



**Aviation
Consulting and Engineering
Services Portfolio
MAY 2010**



Air Traffic Control and Ground-Based Navigation Solutions



Aviation Consulting Services International LLC (ACS) is an independent consulting and engineering services company specialized in systems for civil and military aviation.

Our capabilities include:

- ➔ Development of air navigation and air traffic management studies
- ➔ Planning and design of airspace, air traffic control facilities, and runway layouts
- ➔ Air traffic facilities and airspace operational requirements definition
- ➔ Design of approach procedures and Obstacles Limitation Studies
- ➔ System specifications development
- ➔ Siting and requirements studies for radars, ATC communication systems, ATC weather systems, ground-based radio navigation aids, and airfield lighting systems
- ➔ NextGen ATC systems
- ➔ Installation and maintenance of radars, ATC communication systems, ATC weather systems, ground-based radio navigation aids, and airfield lighting systems
- ➔ Field Services related to core activities



Air Traffic Control and Ground-Based Navigation Solutions



In cooperation with industry partners, ACS offers turnkey solutions for:

- Air Terminal design and construction
- Mobile ATC and Airfield systems
- Flight calibration services
- Airport IT and Land-side systems
- On-site training

ACS offers market development, specialized maintenance, and logistics services:

- Introducing ATC and NAVAIDS equipment manufacturers to US Government and International CAAs and Military organizations
- Introducing International Representatives and End Customers to equipment manufacturers and service providers in the United States and Europe
- Providing spares and maintenance services for legacy systems using contacts in OEM organizations
- Providing Integration of legacy equipment with new installations using our expertise and contacts in OEM organizations



- Equipment Supply and Installation
 - (D)VOR, ILS, DME
 - ATC Pre-fabricated Control Towers
 - Voice Communication Systems
 - AIS / AFTN / ATN Systems
 - Runway and Taxiway Lighting systems
 - Approach lighting and PAPI Systems
 - MET Systems
- Equipment Integration
 - Control Tower-ACC Equipment
 - Radio Communication Systems (HF, VHF, UHF)
 - VSAT Networks
 - Airfield Lighting





- HF-VHF-UHF Radio Communications
- VHF Emergency Communication
- Meteorological Sensors – Display
- VOR
- Radar
- Standby Generator Sets
- NDB





International Network



ACS is well established as part of an International network of local companies that provide business development as well as logistics and technical services

ACS provides technical expertise and consulting to the local partners, who in turn provide access to the specific markets and act as Prime contractors for local projects.

Countries with effective networks include:

**Poland
Romania
Morocco
Egypt
Oman
Saudi Arabia
United Arab Emirates
Jordan
Bahrain**

**Mexico
COCESNA Countries
Colombia
Korea
Indonesia
Malaysia
Thailand
Yemen
Qatar**

ACS



RECENT PROJECTS

Does not include Market Development activities



EAF Sohag DVOR/DME



Prime Contractor with the Egyptian Armament Department to supply and commission a Fast-Track DVOR/DME for Sohag Airport

Requirement to supply and install system within 11 weeks.

ACS signed a turn-key contract for:

- ✓ Procurement of DVOR / DME / Radio Links / Generator
- ✓ Civil and Electrical Works
- ✓ Installation
- ✓ Commissioning
- ✓ Flight Check Aircraft
- ✓ 5 year Warranty Administration

Contract Signed **February 2, 2010**

Installation complete by **April 18, 2010**

Flight Check complete **May 8, 2010**





FAA



eFAST is an FAA agency-wide Master Ordering Agreement (MOA) designed to offer a wide range of services to accomplish FAA's mission

ACS International LLC is a member of the UrsaNav Inc. team that also includes the Ohio University Avionics Engineering Center.

