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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Air Force	DATE: February 2010
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APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				PE 0604796F: <i>Alternative Fuels</i>							
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	30.283	73.020	24.064	0.000	24.064	0.000	0.000	0.000	0.000	Continuing	Continuing
645287: <i>Assured Fuels</i>	30.283	73.020	24.064	0.000	24.064	0.000	0.000	0.000	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Alternative Fuels program provides certification for the operational use of alternative fuels in all legacy and future weapons systems, appropriate support equipment, and fuel delivery and storage infrastructure. The alternative fuel types being evaluated and certified include various synthetic fuels, bio-mass derived fuels, and fuel blend technologies. This effort includes complete system evaluations, studies and analysis, subsystem and system-level testing, safety, environmental analysis, fuel stock purchase, fuel storage and transport and other USAF certification costs. Scope of activities include interaction with all USAF weapon system single managers to accomplish complete certification activities for applicable weapon systems. Initiative supports USAF assured fuels effort to decrease US dependence on foreign oil and secure additional fuel-types on which to conduct world-wide operations.

This program is in Budget Activity 4 - Advanced Component Development and Prototypes (ACD&P) because effort involves advanced fuels development and certification.

B. Program Change Summary (\$ in Millions)

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	54.217	89.020	0.000	0.000	0.000
Current President's Budget	30.283	73.020	24.064	0.000	24.064
Total Adjustments	-23.934	-16.000	24.064	0.000	24.064
• Congressional General Reductions		-20.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		4.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	-23.934	0.000	24.064	0.000	24.064

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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Air Force		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0604796F: <i>Alternative Fuels</i>	
<p><u>Change Summary Explanation</u></p> <p>FY 2009 adjustments for OMNIBUS and higher Air Force priorities</p> <p>FY 2010 - Congressional Reduction of \$20M</p> <p>The FY 2010 President's Budget submittal did not reflect FY 2011 through FY 2015 funding. Therefore, explanation of changes between the two budget positions cannot be made in a relevant manner.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force								DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0604796F: Alternative Fuels				PROJECT 645287: Assured Fuels			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
645287: Assured Fuels	30.283	73.020	24.064	0.000	24.064	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification											
The Alternative Fuels program provides certification for the operational use of alternative fuels in all legacy and future weapons systems, appropriate support equipment, and fuel delivery and storage infrastructure. The alternative fuel types being evaluated and certified include various synthetic fuels, bio-mass derived fuels, and fuel blend technologies. This effort includes complete system evaluations, studies and analysis, subsystem and system-level testing, safety, environmental analysis, fuel stock purchase, fuel storage and transport and other USAF certification costs. Scope of activities include interaction with all USAF weapon system single managers to accomplish complete certification activities for applicable weapon systems. Initiative supports USAF assured fuels effort to decrease US dependence on foreign oil and secure additional fuel-types on which to conduct world-wide operations.											
This program is in Budget Activity 4 - Advanced Component Development and Prototypes (ACD&P) because effort involves advanced fuels development and certification.											
B. Accomplishments/Planned Program (\$ in Millions)											
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total						
Major Thrust: Certify AF weapon systems (including appropriate support equipment and base-level fuel delivery and storage infrastructure) to operate using any number of alternative fuel stocks.	30.283	73.020	24.064	0.000	24.064						
FY 2009 Accomplishments: In FY2009 - Effort includes laboratory, infrastructure and flight test support for certification activities for approximately 7 USAF platforms using a 50/50 fuel blend comprised of JP-8 and Fischer-Tropsch (FT) derived synthetic fuel. Dedicated testing of 2 augmented engines using the FT blend will be accomplished using test facilities at Arnold Engineering and Development Center (AEDC). Additionally, development of requirements and procurement of sufficient quantities of Hydro-treated Renewable Jet (HRJ) bio-mass derived fuels will also be accomplished in preparation for USAF fleet-											

