Aeronautics and Space Engineering Board

November 8, 2012

Dr. Kevin Geiss
Deputy Assistant Secretary Energy
Why We Fly

Integrity - Service - Excellence
Fuel Price Volatility

Budgets lock two years in advance.

- FY 2011: $2.37 billion projected, $3.40 billion actual
- FY 2012: $3.12 billion projected, $3.95 billion actual
- FY 2013: $3.73 billion projected
- FY 2014: $3.24 billion projected
Operational Energy Strategy and the Air Force Energy Plan

Ensure that the armed forces have the energy resources they require to meet 21st century challenges.

MORE FIGHT, LESS FUEL

1. REDUCE DEMAND

MORE OPTIONS, LESS RISK

2. INCREASE SUPPLY

MORE CAPABILITY, LESS COST

3. CULTURE CHANGE: Increases energy awareness

OSD OPERATIONAL ENERGY STRATEGY

AIR FORCE ENERGY PILLARS
Reduce Demand – Aviation Operations

GOAL
Reduce Aviation Fuel Consumption 10% by 2015

PROGRESS:
- Fuel consumption reduced 4%
- $165M saved
- Cost to move 1 ton of cargo 1 mile by air down 21%

NEXT STEPS:
- Expand AMC initiatives
- Optimize crew ratios
Increase Supply – Aviation Operations

GOAL

Acquire 50% of domestic aviation fuel requirements via alternative fuel blend by 2016

PROGRESS:

- Testing multiple alternative fuels
- 1.3M gals of alternative fuels purchased

NEXT STEPS:

- Testing third ATJ fuel pathway
- 400M gals of alternative fuel by 2016
U.S. AIR FORCE C-17A
AF SERIAL NO. 07-7170
SERVICE THIS AIRCRAFT
WITH GRADE JP-4, 5, 8, 8+100,
JET A, A-1, B OR NATO FUEL GRADE
F-34, F-35, F-37, F-40, F-44
Aviation Firsts
Increase Supply Success Story –
Alternative Fuels in Flight

Air Force will be a ready consumer by 2016
## Alternative Fuel Pricing

<table>
<thead>
<tr>
<th>Producer</th>
<th>Type</th>
<th>Amount (gals)</th>
<th>Total Cost (millions)</th>
<th>Price (per gal)</th>
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<tr>
<td>Syntroleum Corp</td>
<td>FT</td>
<td>100,000</td>
<td>$2.000</td>
<td>$20.00</td>
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PROGRESS:
- MQ-9 Reapers: 11
- Total Sorties performed: 152
- Total fuel used to date: 40,000 gallons

NEXT STEPS:
- Project completion date: November 2012
- After Action Report 2013
Engine Longevity Testing

JP-8

Alt Fuel
Partnership – Aviation
Commercial Aviation Alternative Fuels Initiative (CAAFI)

GOAL
Industry and government collaborate to promote alternative fuels

PROGRESS:
- Developed fuel certification process
- Durability testing of Alternative fuels
- United, Lufthansa and Alaska Airlines using alternative fuels
“Persistence and commitment will be needed to provide the energy options and flexibility our civilians and military leaders need. By improving the way DoD uses energy, we can create a more agile, lethal, adaptable, and effective force.”

–Secretary Michael Donley
United States Air Force
7 August, 2012