UrsaNav, Ohio University, and ACS were qualified by the FAA to participate in the procurement process for task order awards for the following functional areas:

- ✓ Engineering Services (ES)
- ✓ Maintenance & Repair (M&R)
- ✓ Research & Development (R&D)
- ✓ Documentation & Training (D&T)
- ✓ Business Administration & Management (BAM)
- ✓ Computer / Information Systems Development (CSD)
- ✓ Computer Systems Support (CSS)





- Thales Mark 20A System (customer specified)
- NAS JRB New Orleans, Louisiana
- ACS Contract with Atlantic Electric
- Site Design, performance modeling, engineering
- Installation and Commissioning
- Pre-commissioning Flight Check by Ohio University

ACS

US Air Force ILS/DME & PAPI Installation



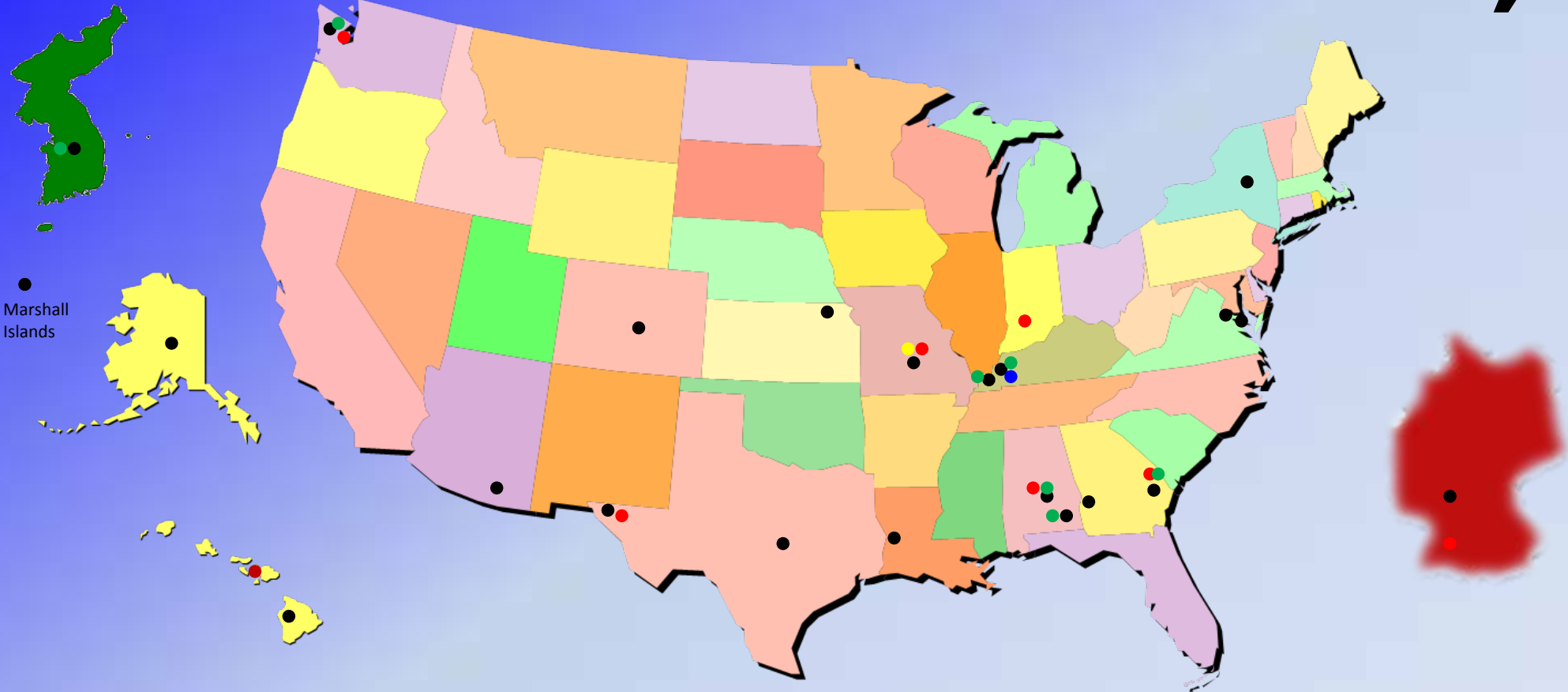
- Offutt Air Force Base, Omaha, Nebraska
- Selex Model 2100 ILS/DME with Watts End Fire Glideslope Antenna
- Siemens ADB PAPI System
- ACS Contract with SAIC
- Site Design, structural and performance modeling, engineering
- Elevated 20 element localizer antenna Platform
- Major civil works to include underground platform structure

