

EMASMAXIMS

Maximizing Runway Safety  International Edition— March 2011

The official publication of the world's leading manufacturer of engineered material arresting systems for aircraft overrun safety.

ESCO's EMASMAX Safely Stops Private Jet at Teterboro Airport!



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Teterboro, NJ, Friday, Oct. 1, 2010

At 1:45 PM, a Gulfstream G-IV private jet with ten people on board was safely stopped by an ESCO EMASMAX arrestor bed installed at the departure end of Runway 6.

The aircraft's flight began in Toronto and ended in Teterboro when it touched down, then exited the runway at an estimated 40-50 knots, before penetrating approximately 20 rows of blocks into the length of the EMAS bed. A trail of skid marks on the tarmac followed the aircraft, which stopped less than 300 feet from Route 46, a busy six lane highway.

There was no significant damage to the aircraft and no passengers were injured. The airport was back in service within three hours. The official cause of the incident is under NTSB investigation.

The balance sheet for this save is impressive: One \$3M EMASMAX bed (plus

construction and site-related costs) implemented to save one \$25+M aircraft, the lives of ten passengers/crew and untold millions of dollars of damage/loss of life if the aircraft had breached the fence, crossed the busy highway and impacted the nearby warehouse and caught fire. The EMAS bed required minor repairs, which were completed within ten days.

Teterboro Airport is located near New York City and is one of the busiest private/corporate jet airports in the US. In 2005, on the same runway, a corporate jet carrying eleven people failed to get airborne, crossed Route 46, and struck vehicles before plowing into a warehouse. Twenty people were injured.

The Port Authority of NY & NJ addressed the safety issue immediately, championing the installation of ESCO's EMASMAX in 2006. There are plans to install additional arrestor beds at Teterboro in the near future. *-SK-*

ENGINEERED ARRESTING SYSTEMS CORP

AEROSAFETY & TECHNOLOGY
Emergency Arresting Systems





Editorial: Peter Mahal President, EMAS

The second EMAS save of 2010 took place at Teterboro Airport, NJ on October 1st. This was the first time that ESCO's EMAS product has saved two aircraft in the same calendar year. It also extended our product's perfect safety record to seven successful arrestments.

For ESCO employees, whenever we have an arrestment, it evokes a sense of fulfillment that our product saved an airplane and the lives of passengers and crew. Our product performed as it was designed and our employees know that they have contributed to that reliability.

Not coincidentally, these very same individuals participate as athletes and volunteers at events like the annual Children's Hospital of Philadelphia Triathlon fundraiser, showing that they are not only exemplary employees, but that they care about the community.

A month before the Teterboro arrestment, we provided our employees with an opportunity to see a system in the field with a visit to the newest (at that time) EMAS-MAX installation "close to home" at New Castle County Airport in Wilmington, DE. The response and interest, from the employees was tremendous: 70 people visited the site over two days, gaining a greater understanding with having viewed a fully operational system in place at the end of the runway. They were proud of what they saw.

Our employees share the pride of being part of a team creating a product that saves lives and assets and they are proud to contribute their time and effort to causes that benefit those in need. I too, am proud of the things that they accomplish and do. **-PM-**

CRREL Tests Confirm That EMAS Can Withstand Cold Weather



FAA tests performed in the Army Corps of Engineers Cold Regions Research and Engineering Laboratory (CRREL) in Hanover, N.H. have confirmed that ESCO's EMAS can withstand cold weather and that cold weather does not create higher maintenance costs for EMAS arrestor beds.

Cycles of temperature fluctuation were performed to the arrestor bed, which was heavily equipped with thermal and humidity measuring devices. The initial temperature was taken down to -20 degrees Fahrenheit and held there for several days, before being brought back to room temperature. Approximately twenty cycles of fluctuation were performed.

EMASMAX blocks have dyed plastic covers that do not require repainting, along with a sealant system between the blocks that is composed of tape and rubber membranes. These components all successfully withstood the rigors of the testing with no negative effects.

John Bosco, Principal Civil Engineer at ESCO, stated: "No testing of this scale had ever been done for cold weather or arctic durability" for ESCO's EMAS product. Further: "As suspected, they found that EMAS blocks act as an insulator. It is very hard for cold to penetrate into the interior of EMAS blocks." **-GT & SK-**

Civil Aviation Authority-UK: EMAS Effective Alternative for RESA



The CAA's Policy on Engineered Materials Arresting Systems (EMAS), released on October 5th, 2010 by the Aerodrome Standards Department of the Safety Regulations Group, endorsed EMAS as an effective option to stop aircraft in the case of runway overruns.

The CAA cites the difficulty for many airports to include a 240 m Runway End Safety Area (RESA), as a result of natural obstacles, development issues, or environmental issues involved in extending the runway. The report also states that there have been accidents at some airports where, if the overrunning aircraft could have been stopped within the RESA, damage to the aircraft and injury to the passengers on board could have been avoided.

The research programs that the US FAA has undertaken since 1999 to assess and advance arresting systems which use engineered materials confirm that EMAS is an effective solution for aircraft overruns.

As the CAA Policy states: "These research programmes, as well as evaluations of actual aircraft overruns into an Engineered Material Arresting System (EMAS) installation, have demonstrated that EMAS systems are effective in arresting aircraft overruns, and they are now allowed for in FAA aerodrome requirements."

