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Managing During Construction

In-depth look at the O'Hare safety and security program as it remakes its airfield

Chicago – Airport operations management during



construction, always a challenge, has come under the FAA microscope in recent times with major airfield projects going on across the U.S. The Comair Flight 5191 crash in Lexington, KY, this past August, in which airfield construction is suspected to be a contributing factor, has heightened the scrutiny. At O'Hare International Airport, which is embarking on one of the most ambitious reconstruction efforts ever, the focus is on enacting oversight redundancies and "moving the fence" — essentially pushing airside operations landside when possible. Meanwhile, ORD is primed to award \$1 billion in contracts in 2007, and will begin laying down pavement in April enroute to a projected November 2008 ribbon-cutting to a new north runway and an extension of runway 10L.

To date, 14 contracts have been awarded to eight companies employing individuals who are not familiar with airfield operations. To partially overcome this obstacle, OMP relocates the fence line so operations which would be executed airside are now being performed landside. To promote security, contractors also have limited movement capability — restricted to the work area.

As with the construction of runway 14L and the 14L threshold displacement, currently underway, the end of the runway was relocated in order to create a secured, but less restrictive, work area. "[Consequently] we're not worrying as much about the aircraft movements and the truck movements or a truck going through an active area or runway," Andolino says.

Even though they are working landside, the laborers have to comply with all Chicago Department of Aviation's rules and regulations — the badging, background checks, the fingerprinting — that's required for airfield access. "They get the same FBI background check as everyone else," says City of Chicago commissioner of aviation Nuria Fernandez. "There is no special dispensation because they're only here for a short period of time. Regardless of their length of tenure of their contract, they all have to be subject to the same security screening."

Isolating construction activities landside is not always an option. For construction performed on an active airfield, Part 139 training is mandatory for any worker having access, as required by FAA. Because most of the work is performed at night, workers must ensure that the area is returned to conditions that FAA would find acceptable for aircraft movement.

"It is important that the contractors get certified so they restore the airfield to the proper condition each time," Andolino explains. "Not only is the contractor educated, aware, and certified in these measures,

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Construction continues on the north airfield landside site



A landside security checkpoint

but we also have our construction and program managers as well." The managers are aware of each day's activities and can restrict people's movements.

The multilayered organizational hierarchy requires direct reports up the chain of command, with a resident engineer managing and overseeing airfield operations for the construction manager and another project manager onsite as well.

According to OMP deputy director for construction Christopher Arman, they have essentially created a "zone defense" to restrict unauthorized movement. Before the contractors get to their operational base, they have to pass through an airside security post. This is the control point to gain access to the worksite.



OMP executive director Rosemarie Andolino (right) and City of Chicago commissioner of aviation Nuria Fernandez.

Because of the limited movement capability, there is a secured path to the site, sometimes a single road, leading up to the security checkpoint. After this point, a laborer can only access the airfield with the appropriate credentials; otherwise, a security or Department of Aviation escort is required. Vehicle movement is restricted on the airfield, and flagmen are used when crossing an active taxiway.

"[Workers] are confined," Arman says. "At each of those decision points, you have another controlling element, so they are penned in. They have a main vertebrae, a couple of spokes where they can go, but only so far without having additional need and credentials."

Construction equipment movements are restricted on the airfield and orchestrated on an hour by hour basis, after months of planning in correlation with information from the air traffic control tower — especially when operating a crane on the airfield. While the movement has been allotted an operational time slot months in advance — pre-coordinated with FAA, airlines, and Department of Aviation — the final say comes from the tower the day of operation.

Airport Operations Supervisors (AOS), the Department of Aviation's OMP representation, occupy the former air traffic control tower, now the operations tower, to oversee operations and coordinate movements with FAA on a daily basis.

Explains Arman, "We have it micromanaged to the point where the crane is allowable, but [the contractors] may get a phone call from operations, who received a call from the FAA control tower stating that at 12:00 p.m. they are going to have Pacific Rim departures and the crane must be down by 11:30 a.m.... The contractor knows they're given a window of opportunity and then that crane has got to come down." Compliance is mandatory.

