CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: **May 2009**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**					R-1 ITEM NOMENCLATURE **0603724N, Navy Energy Program**			
COST ($ in Millions)	FY 2008	FY 2009	FY 2010					
Total PE Cost	**5.968**	**10.263**	**8.476**					
0829 / ENERGY CONSERVATION (ADV)	**3.622**	**3.866**	**3.960**					
0838/ Navy Mobility Fuels (ADV)	**1.574**	**1.709**	**4.516**					
9999 / CONGRESSIONAL ADDS	**0.772**	**4.688**						

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This program supports projects to evaluate, adapt, and demonstrate energy related technologies for Navy aircraft and ship operations to: (a) increase fuel-related weapons systems capabilities such as range and time on station; (b) reduce energy costs; (c) apply energy technologies that improve environmental compliance; (d) relax restrictive fuel specification requirements to reduce cost and increase availability worldwide; (e) provide guidance to fleet operators for the safe use of commercial grade or off-specification fuels when military specification fuels are unavailable or in short supply; and (f) make needed periodic changes to fuel specifications to ensure fuel quality and avoid fleet operating problems. This program supports the achievement of legislated, White House, Department of Defense, and navy energy management goals. It also responds to direction from the Office of the Secretary of Defense, the Secretary of the Navy, and the Chief of Naval Operations to make up-front investment in technologies that reduce future cost of operation and ownership of the fleet and supporting infrastructure.

(U) Project 0829: Energy Conservation: The Fleet Readiness R&D Program is designed to develop and implement energy and maintenance saving improvements into existing Fleet assets. This Fleet driven program, managed through NAVSEA 05N, will identify mature potential energy saving and maintenance improvement areas, by involvement with Life-Cycle Managers (LCMs), NAVSEA Technical Warrant Holders, In-Service Engineering Agents (ISEAs), PEO, and the TMA/TMI community.

(U) Project 0838: Navy Mobility Fuels: This project provides data through laboratory, component, engine and fuel system tests which relate the effects of changes in Navy fuel procurement specification properties and chemistries to the performance and reliability of Naval ship and aircraft engine and fuel systems. This information is required to: (a) develop, validate and execute the test protocols necessary to approve fuels derived from non-petroleum feedstocks ; (b) determine the extent to which unnecessarily restrictive specification features can be relaxed to reduce cost and increase availability worldwide; (c) provide guidance to fleet operators for the safe use of off-specification or commercial grade fuels when military specification fuels are unavailable or in short supply; (d) make needed periodic changes to fuel specifications to ensure fuel quality and avoid fleet operating problems while accommodating evolutionary changes in fuel supply industry and (e) improve the capability to provide fuel quality surveillance in the field. Continued volatility and rapid escalation of the cost of fuel has placed additional pressures on the Navy budgets responsible for maintaining and sustaining the Navy tactical fleet both now and in the future. These pressures have placed an added emphasis on the potential utilization of lower cost commercial fuels and/or fuels derived from non-petroleum sources as a potential means of stabilizing the current and anticipated price volatility. Recent problems with petroleum based fuel quality have demonstrated the adverse affects fuel related problems can have on ship and aircraft system performance, reliability and readiness. While the impacts on readiness, additional maintenance costs, and the cost of lost equipment are often difficult to fully quantify they are often many times the cost of this program. This potential risk of fuel related problems over the next decade, given the unknowns of supply , feedstocks, environmental regulations and the introduction of new theaters of operation will continue to increase.
This project represents the only investment designed to maintain the Navy's ability to operate as a "smart" customer for fuels that cost over $4.0 B per year for procurement, transport, storage and consuming and are essential to fleet operations.

