Headquarters U.S. Air Force

Integrity - Service - Excellence

Associate Intermodal Platform (AIP)

Mr. Jim Wakeley
Chief, Distribution Branch
Supply Chain Management Division (AF/A4RM)

AIP Concept

- Dimensions: 82x102x8 inches
- Four-way forklift capability
- Rated load: 6,000 pounds
- Weight: ~200 pounds
- RFID slot – remains with AIP to destination

- AIP rides on top of 463L
- Consumable/Expendable Item
- Austere locations
- AIP removed at APOD
  - Reduces 463L loss/damage
  - Keeps 463L in DTS
- Seamlessly intermodal from surface-to-air-to-surface

AIP Background

- Oct 2003: Pure Pallet Initiative begins at DLA depots
- TRANSCOM begins development of an AIP Concept
- Sep 2005: First prototype delivered to TRANSCOM
- Apr - Sep 2006: DLA/AMC Pilot Demonstration
- Sep 2006: LMI Business Case Analysis completed
- Oct 2007: USAF hosts AIP working group meeting
  - No organic Service/DLA requirements identified
- Jan 2008: DSG assigns AIP oversight to JIWG
  - JIWG designates AF as lead for AIP BCA requirement review
- AF updates AIP BCA & reviews pallet mgt processes/ opportunities
  - In concert with ongoing AFAA pallet management audit

AIP Overview

- AIP Business Case Analysis
  - Original/Updated Assumptions
  - Original/Updated Results
  - Conclusions
- 463L Pallet Management
- Potential AIP uses
- Recommendations
- Way Ahead

BCA Analysis Objective

Determine viability of AIP implementation as a cost effective means to reduce 463-L pallet losses

BCA Analysis
Original Assumptions

- AIP will only be used for consignees in forward bases
- Cargo sent forward to consignee will be built on AIP
- AMC will not track AIPs but will attempt to recover AIPs
- AMC will continue 463-L pallet recovery efforts for those continuing forward to the consignee
- Small additional labor cost associated with AIP
- 463-L pallet recovery rate will not improve
- No cost associated with movement of AIP
- AIPs will be returned at same rate as 463-L pallets
- AIPs will be damaged at same rate as 463-L pallets
- Damaged AIPs will not be repaired

BCA Analysis
Updated Assumptions

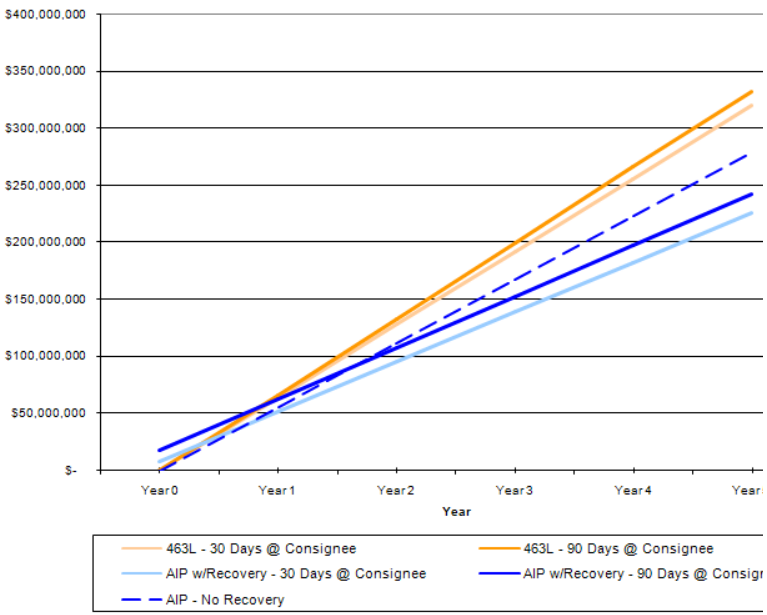
- AIP & 463-L pallet costs adjusted for inflation
  - AIP procurement cost adjusted for increased raw material costs - Linear Low Density Hexane Copolymer has increased in cost on futures market by 23 percent
  - AIP net was adjusted for inflation increases
  - 463-L pallet procurement/repair adjusted for inflation
- 463-L pallet maintenance cost split between depot & field level repair
- There are movement costs associated with AIPs

