ADVANCED PROGRAM
BRIEFING TO INDUSTRY

Col John Clatanoff
AMC/A37T
Aircrew Operations & Training
AMC/PA #020204

Enabling the “Global” in “Global Vigilance, Reach and Power!”
Overview

■ AMC Aircrew Training
■ Current Programs
■ Future Programs

Enabling the “Global” in “Global Vigilance, Reach and Power!”
AMC Aircrew Operations & Training

- AMC Aircrew and Aeromedical Evacuation Training
  - Lead Command for Mobility Air Forces (MAF) Training
  - C-5, C-17, C-130, C-21, KC-10, KC-135, OSA
  - Initial Aircrew Training Conducted by AETC
    - Except OSA and KC-10
  - Requirements Developed by AMC

- Aircrew Training Systems
  - Executes ATS Contracts for MAF Aircraft

Enabling the “Global” in “Global Vigilance, Reach and Power!”
Current Programs

- C-17 Build
- C-130J
- C-5 AMP
- C-130 AMP
- KC-135 GATM
- Aircrew Training Systems
- Mobility Pilot Development
- Computer Based Training
- Tactical Training
C-17 BUILD

<table>
<thead>
<tr>
<th>BASE</th>
<th>A/C</th>
<th>WST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charleston, SC</td>
<td>50</td>
<td>3</td>
</tr>
<tr>
<td>McChord, WA</td>
<td>44</td>
<td>3</td>
</tr>
<tr>
<td>Altus, OK</td>
<td>15</td>
<td>6</td>
</tr>
<tr>
<td>Jackson, MS</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>McGuire, NJ</td>
<td>13</td>
<td>1</td>
</tr>
<tr>
<td>March, CA</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>Hickam, HI</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>Dover, DE</td>
<td>13</td>
<td>1</td>
</tr>
<tr>
<td>Travis, CA</td>
<td>13</td>
<td>1</td>
</tr>
<tr>
<td>Elmendorf, AK</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>180</strong></td>
<td><strong>19</strong></td>
</tr>
</tbody>
</table>
C-130J

- Current Planned Purchase is 168
  - 150 combat delivery, 8 EC-130Js, and 10 WC-130Js
  - First Delivery 1999 – Last Delivery 2016

- 5 Simulators Planned
  - Keesler–Level D–12 Feb 04
  - Little Rock (3) – First SIMCERT Feb 04
  - Pope – Delivery 2006

- FTU Stand-Up at Little Rock – 2006
  - AETC Coordinating FTU Syllabi

Enabling the “Global” in “Global Vigilance, Reach and Power!”
## C-130J

<table>
<thead>
<tr>
<th>UNIT</th>
<th>PAA</th>
<th>IN PRODUCTION</th>
<th>DELIVERED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baltimore, MD</td>
<td>8</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>Keesler, MS (WC)</td>
<td>10</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>Keesler, MS</td>
<td>8</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Harrisburg, PA</td>
<td>8</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Rhode Island</td>
<td>8</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Channel Island, CA</td>
<td>12</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Little Rock, AR</td>
<td>14</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

*Enabling the “Global” in “Global Vigilance, Reach and Power!”*
AMP – Avionics Modernization Program

• Includes:
  • Global Air Traffic Management (GATM)
  • All Weather Flight Control System (AWFCS)

• Contractors:
  • Lockheed-Martin Aerospace Systems - Prime
  • Honeywell – Avionics

• June 04 – First Delivery to Dover AFB

• FlightSafety to Provide Aircrew Training
C-130 Avionics Modernization Program

Problem:
- AF C-130 700 AC in 20 Models and Variants
- Aging Fleet
- Not Air Force Navigation, Safety Master Plan (Nav/Safety), or Global Air Traffic Management (GATM) Compliant

Solution:
- AMP 519 Aircraft (360 Combat Delivery/159 Special mission)
- Dual FMS with GPS, New Instrument Displays, Heads-Up Displays, Advanced RADAR, TCAS, TAWS, and Radios
- Contractor: Boeing
- Delivery FY08 through FY15
KC-135 Global Air Traffic Management

- Aircraft Upgrade: Meet Current and Future Air Traffic Requirements
  - Deliveries began FY03 Continue Through FY16
    - Crews maintain Dual Qualification
  - Academics/Sim Training Difference Training – Flight Safety
  - Flight Line – In-Unit

- Simulator Upgrade:
  - Simulator Capable to Train GATM and Non-GATM
  - Unique Design Converts from GATM to Pacer CRAG in 5 hours

Enabling the “Global” in “Global Vigilance, Reach and Power!”
Enabling the “Global” in “Global Vigilance, Reach and Power!”