(U) Project 9999: Congressional adds

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification		DATE: **May 2009**
APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY /	**BA-4**	0603724N, Navy Energy Program

B. PROGRAM CHANGE SUMMARY:

Funding:	FY08	FY09	FY10
Presidents Budget 2009	6.020	5.611	5.840
Presidents Budget 2010	5.968	10.263	8.476
Total Adjustments	-0.052	4.652	2.636

Summary of Adjustments			
Congressional Rescissions			
Congressional Adjustments		4.664	
SBIR/STTR/FTT Assessments	-0.044		
Program Adjustments			2.658
Rate/Misc Adjustments	-0.008	-0.012	-0.022
Subtotal	-0.052	4.652	2.636

Schedule:

Not Applicable

Technical:

Not Applicable.

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E Project Justification					DATE **May 2009**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E,N/BA 4**	PROGRAM ELEMENT NUMBER AND NAME 0603724N/NAVY ENERGY PROGRAM				PROJECT NUMBER AND NAME 0829/ENERGY CONSERVATION (ADV)		
COST (In Millions)	FY 2008	FY 2009	FY 2010				
Project Cost	3.622	3.866	3.960				
RDT&E Articles Qty	0	0	0				

ESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Fleet Readiness R&D Program is designed to develop and implement energy and maintenance saving improvements into existing Fleet assets. This Fleet driven program, managed through NAVSEA 05Z, will identify mature potential energy saving and maintenance improvement areas, by involvement with Life-Cycle Managers (LCMs), NAVSEA Technical Warrant Holders, In-Service Engineering Agents (ISEAs), PEO, and the TMA/TMI community. Potential technology target areas will include: Hull Hydrodynamics, Hull Husbandry, Heating, Ventilation & Air Conditioning (HVAC) Systems, Thermal Management, Propulsion Systems, Electrical Systems, and Power Generation and Storage systems. The program directly supports Fleet requirements to reduce energy consumption and lower maintenance costs. The program will focus on research and development across the following major areas:

(U) Hull Hydrodynamic Project(s) - This project area will accomplish prototype development, laboratory and Fleet testing to determine overall mission and cost effectiveness of these improvements.

(U) Hull Husbandry Project(s) - Project funds will be utilized to identify and evaluate new underwater hull coating systems and underwater hull cleaning and maintenance techniques both landbased and shipboard to reduce hydrodynamic drag on the hull and thereby increase fuel efficiency.

(U) HVAC Projects (s) - Project funds will be utitized to accomplish prototype development, land and shipboard testing to determine overall mission and cost effectiveness of these improvements.

(U) Thermal Management Project(s) - Project funds will be utilized to identify and evaluate potential uses for Thermal Management techniques designed to reduce overall shipboard heat generation and reduce the overall need for HVAC.

(U) Propulsion Systems Project(s) - Project funds will be utilized to indentify, perform landbased and ship board testing of ship propulsion system improvements, on Gas Turbine and Diesel Engine systems to reduce overall fuel consumption and lower maintenance costs. (SCD# 1801 - Online Waterwash System for GTM/GTG, SCD# 1808 Power Convervation Management)

(U) Electrical Systems Project(s) - Project funds will be utilized to indentify requirements and perform landbased and ship board testing of ship electrical system improvements, to reduce overall fuel consumption and lower maintenance costs. (SCD# 1817 Variable Speed Drive VSD) for 1000 Gal. Firemain System, (SCD# 1818 VSD-IMP for 2000 Gal. Firepumps)

(U) Power Generation & Storage System Project(s) - This project area will accomplish prototype development, laboratory and Fleet testing to determine overall mission and cost effectiveness of these improvements.

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION		DATE May 2009
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 4**	PROGRAM ELEMENT NUMBER AND NAME **0603724N/NAVY ENERGY PROGRAM**	PROJECT NUMBER AND NAME **0829/ENERGY CONSERVATION (ADV)**

B. ACCOMPLISHMENTS/PLANNED PROGRAM:

	FY 2008	FY 2009	FY 2010
Accomplishments/Effort/Subtotal Cost	0.934	0.975	1.007
RDT&E Articles Quantity	0	0	0

(U) Hull Hydrodynamic Project(s) - This project area will accomplish prototype development, laboratory and Fleet testing to determine overall mission and cost effectiveness of these improvements.

