

SAFETY, SECURITY, AND CONVENIENCE

By Don Greenwood
and Chris Baxter, P.E.

Airports often don't earn high profits in the traditional sense of the word. Instead, their success is measured in less tangible terms: public safety, security, and convenience. Airlines, highly concerned with profitability, understand that these three factors have an immediate impact on their success.

As the trend in airport development shifts from new construction to renovation, airlines and airports are focusing more on convenience and safety than ever before. Leaders in design and construction of aviation facilities understand that incorporating safety, security and convenience into their means and methods of construction is necessary to achieve success for both their clients and themselves.

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Safety, security and convenience are intertwined and inseparable in a successful project. Public safety and worker safety are key in any construction project, but in airport projects, security and convenience are equally important, if not more so in the customer's eye. Each factor must be considered prior to beginning work on a renovation project.

The construction industry uses the latest project management tools and techniques to achieve the goals of safety and convenience. Partition walls allow an area to remain in normal operation mode for the traveling public while the adjacent area is closed for construction work. Construction phasing prior to the initiation of work is the key to success.

Phasing the work, when done properly, minimizes the inconvenience but allows the work to proceed on schedule. It also eliminates the public's exposure to any hazardous conditions and will help to maintain a controlled environment. The phasing of a project can at times seem like putting a jig saw puzzle together – all the pieces have to fit, in the right spots.

In the airline industry, safety shares the stage with security. In most airports, the general public area is a fraction of the entire operation and security restrictions are everywhere. Safeguards must be instituted to keep the construction areas safe and free from any possible security breaches. For example, measures may include restricting access from the construction site to other areas and requiring construction workers to show ID at an access checkpoint.

The planning, phasing and execution of airport renovation work must consider safety, security and convenience combined. It's the part the construction industry must play to restore and maintain the confidence of the traveling public – and airports must insist their constructor fulfills this role. Carelessness in any of these three areas exposes the entire airline industry and can cripple the growth and development of this vital part of our transportation system and our economy.



How Safe Are We?



By William McCully, P.E.

Burns & McDonnell has always made safety among the top priorities of our firm. This concern for safety embodies not only our staff, but our client's staff and the general public as well.

In aviation facility design, construction and operation, a number of situations arise that can potentially be hazardous. As a result, the typical aircraft maintenance operation includes several technologies designed specifically for worker and user safety. These include fire protection systems, fall arrest systems, specialized ventilation systems and numerous other features.

Generally, these technologies improve the safety and quality of life for workers, but this assumes that they operate without question. This is where the difficulty lies. When was the last time you checked your aqueous film forming foam (AFFF) system? By "checking" we mean really checking. Not just looking at the alarms, but also the valves, the actuators, the detectors, etc. Did you run the AFFF pumps? Did you consider tripping the system to see that the overhead piping is supported adequately?

What about your fall arrest system? When was it last tested? Falls are rare in aviation, which is a testament to the skill of aircraft workers, but what if someone does fall? Are you sure it will work? It's easy to test, and you'll feel better about the system. Your workers will be glad you took the time.

Somewhat harder to test, but equally important, are your process ventilation systems. Many factors can make your system unsafe. Fan performance can degrade over time, duct joints can vibrate loose. Additionally, exposure limits can and do change and what was thought at one time to be safe can be deemed unsafe by current codes. When did you look at the Permissible Exposure Limits (PEL) of your materials? Have you checked the airflow rates in your hoods?

When considering testing your safety systems, consider how technology has made them better. AFFF systems now are improved with the use of high-expansion foam. Process ventilation systems are more precise in terms of measurement and control. It may be time to replace your old systems with these new, updated versions.

At Burns & McDonnell we encourage you to consider all of the above and more. What we can not replace is the human life. Think about the safety of your operation. We know you want to be safe, but are you? We know you are busy, we are too. We also know that your family wants you to come home safely. Do yourself, your workers, and all of your families a favor and spend some time checking out your life safety systems, you'll be glad you did.