AMC Aircrew Training Systems  
WST/OFT

<table>
<thead>
<tr>
<th>MDS</th>
<th>C-17</th>
<th>C-5</th>
<th>KC-10</th>
<th>KC-135</th>
<th>C-130</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATS Contractor</td>
<td>Boeing</td>
<td>FSSC</td>
<td>Boeing</td>
<td>FSSC</td>
<td>Lockheed</td>
</tr>
<tr>
<td>Number of WST’s</td>
<td>9</td>
<td>9</td>
<td>4</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>FAA Level</td>
<td>C+</td>
<td>C+</td>
<td>C+/B</td>
<td>C+/B(1)</td>
<td>D/C+/B</td>
</tr>
<tr>
<td>Estimate C+ Date</td>
<td>Q3/06</td>
<td>Q3/05</td>
<td>Q2/06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sim Manufacturer</td>
<td>Flight Safety</td>
<td>CAE</td>
<td>Link-Miles</td>
<td>Singer-Link</td>
<td>Singer and L3</td>
</tr>
</tbody>
</table>

- FY 04 Program - $127.4M

Enabling the “Global” in “Global Vigilance, Reach and Power!”
AMC Aircrew Training Systems

- KC-10 Boom Operator Trainer - BOT(2) – Not HLA Compliant – Requires Computer Re-host
- KC-135 Boom Operator Part Task Trainer - BOPTT(2) – $2.5M Refurb complete
- KC-135 Boom Operator Weapon System Trainer BOWST(2) - AETC Initiative to Create 2 BOWST to replace BOPTTs
- C-17 Loadmaster Simulator – LM Station/Link w/Pilots (DMO)
- C-17 Cargo Compartment Trainer – Cargo Compartment Replica - 2nd Delivery Jul 05 (Altus)

Enabling the “Global” in “Global Vigilance, Reach and Power!”
Enabling the “Global” in “Global Vigilance, Reach and Power!”

Mobility Pilot Development (MPD)

- Changing Paradigm for Training New Pilots
  - Train UPT Graduates to Fly Aircraft From Both Seats
- Longer Initial Training Provides More Capable Pilot to Flying Units
  - Local Upgrade to Aircraft Commander Begins Shortly After Arrival in Unit
  - No need for Return to AETC (Local AC Upgrade)
- AETC/ATS Contractors Modifying Training Courses
- Full Scale Implementation Oct 04
Computer Based Training

- Web Based – Web Based Level 3 Interactivity
  - Instrument Refresher Courses for Each Aircraft
    - On Contract
  - Ancillary Training Potential
Computer Based Training

- Virtual Cockpit – KC-135
  - “Virtual Photo Map” of Cockpit, Interior, and Exterior
  - Virtual Class Room (white board) capable
  - Contract - FlightSafety

- GATM Integrated Hand Controller Part Task Trainer
  - PC Based GATM Training w/IHC Input Device
    - Dexterity-- L & R IHC Ops.
    - Menu System Training
  - Contract – FlightSafety
Tactical Training

- OEF/OIF Focus Area
- Night Vision Goggles (NVG) Training
- Visual Threat Recognition and Avoidance Trainer (VTRAT)
Enabling the “Global” in “Global Vigilance, Reach and Power!”

TACTICAL CONSIDERATIONS

Develop Combat Employment Measures

• AFTTP 3-1
• AFTTP 3-3
• TRAINING
• CULTURAL CHANGE

• TWCF
• CUSTOMERS
• C2
• IFM

Developing a “Combat Mobility Culture”

Velocity Throughput
NVG Training

- Flying in Threat Areas
  - Normal Operations for Aircrew
  - Tactical Airlift (C-17/C-130)
  - Strategic Airlift (C-5)
  - Tanker (KC-10/KC-135)/OSA (C-21)

- Next Hurdle – Ground Operations
  - Cargo Handling
  - Equipment

Enabling the “Global” in “Global Vigilance, Reach and Power!”
Visual Threat Recognition and Avoidance Trainer