	FY 2008	FY 2009	FY 2010
Accomplishments/Effort/Subtotal Cost	0.387	0.392	0.423
RDT&E Articles Quantity	0	0	0

(U) Hull Husbandry Project(s) - Project funds will be utilized to identify and evaluate new underwater hull coating systems and underwater hull cleaning and maintenance techniques both landbased and shipboard to reduce hydrodynamic drag on the hull and thereby increase fuel efficiency.

	FY 2008	FY 2009	FY 2010
Accomplishments/Effort/Subtotal Cost	0.151	0.191	0.186
RDT&E Articles Quantity	0	0	0

(U) HVAC Projects (s) - Project funds will be utitized to accomplish prototype development, land and shipboard testing to determine overall mission and cost effectiveness of these improvements.

	FY 2008	FY 2009	FY 2010
Accomplishments/Effort/Subtotal Cost	0.188	0.191	0.200
RDT&E Articles Quantity	0	0	0

(U) Thermal Management Project(s) - Project funds will be utilized to identify and evaluate potential uses for Thermal Management techniques designed to reduce overall shipboard heat generation and reduce the overall need for HVAC.

	FY 2008	FY 2009	FY 2010
Accomplishments/Effort/Subtotal Cost	1.119	1.172	1.166
RDT&E Articles Quantity	0	0	0

(U) Propulsion Systems Project(s) - Projects funds will be utilized to indentify, perform landbased and ship board testing of ship propulsion system improvements, on Gas Turbine and Diesel Engine systems to reduce overall fuel consumption and lower maintenance costs. (SCD# 1801 - Online Waterwash System for GTM/GTG, SCD# 1808 Power Conservation Management)

	FY 2008	FY 2009	FY 2010
Accomplishments/Effort/Subtotal Cost	0.655	0.753	0.776
RDT&E Articles Quantity	0	0	0

(U) Electrical Systems Project(s) - Projects funds will be utilized to indentify, perform landbased and ship board testing of ship electrical system improvements, to reduce overall fuel consumption and lower maintenance costs. (SCD# 1817 Variable Speed Drive VSD) for 1000 Gal. Firemain System, (SCD# 1818 VSD-IMP for 2000 Gal. Firepumps)

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-2a, RDT&E PROJECT JUSTIFICATION (CONTINUATION)		DATE May 2009
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 4**	PROGRAM ELEMENT NUMBER AND NAME **0603724N/NAVY ENERGY PROGRAM**	PROJECT NUMBER AND NAME **0829/ENERGY CONSERVATION (ADV)**

	FY 2008	FY 2009	FY 2010
Accomplishments/Effort/Subtotal Cost	0.188	0.192	0.202
RDT&E Articles Quantity	0	0	0

(U) Power Generation & Storage System Project(s) - This project area will accomplish prototype development, laboratory and Fleet testing to determine overall mission and cost effectiveness of these improvements.