BCA Analysis
Updates to the Model

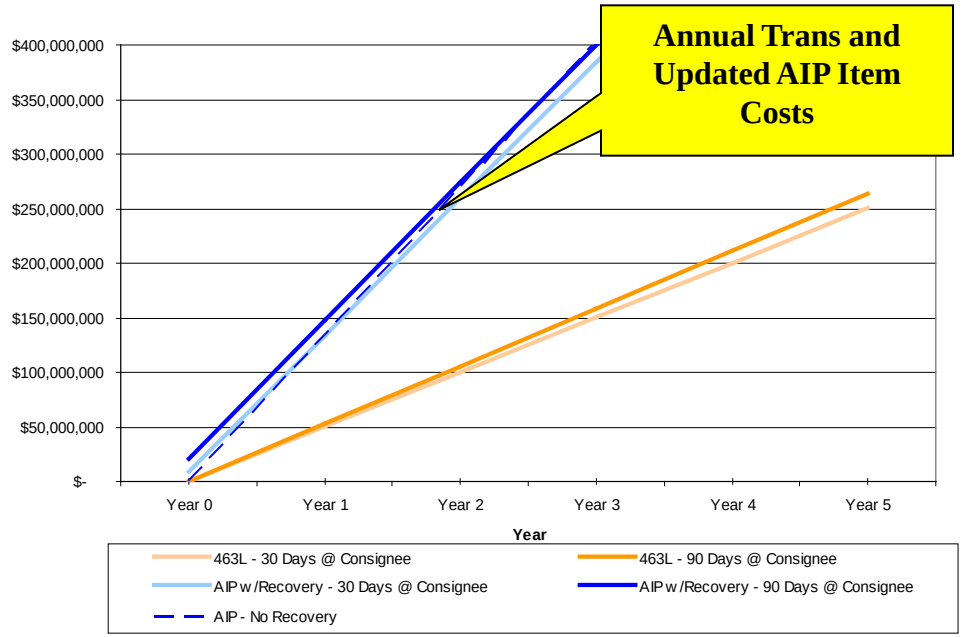
Original BCA		Updated BCA	
463L Purchase	$1,761	463L Purchase	$1,865
463L Repair	$935	463L Repair	$540
AIP Purchase	$705	AIP Purchase	$826
AIP Movement Cost	$0	AIP Movement Cost	$993

