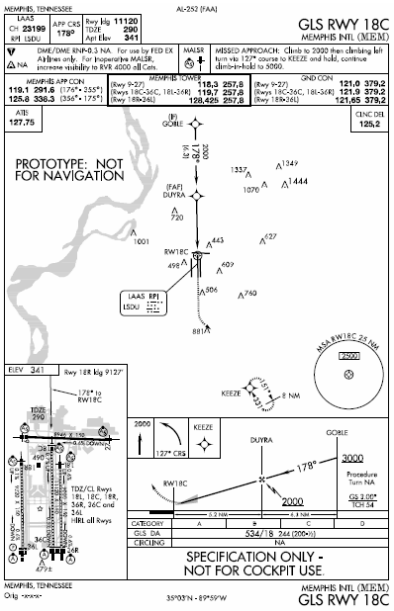
Operational Implementation Aspects of LAAS

As the time for initial Local Area Augmentation System (LAAS) commissioning gets closer, the next question may be what is needed to use LAAS? Questions on topics such as LAAS procedure development and LAAS avionics are likely to become more popular. Also, once LAAS is established at Memphis and Newark, other airports may wonder how to get a LAAS of their very own. Here is some information that may help to address these questions.

LAAS approach procedures will be published on an approach chart labeled as GLS. This stands for "GNSS **L**anding **S**ystem. Similar to WAAS LPVs, LAAS GLS approaches will initially have decision heights as low as 200 feet (equivalent to Category I). However, LAAS is being developed to eventually provide Category II/III approach service.



Sample GLS (LAAS) Approach Chart

To fly a LAAS GLS approach, the aircraft must be equipped with avionics certified for GBAS. (Specific requirements on this approval can be found on the FAA's Technical Standard Orders web page by searching on "GBAS"). LAAS offers a unique feature not offered by other navigation systems - the ability to uplink GLS approach procedures directly to an aircraft from a LAAS-equipped airport. This feature eliminates the need to carry the approach information in the aircraft database. In addition to the traditional straight-in approach paths, LAAS offers the capability for curved, segmented, and angled approaches that can allow airports to adjust LAAS approach paths for noise, traffic and weather increasing airport capacity.

There are already a number of air carriers that are either already equipped with LAAS capability or in the process of equipping. Today, Qantas is operating with a GBAS-equipped Airbus A380 in Sydney, Australia. Being LAAS-equipped is also often referred to as being "GLS-capable". GLS capability is an option that has been selected by numerous Boeing 737 customers, including Continental, Delta, Qantas, Air Berlin, Air Vanuatu, Son Air, TUIfly, Air Berlin, and Thomsonfly. Continental has already equipped nine B-737's with GLS and is flying against a prototype LAAS system installed at Guam. In addition, Continental will begin equipping more 737s next year for flights into Newark, New Jersey in order to use the LAAS that will be installed there. GLS capability comes as standard equipment on the 787 and Boeing already has more than 1,000 orders for this model. GBAS, or GLS capability, also comes standard on the Boeing 747-8. Additionally, several air carriers and aircraft are being modified to incorporate GBAS.

Once the first non-Federal LAAS is FAA-approved, any sponsor proposing a non-Federal LAAS installation within the National Airspace System (NAS) can coordinate for the procurement and installation of a LAAS Category I system with the appropriate FAA Service Center non-Federal Program Manager. The nature of the non-Fed program is that the sponsor is responsible for the operations and maintenance of the system after commissioning. In most cases, the airport authorities act as sponsors of navigation landing systems.

- *Mary Ann Davis, FAA ATO-W/GPS TAC /Dieter Guenter, FAA ATO-W/GPS TAC*