The tower recognizes what construction phases have been implemented and the type of work and locations necessary. It has the authority to shut down everything at a moment's notice. It's up to the OMP staff to create opportunities without impacting operations as well as to accommodate unpredictable acts of nature.

Heightened Concerns

The Comair crash last August in Lexington, KY remains under investigation. The fact that Blue Grass Airport was under construction has heightened concerns at FAA, the Department of Aviation, and the

media regarding operations at ORD. But this is an airport that's familiar with disruptions. "O'Hare has had rehabilitations every season," deputy director Arman says. "If there is something the airline or FAA has a concern about — signing, lighting, striping, lamping — we incorporate it."

OMP holds weekly meetings with all parties represented to address any issues of concern. There have been instances when FAA has requested that certain types of equipment be used on the airfield and OMP has accommodated by including those stipulations in the bids.

Comments Andolino, "We try to do things landside as much as possible, keeping those movements separate as much as possible, because there is always human error and in order to prevent that you create those barriers and separation. In those cases where we can't [operate landside], we make it a priority to constantly remind the [workers] in those active areas about the priority of safety. Always be aware of your environment and do what you can to control and operate safely."

Commissioner Fernandez wouldn't comment directly on how the Comair incident had affected ORD's planning and operations as the investigation is ongoing, but she did note that "[we] have been very fortunate that the FAA has approved our construction plan, which will allow us to continue operating as we're building so that we do not abandon a runway and have to worry about redesignation. We're doing construction and the airport continues to operate."

In 2007, \$1 Billion in Contracts

With approximately \$1 billion in contracts set to be awarded in 2007, the O'Hare Modernization Program (OMP) and the City of Chicago continue to maintain lean staffs dedicated to the program. "We've contracted out planning services, construction management, program management, designing and engineering (etc.,)" says OMP Executive Director Rosemarie Andolino.

Contracts in 2007 include:

- \$50-100 million for the pavement and electrical on north airfield runway 9L/27R (awarded March 2007)
- \$1-5 million for the expansion and relocation of north Low Level Windshear Alert System (LLWAS) (September)
 - \$50-100 million for the pavement and electrical on runway 10C/28C (November)
 - \$50-100 million for the construction of a FedEx replacement facility (December)

(A complete list of available 2007 contracts is available on OMP's website — www.ohare.com.)

The executive director encourages participation from any company willing to bid on the remaining 16 contracts that have yet to be awarded this year.

MP will host an open house March 21st in nearby Des Plaines where the upcoming bid packages will be discussed. "We will go through [the packages] element by element so it really gets into the nitty gritty and all the details. It really allows the opportunity for large and small contractors to meet because in many cases, there are new joint ventures or teams that are formed," says Andolino. "We like to create a forum or an opportunity for folks to network and create new partnerships."

OMP has already issued 14 contracts for construction that include \$559 million worth of services. According to Andolino, the project has been encouraged to and tapped city-wide contracts including demolition and public relations services to save on the bottom line.

Moving Dirt; Going to Court; Finding \$\$

O'Hare's modernization of its airfield now underway is already an ambitious project, with four million cubic yards of dirt moved; 41,000 linear square yards of concrete poured; and, an entire creek relocation — among other items. Yet, land acquisition and a pending court ruling have limited construction to site prep work.

As released in October 2006, a \$400 million shortfall has reset the projected total to about \$3.2 billion. According to OMP Executive Director Rosemarie Andolino, a majority of the additional cost is attributed to a robust real estate market and a constant battle with project opponents.

The land necessary for the OMP was assessed in 2001. Since the program was announced, properties have been developed and the redeveloped land has accounted for \$270 million of a growing budget divide; with over 200 homes yet to turn over their keys, the working budget continues to grow.

"We're talking about a high dollar, very complex construction program," says City of Chicago commissioner of aviation Nuria Fernandez. "[ORD] is one of the larger construction programs at an airport in the world in terms of the quantity of work and the dollar value for the construction in place, and it's happening at one of the busiest airports in the world. We have realized that it's going to pose some challenges..."

The City of Chicago has filed a Passenger Facility Charge (PFC) application to recover the shortfall, whereby it will be reimbursed \$4.50 per enplaned passenger, beginning June 1, 2016 and projected to end February 2018.