but it must also happen swiftly to ensure planes depart on time, **Dennis Burchell** of FMGI tells Jim Banks. Giving safety and efficiency equal priority requires up-to-date equipment, training, experience and, most importantly, communication.

A great deal has to happen to turn an aircraft around and prepare it for take-off. Baggage has to be loaded and unloaded, catering facilities refreshed and fuel put on board, not to mention the embarkation/disembarkation of passengers. As airports become busier and margins tighter, the pressure to complete all these tasks quickly is growing by the day.

Efficiency is a high priority for airlines and airports, but with processes such as refuelling equal consideration must be given to safety. Fuel is a hazardous material, so the drive to refuel quickly must be balanced with the need to mitigate against any potential risks. "The biggest risk is from traffic," says Dennis Burchell of Fuels Maintenance Group International (FMGI). "Baggage handlers and caterers are running around the airport and any accident that happens is usually a baggage or catering truck hitting the refuelling hoses or couplings, which triggers an emergency shut-off. The traffic at a busy airport can be chaotic."

Technology and processes

FMGI specialises in measurement and distribution solutions for liquid and gas products for the strategic storage terminal market, airports and aviation

refueling, and for tank farms in refineries and speciality chemical facilities. Based in Houston, Texas, the firm has built up years of experience storing and distributing fuel in busy airports and has been working with airport operators and airlines to ensure high levels of safety in its refuelling operations. The solution is to combine technology with clearly understood processes.

"A lot of work has been done on signage and barriers to keep traffic at bay," says Burchell. "We also tried an igloo device around the hose and coupler, so that even if someone ignores a barrier they will see the device, or their wheels can run over it. We had a good design for that, but as more manufacturers made it, the device became bigger and touched the barriers, which defeated the purpose.

"Larger airports have hydrant systems, but they also have a lot more traffic. All airports need proper training of refuelling staff. Previously, there have been incidents where refuelling trucks have

hit aircraft. So, one area we focus on is training. This makes the contact between emergency personnel smoother and more timely if an incident does occur."

Complete communication

Given that the main risk to refuelling operations is the actions of other logistics services within the airport, and that the airline and the airport will pay the price if disruptions to refuelling cause any delays, there is a big emphasis on communication between all parties. At first, it may require some effort to bring everyone round the table, but it soon becomes clear that everyone stands to benefit from better mutual understanding of the processes that must happen to get an aircraft ready for departure on time.

"We have created a good rapport with the different parties involved, and we attend each other's training courses so that we are all aware of what each party is going to do in the case of an event," says Burchell. "So, we are melding our

Dennis Burchell

Dennis Burchell is a director at Fuels Maintenance Group International. He has over 35 years' experience in aviation petroleum product handling as an inspector, investigator and auditor for the Joint Inspection Group. Burchell is also a certified witness for the Energy Institute, observing and verifying acceptance testing for the manufacture of aviation fuel filtration.

approaches together. Communication is the biggest thing. When I started in the industry, everyone operated independently. Now, the lines of communication are open and we inform each other of what we are going to do.”

This means that caterers, baggage handlers, airports, airlines, refuelling companies, fire services and emergency response staff are regularly in touch with each other to ensure that they are aware of the latest safety protocols and understand not only the risks inherent in the refuelling operation, but also the proposed solutions. Signage and barriers are all very well, but everyone must understand the need to look out for them, and what they mean.

Common standards

For now, many airports have their own unique approaches to refuelling. While this is likely to remain the case for some time, given that airports have different volumes of traffic and different infrastructure to handle refuelling, work is underway to establish a commonly

accepted framework to which any airport, airline or service provider can refer. “Each airport authority has its own rules and regulations,” explains Burchell. “Some work very well. There are national organisations like ATA and international organisations like IATA, which look to standardise and form plans of action where needed at airports that have deficiencies. The communication is happening and it is mostly being driven by the airlines.

“ATA and IATA have joint meetings to create a guideline to address these issues and to help with training and auditing on a global standard. Standardisation is a very good thing to help people to be as safe as possible. Otherwise, things can get very confusing. It is a good idea to have a worldwide standard to eliminate incidents. A lot of progress has been made and the differences in practice between airports are fewer and smaller. Different international standards just get confusing.”

It is at the larger airports that the most significant changes have been made in

recent years. Safety and efficiency have dovetailed, making refuelling operations much smoother at those airports where traffic poses the biggest threat.

“Good progress has been made on the logistical and technical challenges,” explains Burchell. “Hydrant servicers now have smaller units at each gate to put up barriers. There is not one unit going gate-to-gate, airline-to-airline. The person doing the refuelling travels between the different gates, but the equipment stays at each gate. This reduces the amount of traffic, so there is much less chaos when an aircraft arrives at the gate and competing services are trying to do their different jobs. Reducing traffic is the priority, and having the equipment at the gate waiting and stationary helps a lot.”

While these simple concepts can help to reduce traffic in an airport and, therefore, cut the risk of accidents, the most important area on which to focus is the human factor. Safety and efficiency both depend on the ability of refuelling staff to do their job effectively. ■

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