

Geo-Instruments: Dulles Airport 3E & 3W

Dulles Airport 3E & 3W APM: *Support of Excavation Monitoring*

Type of System:

Automated In place Inclinometers (IPI's)/Remote Datalogging/Data presentation

The 3E and 3W contracts required a deep excavation in order to build a new terminal related infrastructure, and to facilitate tunneling operations connecting to the main terminal.

In order to allow safe construction to continue inside the excavation, Airport management required that the support of excavation system, be monitored for movements with IPI's.

Geo-Instruments supplied over 450 vertical IPI sensors, installed in over 40 inclinometer casings, connected to 6 remote dataloggers. Data is collected for the loggers hourly by a Geo-Instruments server, processed and displayed on a project web site for the concerned parties to view. Real time e-mail alarms can also be accommodated in this system.



Aircraft Rated Flush Mount installation.

The IPI sensor is designed to meet high CE Standards for EMC (electromagnetic compliance), but due to the high EMI (electro magnetic interference) experienced at this site, special active filters had to be deployed in order to remove unwanted spurious data from affecting the system. The end result is a very rugged sensor with exceptional immunity to EMI.

Dulles Airport 3E & 3W APM: *NATM and TBM Tunnel Monitoring*

Type of System:

Automated wireless MPBX system (flush mount, aircraft rated)

The 3E and 3W tunnel contracts required NATM and TBM (insert excavation dims here) tunnel techniques **under active taxiways** connecting the main terminal to remote terminals.



WMPBX Installation Procedure

Due to the potential for tunnel induced ground loss under taxiways, airport management required that the support of excavation system, be monitored for movements with IPI's. Geo-Instruments, designed, and built 69 installations for use on the two contacts. The extensometers are installed with two 4 anchor extensometers on either side of the tunnel and one over the centerline.



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Helping you get the data you need.