This policy serves as yet another confirmation that ESCO-ZA's EMAS is a reliable option for airports around the world. **-GT-**

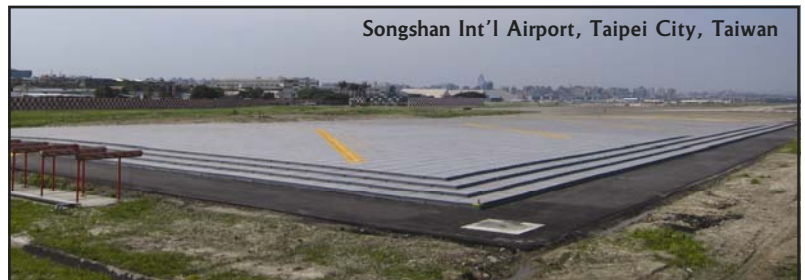
EMAS Strengthens Global Footprint with Songshan Airport Installation

March 29, 2011 marked the completion of ESCO's third international EMAS installation, which took place at Taipei Songshan International Airport (TSA) located in the center of Taipei City, Taiwan. Initially, the airport was used uniquely for flights within Taiwan, but the numbers of flights and the aircraft size have both escalated as a result of the current frequency of direct charter flights between the airport and Mainland and the recent addition of direct flights to Japan.

The Taiwan Civil Aeronautics Administration officials stated, "With the increase in the size and number of aircraft operating at the airport, we wanted to improve our level of safety in the event of an overrun." The EMASMAX® installation was among these safety improvement plans. The EMASMAX system was ideal, because it permitted the airport to increase the level of safety without having to increase

the length of the safety areas on the runway, which would be difficult as a result of the airport's location in the center of a major city. Thus, ESCO-ZA was asked to install a 400 ft long EMASMAX system in the safety area of Runway 10.

The Taipei EMAS marked the 56th EMAS system installed worldwide, joining the People's Republic of China and Spain as countries outside of the US with EMAS systems installed at their airports. During the next 4-5 years, Taiwan plans to install 7 additional EMAS systems. **-GT-**



ESCO's EMAS Installation Count Reaches 56 Worldwide!



2010-2011 EMASMAX Installations

- Kansas City Downtown, Kansas City, MO (General Aviation)
- Smith Reynolds Airport, Winston-Salem, NC (General Aviation)
- New Castle County Airport, Wilmington, DE (General Aviation)
- Key West International Airport, Key West, FL (Commercial Service)
- Arcata-Eureka Airport, Arcata, CA (Commercial Service)
- Telluride Regional Airport, Telluride, CO (Commercial Service)
- Songshan Airport, Taipei City, Taiwan (Commercial Service, General Aviation, Military) - Completed Mar. 2011

Installations Planned for 2011

Palm Beach International, Palm Beach, FL; Republic Airport, Farmingdale, NY; Martin County Airport, Stuart, FL (2 systems); Augusta State, Augusta, ME (2 sys.); Teterboro Airport, Teterboro, NJ; Groton-New London Airport, Groton, CT (2 sys.); Lafayette Regional Airport, Lafayette, LA; Cleveland Hopkins International, Cleveland, OH (2 sys.); Coastal Carolina Regional Airport, New Bern, NC

ESCO's EMAS Timeline: A Perfect Safety Record

The October 1st save of the Gulfstream G-IV at Teterboro, NJ, extended a perfect safety record of seven "saves" for ESCO's EMAS that dates back to May 1999.



This MD-11 cargo plane was stopped by ESCO's EMAS on May 30, 2003.

Courtesy of the Port Authority of NY & NJ

- 1-May 1999 SAAB 340, JFK Int'l, New York, NY
- 2-May 2003 MD-11 cargo plane, JFK Int'l, New York, NY
- 3-January 2005 B-747 cargo plane, JFK Int'l, New York, NY
- 4-July 2006 Falcon 900 corporate jet, Greenville Downtown Airport, Greenville, SC
- 5-July 2008 Airbus A320, O'Hare Int'l, Chicago, IL
- 6-January 2010 Bombardier CRJ-200, Yeager Airport, Charleston, WV
- 7-October 2010 Gulfstream G-IV, Teterboro Airport, Teterboro, NJ

ESCO Promotes EMAS Worldwide with a Strong Conference Presence



In 2010, our EMAS marketing team attended 35 conferences worldwide, 22 US and 13 international, 31 as exhibitors and 4 as attendees, supporting aviation as well as pilot-oriented shows.

Sponsored by commercial aviation organizations, these conferences feature seminars that relate to runway safety. They also provide a valuable opportunity for our sales team to be available, in person, to airports and consultants interested in our products.

–SK–

EMASMAX[®] International Conference Schedule, March-June 2011

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|--------------|---|
| MARCH | 3/1-3/3: Flight Safety Foundation-23rd Annual European Aviation Safety Seminar (EASS), Istanbul, Turkey, Exhibitor |
| APRIL | 4/5-4/8: ACI Asia-Pacific Ann'l Ass'y, New Delhi, India, Exhibitor 4/7-4/11: IFALPA 66th Ann'l Conference, Chiang Mai, Thailand, Exhibitor |
| MAY | 5/2-5/4: Flight Safety Conference, Oslo, Norway, Speaker: David Heald, Regional Director, EMAS 5/9-5/11: ACI Regional Airports Forum, Cagliari, Italy, Exhibitor 5/24-5/26: ICAO Global Runway Safety Symposium 2011, Montreal, Canada, Exhibitor , Speaker: David Heald, Regional Director, EMAS |
| JUNE | 6/15-6/17: 21st ACI Europe Ann'l Ass'y/Congress, Lisbon, Portugal, Exhibitor 6/20-6/26: 9th International Paris Air Show, Le Bourget, Paris, France , Exhibitor: Zodiac Aerospace |

Engineered Arresting Systems Corporation's partnership with the FAA in the mid-1990s led to the development of the engineered material arresting system known today as EMASMAX. Composed of lightweight cellular concrete, EMASMAX installations are placed at the ends of commercial airport runways to safely decelerate aircraft in overrun situations.

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