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force				DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 4: Advanced Component Development & Prototypes (ACD&P)		R-1 ITEM NOMENCLATURE PE 0604796F: Alternative Fuels		PROJECT 645287: Assured Fuels		
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
wide certification activities. MIL-HBK- 510 will undergo revision. Transportation and storage of fuel to test locations will also be supported. Effort includes associated management and support costs.						
FY 2010 Plans: In FY2010 - Effort includes laboratory, infrastructure and flight test support for certification activities for all remaining USAF platforms (approx 7) using the FT derived synthetic fuel. Final disposition of certification requirements for all USAF Commercial Derivative Aircraft (CDA) using the FT fuel blend will also be completed. Additionally, laboratory and flight testing activities supporting certification activities for approximately 4 USAF platforms using a 50/50 fuel blend comprised of JP-8 and HRJ fuel will be accomplished. Dedicated testing of 2 augmented engines using the HRJ blend will be accomplished using test facilities at AEDC. Evaluation of infrastructure, toxicology, Environment, Safety and Occupational Health (ESOH) and fire suppression effectiveness of the HRJ blend will also be initiated. Acquisition of supplemental quantities of HRJ fuels is also planned. MIL-HBK- 510 will undergo revision. Transportation and storage of fuel to test locations will also be supported. Effort includes associated management and support costs.						
FY 2011 Base Plans: In FY2011 - Efforts will include laboratory and flight test support for certification activities for approximately 5 USAF platforms, ground support equipment and infrastructure using HRJ fuel blend. MIL-HBK- 510 will undergo revision. Transportation and storage of fuel to test locations will also be supported. Effort includes associated management and support costs.						
FY 2011 OCO Plans: In FY 2011 OCO: Not Applicable.						
Accomplishments/Planned Programs Subtotals		30.283	73.020	24.064	0.000	24.064

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force								DATE: February 2010		
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u> <u>Base</u>	<u>FY 2011</u> <u>OCO</u>	<u>FY 2011</u> <u>Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PE Not Provided (14527): <i>PE0702806F, Civ Pay - O&M</i>	1.838	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D. Acquisition Strategy

Funding may be executed internally within the 77th Aeronautical Systems Wing via full and open competition or released to other organizations for alternative fuel certification projects for which they are the Office of Primary Responsibility (OPR). OPRs will determine the most appropriate contract vehicle.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force											DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0604796F: <i>Alternative Fuels</i>				PROJECT 645287: <i>Assured Fuels</i>					
Support (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Certify Air Force weapon systems to operate using a variety of alternative fuel stocks, purchase/store/transport/analyze fuel, perform system analysis/testing, assess safety impacts, and complete ...	Various/ Various	77th AESW AF	29.422	71.195		22.600		0.000		22.600	Continuing	Continuing	0.000
Determine compatibility/operability of materials, valves, fuel pumps, Automated Tank Gauging (ATG), distribution pipelines, Fuels Mobility Support Equipment (FMSE) and other applicable storage stab...	Various/ Various	AFPET TBD	0.459	1.377		1.002		0.000		1.002	Continuing	Continuing	0.000
Subtotal			29.881	72.572		23.602		0.000		23.602			0.000
Remarks													

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force											DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0604796F: <i>Alternative Fuels</i>				PROJECT 645287: <i>Assured Fuels</i>					
Management Services (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Management and support costs associated with the Alternative Fuels effort to include travel and supplies	Various/ Various	TBD TBD	0.402	0.448		0.462		0.000		0.462	Continuing	Continuing	0.000
Subtotal			0.402	0.448		0.462		0.000		0.462			0.000
Remarks													
			Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			30.283	73.020		24.064		0.000		24.064			0.000
Remarks Total Prior Years Cost may include only FY 2009 data.													

