Presented to: World-wide Symposium on enabling the Net-centric Information Environment

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What is OE/AAA?

- Intranet Obstruction Evaluation/Airport Airspace Analysis

- “Obstruction Evaluation”
  - Refers to the FAA’s responsibility to determine whether a proposed construction or alteration would cause a hazard to air navigation.

- “Airport Airspace Analysis”
  - Refers to evaluations and analyses that are specifically on Airports
Philosophy

• **Transparency**  
  – Data and Process

• **Collaboration**  
  – Between Stakeholders and Customers

• **Preservation**  
  – Measure and maintain the National Airspace System

• **Protection**  
  – How do we make sure the NAS is not degraded
iOE/AAA Capabilities

• Data input and capture
• Case review
• Online coordination among divisions
• Part 77 evaluation
• Analysis tools
• Mapping of cases, airports, runways and facilities
• Satellite imagery
OE/AAA Data Uses

- Airport Data (Runway, Design Surfaces)
- Facility Data (Radar, ILS, VOR, ATCT, Freq’s)
- Procedure Data (TERPS, MEA/MVA)
- Air Traffic Data (Traffic Patterns, Airspace Classifications)
- Military Data (SUA, MOA, Training Routes)
- Civilian Data (Local Zoning, Obstruction Data)
Part 77

- **Part 77**
  - 3D Evaluation
    - Every 2D penetration is evaluated in 3D.
    - The height of the obstruction against the height of the surface.
    - Every 3D penetration is reported.
Part 77 Cont.

• Part 77
  – Each Obstructions is evaluated against all airports
OE/AAA Automation Tool

- Plot Facility: Satellite Image with watch areas
Atlantic City, NJ

Five 1.5 MW Turbines
Operations Started Dec 30, 2005

Atlantic City Municipal Airport
(Bader Field)
High Frequency RCS

\[
RCS_{dB} = 10 \log \frac{RCS_m}{2} \text{ Square Meters}
\]

-40 -30 -20 -10 0 10 20 30 40 dBsm

C-29 (Bac-111)

LARGE A/C (747)

CONVENTIONAL AIRCRAFT (C-29)

IMPROVED CONVENTIONAL AIRCRAFT

CONVENTIONAL CRUISE MISSILES

BIRDS

MAN

CARS

INSECTS

Wind Turbines!

Space Shuttle with Boosters (Engine View)

747

FOR OFFICIAL USE ONLY
Obscured Effects
Loss of Aircraft Primary Detection
Above Farm @ 6,000 feet
CONUS - Coverage
Long Range Radar
Philosophy/2

• Transparency
  – Data and Process

• Collaboration
  – Between Stakeholders and Customers

• Preservation
  – Measure and maintain the National Airspace System

• Protection
  – How do we make sure the NAS is not degraded
OEI & Obstruction Encroachment

• FAA is building teams and evaluation procedures with willing partners.
  – Miami International
  – Boston Logan
  – Washington National (Reagan - if you must)
• Evaluates entire airport airspace.
• Identifies areas of concern for aviation and growth for community.
• Results in comprehensive zoning that protects airport/airspace infrastructure.
OEI Surface Protection
• OEI Route Protection
• BOS Composite Map
2001

2004

2007

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MIA Example of Net-Centric OE

• HSAGoogle.wmv
Philosophy/3

• Transparency
  – Data and Process

• Collaboration
  – Between Stakeholders and Customers

• **Preservation**
  – Measure and maintain the National Airspace System

• Protection
  – How do we make sure the NAS is not degraded
Preserving the NAS

• Tough to preserve anything when you know not what you have!
  – Define all aspects of the NAS
    • Procedures
    • Airspace and Airport Design
    • Facility Service Volumes
      – Navigational
      – Surveillance
      – Communication
  – Create measurable matrix
  – Ensure Data is Visible and transparent to all Users
Final Result

• Increased ability to protect NAS.
• Determinations result from comprehensive cumulative airspace analysis.
• Airspace use and adverse effect is predetermined.
• Managing Airspace vs. Managing Individual Obstruction Cases.
• Public receives determinations faster.
• FAA better utilizes human resources.
Summary

• **Transparency**
  – Data and Process

• **Collaboration**
  – Between Stakeholders and Customers

• **Preservation**
  – Maintain the National Airspace System

• **Protection**
  – We make sure the Airspace is not degraded