SAIC
From Science to Solutions

ACS

End Fire Antenna and Localizer Civil Works





- NAVAIDS Requirements Analysis
- **Comms Requirements Analysis**
- **ILS/DME Installation**
- **VOR/DME Installation**
- **NDB Installation**
- **Comms Installation**

- Subcontract to L3 Communications in Lexington, KY
- Basic Order Agreement started in 2006
- Platinum Supplier Rating since 2006





- Turnkey Installation for ILS/DME systems
 - Fort Campbell - USA
 - Fort Stewart - USA
 - Fort Lewis - USA
 - Garrison Humphreys – Korea
 - Fort Rucker – Cairns
 - Fort Rucker – Troy
 - Fort Knox
 - Fort Belvoir
- Scope of Work
 - Civil works QA
 - Site Supervision
 - Electronics and Electrical Installation
 - Final Flight Check Support



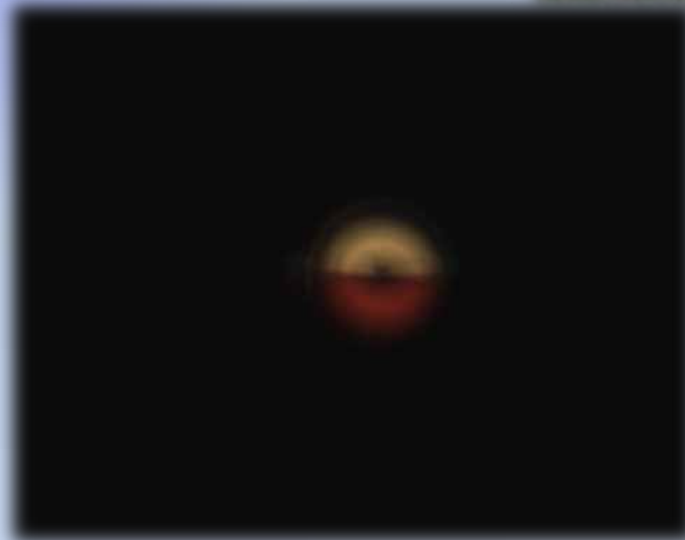


- Turnkey Installation for VOR/DME system
 - Fort Knox, KY
- NDB System Relocation and recommissioning
 - Wheeler AAF, HI
- Scope of Work
 - Civil works
 - Site Supervision
 - Electronics and Electrical Installation
 - Final Flight Check Support





- PAPI Calibration Tool
- Optical sensor with image processing
- FAA tested
- Efficiencies for maintenance and flight check support