Original vs. Updated – Comparison AIP Costs at 12 Percent Loss

Original



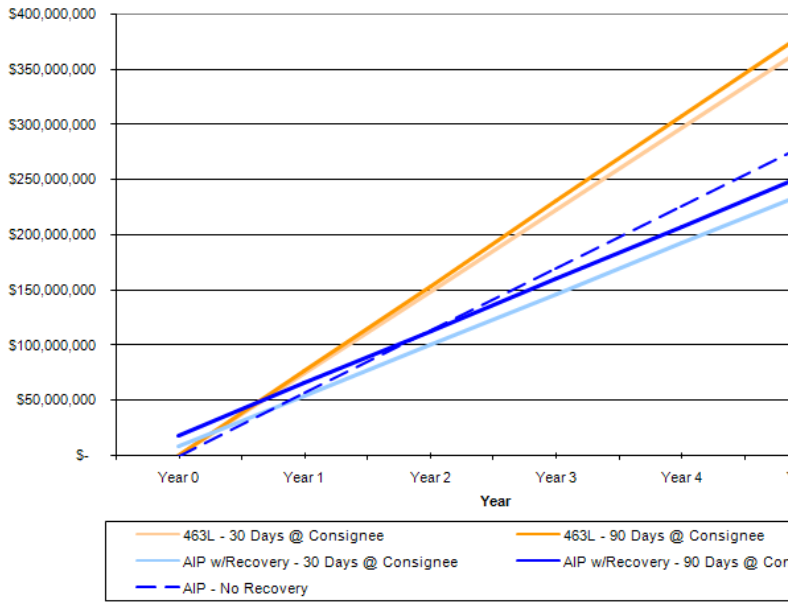
Updated



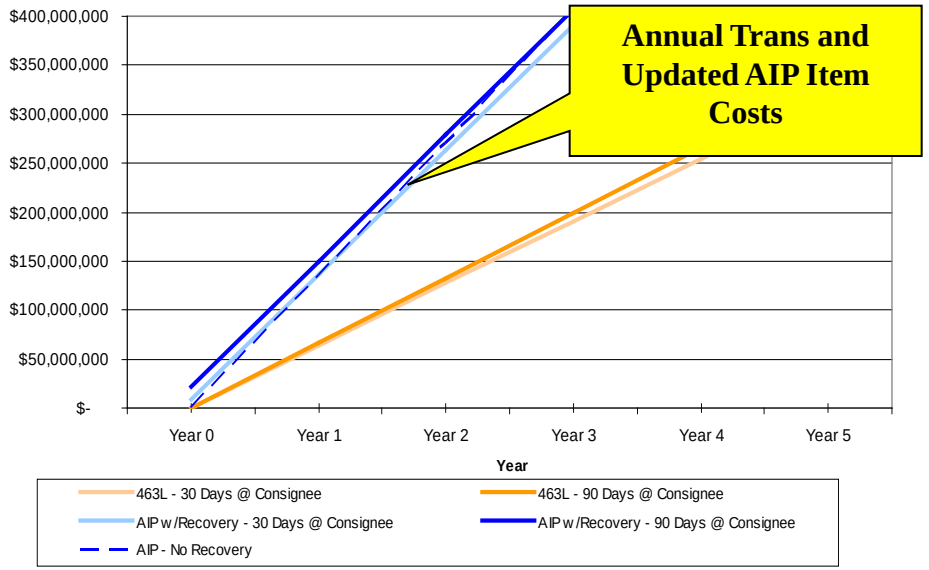
- **Original BCA projected cumulative 5 year savings of $90M to $94M**
- **Updated model projects a 5 year cumulative funding shortfall of $383M to $388M**

Original vs. Updated – Comparison AIP Costs at 25 Percent Loss

Original



Updated



- **Original BCA projected cumulative 5 year savings of $130M to $133M**
- **Updated model indicates a 5 year cumulative funding shortfall of $327M to $333M**

BCA Analysis
Additional Factors

- Pure pallet AIP increases aviation fuel consumption by approx 35M pounds annually
  - Runs counter to efforts to optimize fuel usage by lightening aircraft load factors
- 463-L pallet Funding
  - Original assumption – AF has primary responsibility for AIP decision as it funds 463L pallet procurement & repair
  - Actual – 463L pallets funded by TWCF/ Supp appn/ AF
    - Depot repair: 68% - TWCF / 32% - AF O&M
    - Field repair: 100% supplemental appropriation
    - Procurement: FY01-07: $101M supp appn / $5M AF O&M
  - Updated assumption - Decision to fund and field AIP will impact budgets of all Defense Transportation System users

BCA Analysis Conclusions

- When all costs and factors are considered, AIP does not offer hoped for savings
- AIP acquisition should not be pursued as a 463-L loss mitigator
- Improved 463-L pallet return and pallet repair rates offers best opportunities for 463-L loss mitigation/ cost reduction

463L Pallet Management

- Air Force Audit Agency (AFAA) evaluating pallet management effectiveness
  - AFAA visited AF sites only
- Preliminary audit results
  - Pallet requirement process not effectively managed; buy/repair requirements overstated by $330M
  - 463-L Managers did not ensure adequate accountability
  - 463-L managers did not provide sufficient oversight to assure retrograde effectiveness
- Potential actions:
  - Implement standard tool for reporting authorizations and on-hand assets
  - Joint Service rapid improvement event on pallet management procedures
  - Work with USTC to amend the DTR
  - Evaluate decentralized funding strategies to enhance sense of ownership
- All actions are tentative pending final audit report

Pallet management process needs improvement – Opportunities abound…

Other AIP Options

- Humanitarian Relief Operations
- First 30-90 days of DLA pure pallet ops for austere theater sustainment
- TCSP/DDXX theater break bulk operations
- Containerization consolidation/breakdown
- Selected prepositioned assets
- Support for specific material movement requirement (e.g., up-armor kits)

Who owns the requirement? Who does DOTMLPF review?
Who buys? Who pays?