- Automated Trainer - Anti-aircraft Scanner Duties
- Developed at the Information Systems Training Branch of the Air Force Research Lab, Brooks City-Base, TX
- Command Technologies Inc. (CTI)
- 6 Initial Devices Purchased at Direction of AMC/CV
  - Dyess, Little Rock, Pope, Charleston, McChord, & McGuire
- Realistic Visual Characteristics Of Anti-aircraft Weaponry & Aircraft Specific Counter-Tactics
- Requires Crew Members to Visually Detect And Initiate/Coordinate Defensive & Evasive Maneuvers

Enabling the “Global” in “Global Vigilance, Reach and Power!”
Enabling the “Global” in “Global Vigilance, Reach and Power!”
VTRAT ROADMAP

- **Short Term**
  - Initial VTRAT Training for All Tactical Crews
  - Advanced Group VTRAT Training
  - Annual Refresher Training

- **Long Term**
  - Image Generator Converted to a PC Platform
  - VTRAT Networked to Motion Flight Simulators
  - VTRAT Distributed Mission Operations

*Enabling the “Global” in “Global Vigilance, Reach and Power!”*
Future Programs

- USAF Mobility Weapons School
- Distributed Mission Operations
- MAF Aeromedical Formal Training Unit
- C-5 Cargo Compartment Trainer
- Crew Resource Management Training
- Mission Rehearsal

Enabling the “Global” in “Global Vigilance, Reach and Power!”
USAF Mobility Weapons School Consolidation

- Combine C-17, C-130, KC-135 and Proposed KC-10 Weapons Instructor Courses at McGuire AFB
- PhD Level Courses Focused On Tactical and Operational Level Employment of Their Airframes
  - Classroom/Flight/Simulator

Enabling the “Global” in “Global Vigilance, Reach and Power!”
Enabling the “Global” in “Global Vigilance, Reach and Power!”

Distributed Mission Operations

<table>
<thead>
<tr>
<th></th>
<th>SIM</th>
<th>HLA</th>
<th>INTRABASE</th>
<th>INTERBASE</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-17</td>
<td>CHS</td>
<td></td>
<td>FORMATION</td>
<td>Apr 04</td>
</tr>
<tr>
<td>C-5</td>
<td></td>
<td></td>
<td>1 Time Test</td>
<td></td>
</tr>
<tr>
<td>C-130</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KC-10</td>
<td>2006</td>
<td>2006</td>
<td></td>
<td></td>
</tr>
<tr>
<td>KC-135</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

• C-130 - Lockheed Martin Studying DMO Requirements
  • J Models are D and HLA compliant
Initial Estimates to Gain DMO

- KC-10 Flight Simulators $26.9M
- KC-10 Boom Operator Trainers $13.4M
- KC-135 Flight Simulators $95.3M
- C-130 Flight Simulators $10.8M
- C-5 Flight Simulators $23.7M
MAF AEROMEDICAL FORMAL TRAINING UNIT

- Oct 2001 - AMC Assumed Lead Command for AF AE Training
- No Current FTU or Standardized Training
  - Training at Brooks, TX
  - All Aircrew Qualification Obtained in-Unit
- 90% Reserve/Guard – 10% Active Duty
  - ARC Not Required to attend Brooks Training
  - 6 to 18+ Months to Gain Mission Ready Status
- Goals:
  - Mission Ready Status Within 9 Weeks
  - One C-130 Fuselage and One C-17 AE Simulator
  - Contractor Provided AE FTU Phase 2 Training
C-5 Cargo Compartment Trainer

- Convert Retired C-5 Airframe into LM Trainer
- Incorporate New Training Methodologies Previously Developed to Train C-17 And C-141 Loadmaster Forces
Crew Resource Management Training

- Current Training Does Not Incorporate Non-Cockpit Crew
  - Loadmaster/Boom Operator/Scanner
  - Lacks Realism
  - Often Scripted

- Goal
  - Link All Crew Positions (DMO) through ATS/Virtual Vision Devices
  - Realistic Scenario Development

Enabling the “Global” in “Global Vigilance, Reach and Power!”
Mission Rehearsal Training

- Able to Generate Visual Database from Imagery
- Fly WST/OST Mission Profile Prior to Execution
  - Just-in-Time Training
- Expand Deployable (Portable Flight Planning System) Capability:
  - Include Real Time Intelligence Information (Threat Cones)
  - Incorporate in WST/OST
Headquarters Air Mobility Command

ADVANCED PROGRAM
BRIEFING TO INDUSTRY

Col John Clatanoff
AMC/A37T
Aircrew Operations & Training

Enabling the “Global” in “Global Vigilance, Reach and Power!”