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Air Force

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APPROPRIATION/BUDGET ACTIVITY

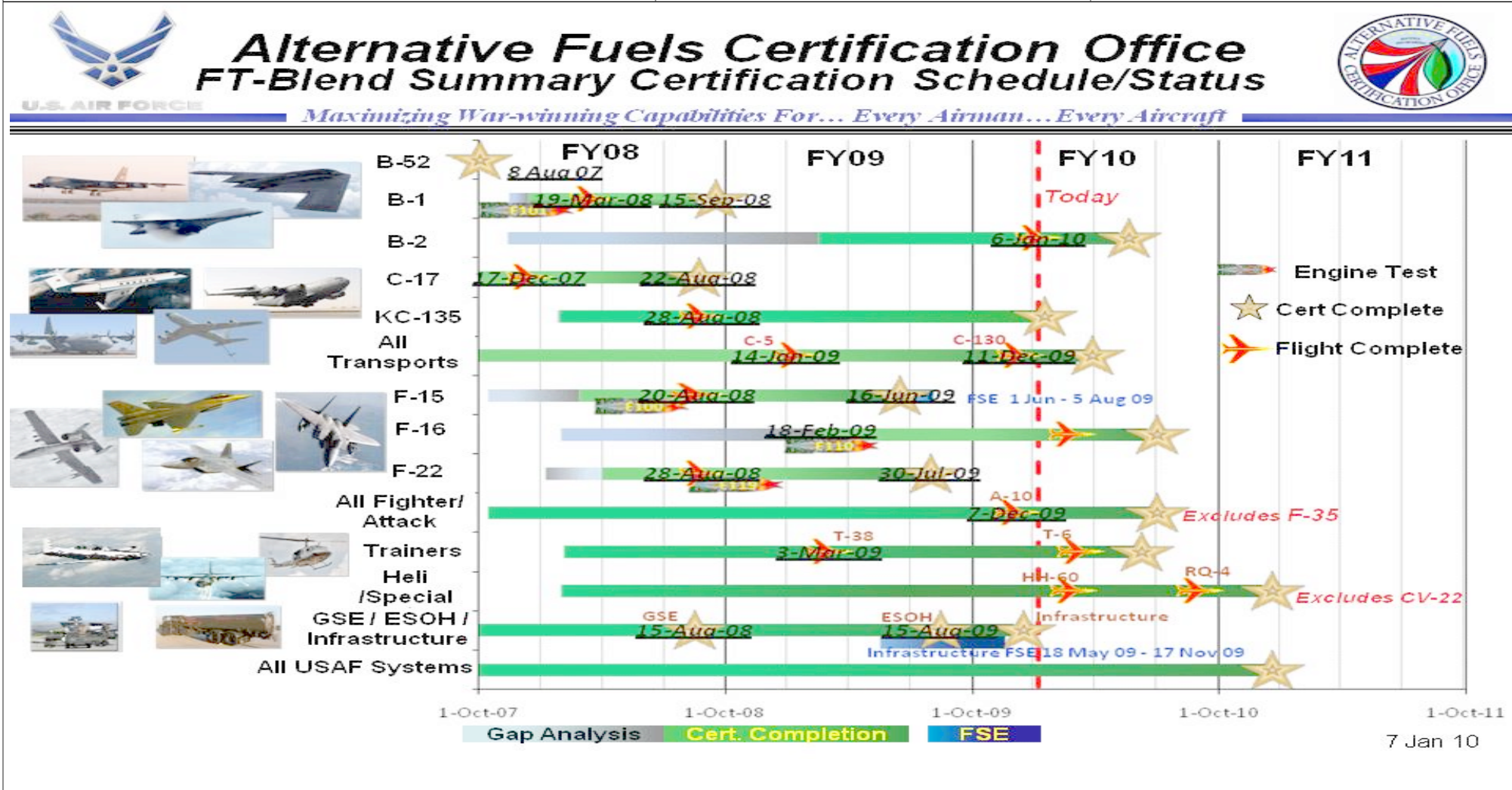
3600: Research, Development, Test & Evaluation, Air Force
BA 4: Advanced Component Development & Prototypes (ACD&P)

R-1 ITEM NOMENCLATURE

PE 0604796F: Alternative Fuels

PROJECT

645287: Assured Fuels



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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 4: Advanced Component Development & Prototypes (ACD&P)