Recommendations

- **AIP acquisition should not be pursued as a 463-L loss mitigator**
- **Pursue improved pallet return and pallet repair rates**

Way Ahead

- Brief JIWG and DSG
  - Updated BCA results
  - AFAA Preliminary Audit Findings
  - Potential Joint Capability from AIP
- Update FMB Legislative Liaison and other parties
- Continue evaluation of AFAA Audit recommended changes for DOD pallet management upon release
- Improve pallet management and accountability
  - AMC/A4T convene AFSO21 RIE w/key stakeholders from Services and CENTCOM components
  - TRANSCOM amend DTR policy and tighten controls by 463-L accountability higher up the chain of command

Questions ?

Backup Slides

Original vs. Revised Assumptions

Original

Data Name	Value Used	Source
Pallet Shipemt Volumes (SWA)	76,308	AMC
% of Pallets at Maximum Height or Weight	7%	AMC
463L Purchase Costs	$1,761	AMC
AIP Purchase Costs	$705	AIP Vendor
463L Repair Costs	$935	AMC
AIP Repair Costs	$0	USTRANSCOM (no repair planned)
463L Cleaning Costs	$25	LMI
AIP Cleaning Costs	$25	Assumed same as 463L
463L Lifespan	10 Years	Assumed same as the AIP
AIP Lifespan	10 Years	WR-ALC/LEEV, Warner Robins AFB

Revised

Data Name	Value Used	Source
Pallet Shipment Volumes (SWA)	76,308	AMC
% of Pallets at Maximum Height or Weight	7%	AMC
463L Purchase Costs	$1,865	AMC (Contract Cost Adjusted to Inflation)
AIP Purchase Costs	$826.94	LME Futures Market and CPI Inflation Calculator
463L Repair Costs	$540.00	AMC/A4T
AIP Repair Costs	$0	USTRANSCOM (no repair planned)
463L Cleaning Costs	$25	LMI
AIP Cleaning Costs	$25	Assumed same as 463L
463L Lifespan	10 Years	Assumed same as AIP
AIP Lifespan	10 Years	WR-ALC/LEEV, Warner-Robins AFB

Revised Assumptions – Annual Transportation Costs

Average Rate Between Dover and Iraq/Kuwait and Afghanistan

CALCULATIONS			AIP Wt.	Zone	Zone Rate	Shipment Sizes (lbs)	pliers	%of AIPs Lost	% of AIP Recovered	# of AIPs Lost	#of Recovered AIPs	Sealift Costs
AIP Transportation Costs			250	Weight Break (2200-3599)		1-4	1.245487	66.37%	33.63%	50649	20318	$5,400,040.90
Average AIP load weight		2,800		Zone 1&17 (Iraq/Kuwait)	$5.7	440 099	1.120689	68.45%	31.55%	52231	18735	$4,976,961.34
Added Transportation Cost per AIP	$	9		Zone 1&18 (Afghanistan)	$5.39	1 0-2199	0.997474	69.18%	30.82%	52787	18179	$4,830,158.31
Annual Shipment Volumes		76308		Average Zone Rate	**$4.57**	2200-3599	0.870546	70.58%	29.42%	53857	17110	$4,548,105.27
% Shipments with AIP		70966				3600-up	0.766457	71.98%	28.02%	54926	16040	$4,260,076.53
% Shipments with AIP Loss		187						73.38%	26.62%	55995	14971	$3,978,023.49
Annual Avg Trans Costs Added	**$**	**70,505,951.42**						78%	25.22%	57065	13902	$3,695,970.45
Zone Rate from Dover to Iraq	$	813.06						%	23.82%	58134	12832	$3,408,140.90
Zone Rate from Dover to Afghanistan	$	1,173.06						7	22.42%	59204	11763	$3,126,087.86
Annual Trans Cost to Iraq	**$**	**57,763,912.01**						8.9	21.01%	60273	10694	$2,844,034.82
Annual Trans Costs to Afghanistan	**$**	**83,247,990.84**						0.3	61%	61342	9624	$2,556,006.08
								81.79	%	62412	8555	$2,273,953.04

Total number of pure pallet shipments that could use AIPs

Multiplier on the shipment weight to calculate trans costs

2800lbs +250 lbs x 4.565 x .87054649=$12,120.83

2800lbs x 4.565 x .87054649 =$11,127.32

$12,139.11-$11,139.50=$993.51

70,966 x $993.51 = $70.5M

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Jet Fuel Price Monitor

Each week IATA updates its jet fuel price index to provide the latest price data from the leading energy information provider Platts. The weekly index and price data shows the global average price paid at the refinery for aviation jet fuel.