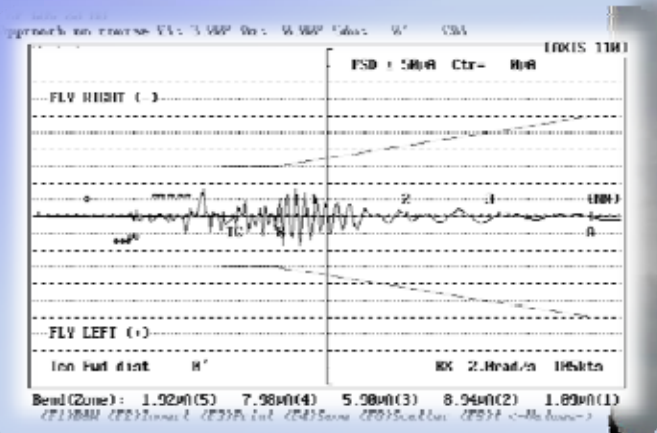
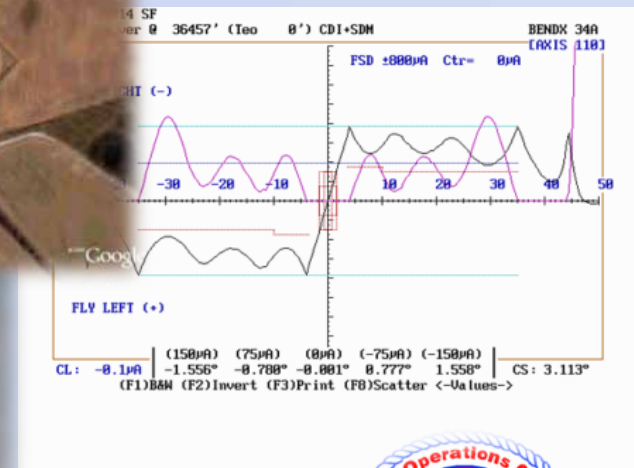
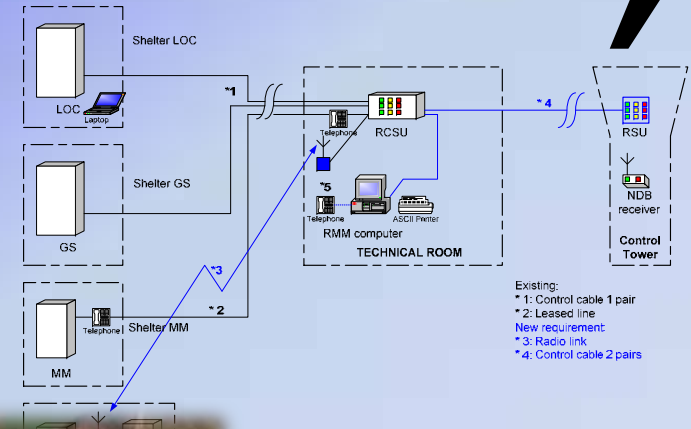
- Installation of VHF, STVS and ETVS systems
 - Fort Leonard Wood, MO
 - Louisville Range, AL
 - Yakima AIC, WA
 - Camp Atterbury, IN

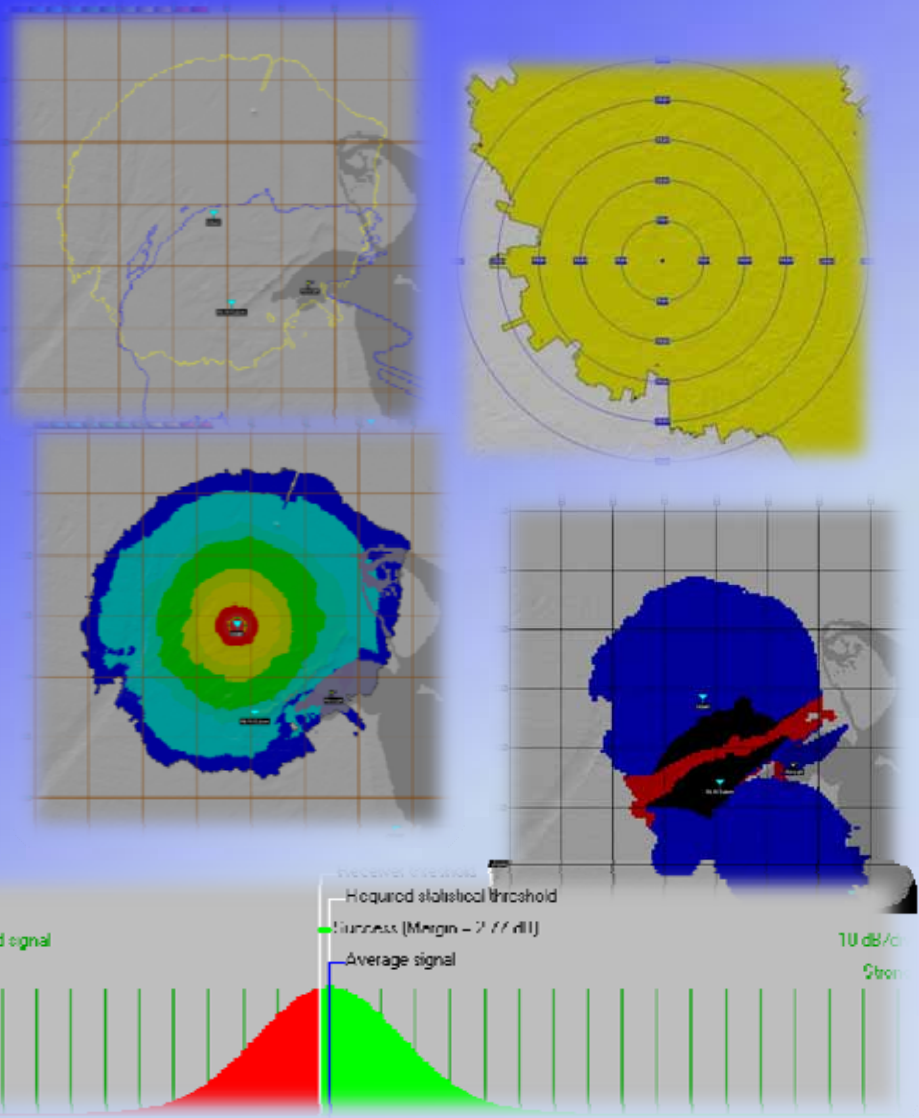
- Scope of Work
 - Site Supervision
 - Electronics and Electrical Installation
 - Final Flight Check Support