R-1 ITEM NOMENCLATURE

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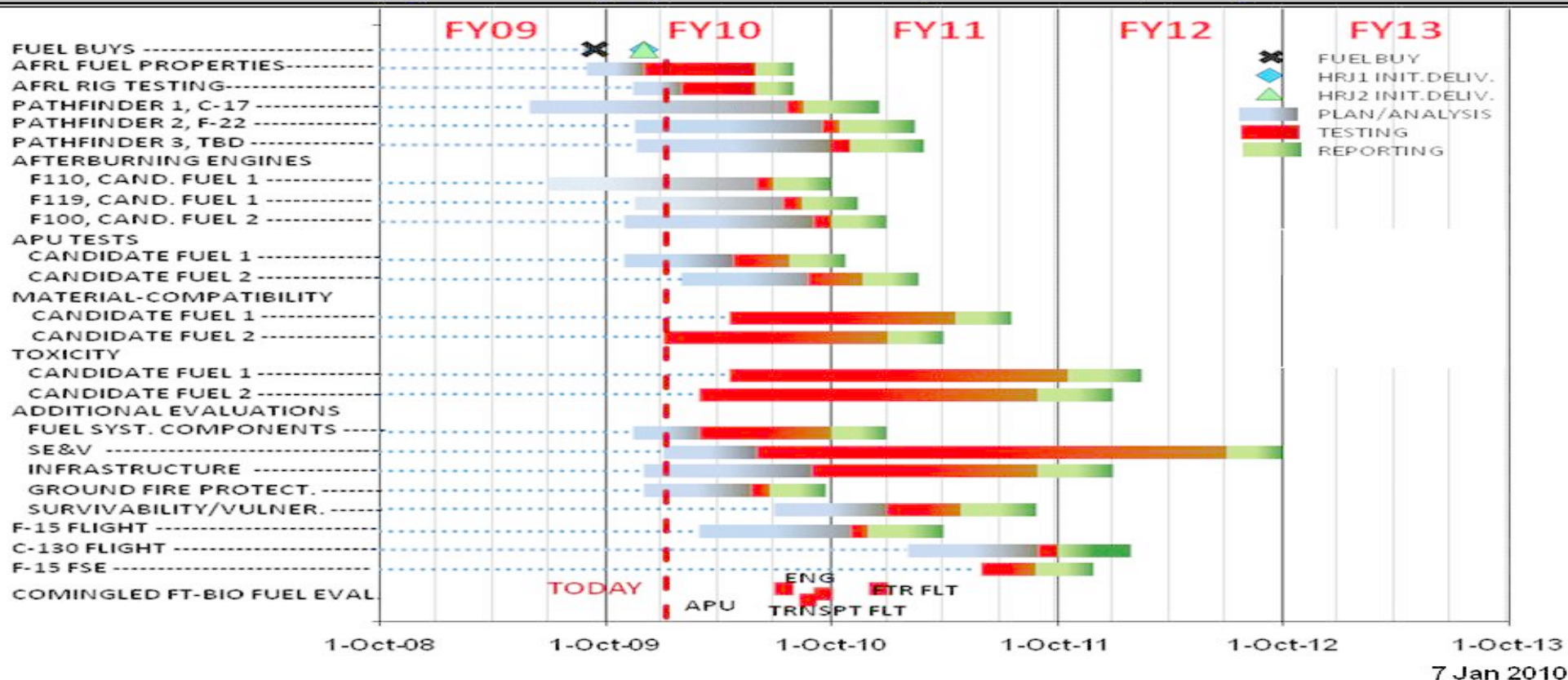
Alternative Fuels Certification Office

Preliminary Hydro-processed Renewable Jet (HRJ) Certification Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Air Force			DATE: February 2010
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Certification Efforts	1	2009	4	2011
Flight Tests	1	2009	4	2011
Engine Tests	1	2009	4	2011

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