

New Ground Runup Enclosure Completed at Norfolk

Construction was recently completed on a new Ground Runup Enclosure (GRE) at the Norfolk International Airport (ORF), southeastern Virginia's dominant airport serving the Greater Hampton Roads area and northeastern North Carolina. The GRE, which is used for high power engine runs, was built to reduce the noise impact from ground runups in the community surrounding the airport.

Prior to building the GRE, ground runups at ORF were performed on a taxiway with the jet blast directed toward the airport's midfield area. The new GRE incorporates jet blast protection with an acoustic barrier that absorbs much of the noise generated during engine runups. The driving force behind the Norfolk Airport Authority's decision to build a GRE was Air Wisconsin's 2005 announcement to establish an aircraft maintenance and overhaul facility at ORF.

High power ground runups of aircraft engines, which generate significant noise, are required after each overhaul is performed prior to returning aircraft to service. Ground runups can be performed at all hours of the day, but are particularly common during the night when aircraft are out of service and available for maintenance. The Norfolk Airport Authority considered that nighttime operations can be particularly bothersome to communities surrounding the airport and made a decision to proactively install a GRE before a significant noise problem developed.

After visiting a similar GRE facility in Pontiac, Michigan, the Norfolk Airport Authority, together with the engineering and planning firm of Talbert and Bright, finalized the facility requirements, which called for a 3-sided, open-roof design. In addition to minimizing the acoustic impact on the surrounding residential area, the Norfolk Airport Authority required a facility that was usable in a variety of wind conditions. The fixed-orientation of a typical GRE makes runups in multiple wind directions a particularly challenging design requirement. The facility proposed by Blast Deflectors, Inc. (BDI), of Reno, Nevada, met both the acoustic and aerodynamic design requirements.

BDI's unique GRE design includes a patented Stable Flow™ feature that delivers smooth, turbulence-free air to the aircraft engine in multiple wind directions. Acoustically, the BDI facility is equipped with Noise Blotter™ panels that line the interior of the three walls. The GRE took approximately six months to build and was completed in June 2007.

The installation will be utilized primarily by Air Wisconsin CRJ-200 aircraft, although the facility is available for all



tenants and transient aircraft. New airport regulations developed by the Airport Authority require all engine runs above 50% power be performed in the GRE provided the aircraft can fit in the facility, which can accommodate up to a B737-800. ■