- Engineering Design and Siting of Radar, Navigation (ILS, VOR, DME, NDB), Communications, Airfield Lighting at several US Army Airfields
- Performance analysis and computer simulation
- Range signal-to-noise analysis
- Coverage Volume
- Line-of-sight and obstacle analysis
- System Integration of new components
- Develop Civil Works Design Drawings





- Range Performance Analysis
- Antenna type and gain selection
- Optimal siting of towers and antennas
- Transmitter Output Power Requirement
- Propagation Analysis and Computer Simulation

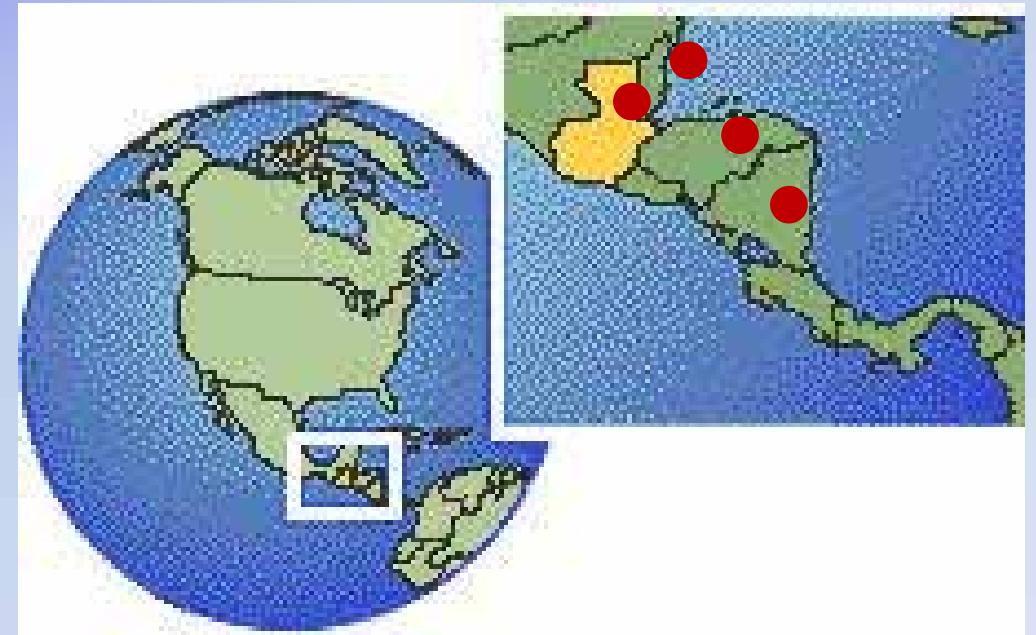




COCESNA provides services for air navigation and communications for the Central American States – Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua.