This week's price of aviation jet fuel:

					Percentage change vs.		
06-Jun-08	Index*	$/b	cts/gal	$/mt	1 week ago	1 month ago	1 year ago
Jet Fuel Price	**459.6**	**168.1**	**400.3**	**1325.0**	**4.6%**	**12.2%**	**92.7%**

Sourced from Platts * 100 in 2000 (87 cts/gal)

Impact on this year's fuel bill of the global airline industry:

New fuel price average for 2008	Impact on 2008 fuel bill
$132.9/b	**+$76 billion**

Estimated by IATA IATA Methodology

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>>> Terminology

- $/b : US dollars per barrel
- cts/gal : US cents per gallon
- $/mt : US dollars per metric ton

The Jet Fuel Price Monitor is a joint IATA - Platts initiative

Disclaimer

Aviation Fuel Cost Calculations

C-17 Aviation Fuel Consumption						
AIP Weight	250					
# of Flying Hours	15					
C-17 Fuel Burn Rate (lbs)	112.5					
C-17 Fuel Burn Rate (gal)	16.544					
Aviation Fuel Cost (JP8)	$3.04					
% of Shipments with AIP	93%					
Average Pure Pallet Shipment Weight	2,800					
C-17 Pallet Positions	18					
		Total PP Shipments	Total PP Shipments w/ AIPs	# of C-17 Missions	C-17 Aviation Fuel (lbs)	C-17 Aviation Fuel Costs (per Msn)
FY04	2nd Qtr	4016	3735	207	1,890,783,000	$187,841.16
	3rd Qtr	12671	11784	655	5,965,665,188	$592,663.18
	4th Qtr	17840	16591	922	8,399,295,000	$834,433.83
FY05	1st Qtr	19791	18406	1023	9,317,850,188	$925,688.34
	2nd Qtr	22900	21297	1183	10,781,606,250	$1,071,106.21
	3rd Qtr	26167	24335	1352	12,319,750,688	$1,223,914.24
	4th Qtr	29110	27072	1504	13,705,351,875	$1,361,567.76
FY06	1st Qtr	21519	20013	1112	10,131,414,188	$1,006,512.42
	2nd Qtr	25497	23712	1317	12,004,306,313	$1,192,576.20
	3rd Qtr	20359	18934	1052	9,585,271,688	$952,255.51
	4th Qtr	17856	16606	923	8,406,828,000	$835,182.20
FY07	1st Qtr	18397	17109	951	8,661,537,563	$860,486.50
	2nd Qtr	21212	19727	1096	9,986,874,750	$992,153.05
	3rd Qtr	19354	17999	1000	9,112,105,125	$905,248.45
	4th Qtr	18789	17474	971	8,846,096,063	$878,821.59
FY08	1st Qtr	17697	16458	914	8,331,968,813	$827,745.26
	2nd Qtr	10092	9386	521	4,751,439,750	$472,035.10
Total-to-Date					**152,198,144,438**	**$15,120,231.01**

Quotes

"We will accomplish this aviation fuel optimization strategy through a series of operational changes by our pilots and aircraft maintenance specialists – some changes are as simple as reducing unneeded weight on aircraft. For example, every 100 pounds of excess weight removed from one of our strategic airlift aircraft results in an annual savings of 240,000 gallons of aviation fuel."

Source: Deputy DCS Michael Aimone, "AF Energy Strategy for 21st Century at US Senate Finance Committee, Feb 07

*Deputy DCS Michael Aimone, "AF Energy Strategy for 21st Century at US Senate Finance Committee, Feb 07

Quotes

“The Air Force has identified and begun to implement initiatives aimed at reducing mobility energy demand and increasing fuel efficiency, aligning these initiatives with its energy strategy. These initiatives include determining fuel-efficient flight routes, reducing the weight on aircraft, optimizing air refueling, and improving the efficiency of ground operations.”

Source: United States Government Accountability Office, Defense Management: Overarching Organizational Framework Could Improve DOD's Management of Energy Reduction Efforts for Military Operations, March 2008.