ACS has been acting as a consulting and services company to COCESNA. Recent engagements included:

- Provide technical consulting for airport requirements
- Conduct multiple site assessments for new equipment installation
 - Site surveys
 - Computer modeling
 - Formal reports to be used in requirements definition and procurement





NAVAIDS Maintenance



ACS has specialized technicians for conducting remote monitoring and maintenance, on-site preventative maintenance, troubleshooting, and on-site repair for:

ILS / VOR/DME / NDB / PAPI systems

As part of the FAA eFast contract, ACS has been pre-qualified to participate as a supplier of maintenance services for airports as part of a transition from a centralized FAA-managed to a locally managed maintenance system.

ACS will maintain the newly installed Thales Mark 20A ILS system at New Orleans Navy Base. The contract will be for 10 years.

ACS has an on-going contract with Approach Navigation Systems in Canada to maintain 3 ILS systems at Suncor Firebag Airport and Diavik Diamond Mine. SELEX 2100 ILS and Park Air Model 7000B / Fernau Model 2020

ACS recently intervened for troubleshooting and maintenance of a CAT II ILS/DME system at Okecie International Airport, Warsaw, Poland



- Site modeling prior to installations
- Quality Assurance for hardware installations performed by local Prime Contractor
- Final Tuning and Testing of Equipment
- Commissioning Flight Check Support
- On-Site Training

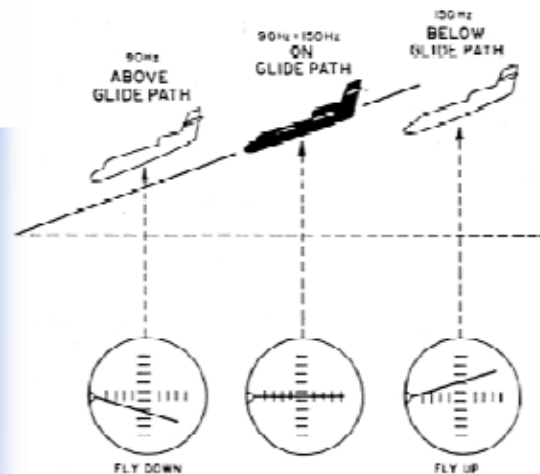
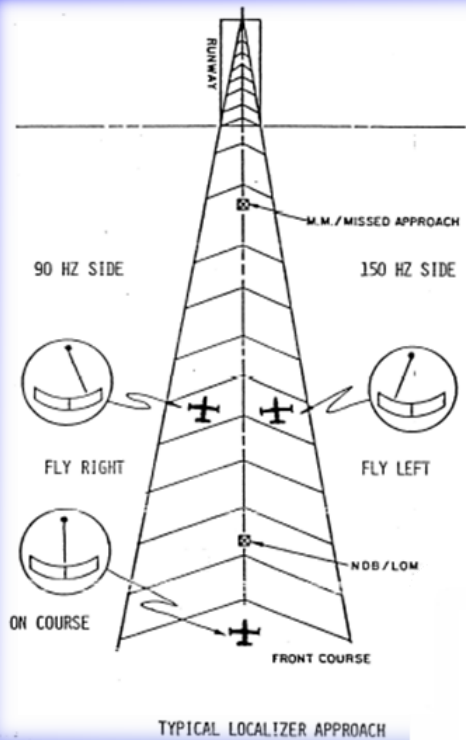




Saudia Airlines HF Center Upgrade Contract



- Saudia Airlines HF Center - Jeddah
- 3 x 10KW HF TX
- 2 x 1 KW HF TXR
- 8 x HF RX
- Voice Switching System
- Complete with antennas, cabling, switching matrices and remote control



- Design new VOR/DME Procedure
- Update ILS procedure
- Conduct Obstacles Study
- Conduct Airspace Simulation Study for new Runway



Egypt NANSVC VHF Upgrade Contract



- Consultant and integrator to ORASCOM and NANSVC
- Luxor, Aswan, Hurghada, Taba, Alexandria, Asyut, 6 October, Port Said and Abu Simbel Airports.
- 3 / 6 VHF Channels each
 - Main/Standby
 - Filtering System
 - Integrated Antennas
- VCCS and Recording Systems
- NBPS and GPS Time Systems