C. OTHER PROGRAM FUNDING SUMMARY:

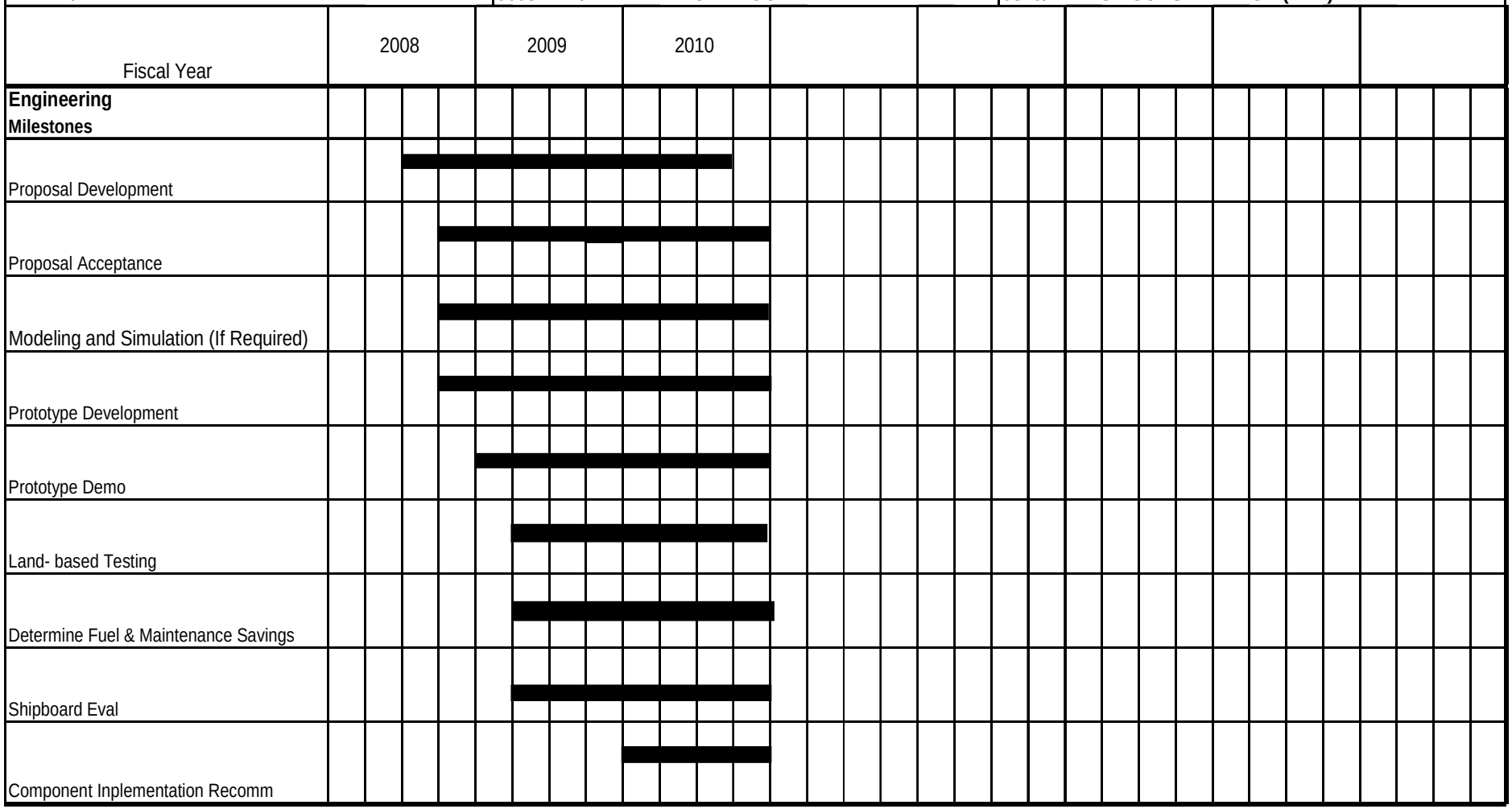
Line Item No. and Name	FY 2008	FY 2009	FY 2010
N/A			

D. ACQUISITION STRATEGY:

This is a non acquisition program that develops, evaluates, and validates mature technologies in support of Fleet fuel and maintenance savings.

CLASSIFICATION:	UNCLASSIFIED								
EXHIBIT R-3, RDT&E PROJECT COST ANALYSIS							DATE May 2009		
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 4**		PROGRAM ELEMENT NUMBER AND NAME **0603724N/NAVY ENERGY PROGRAM**			PROJECT NUMBER AND NAME **0829/ENERGY CONSERVATION (ADV)**				
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY Cost ($000)	FY 2009 Cost ($000)	FY 2009 Award Date	FY 2010 Cost ($000)	FY 2010 Award Date		
Primary Hardware Development	WR	NSWC, Carderock/Bethesda, MD	0.374	0.387	VAR	0.399	VAR		
Systems Engineering	WR	NSWC, Carderock/Bethesda, MD	0.374	0.382	VAR	0.403	VAR		
Engineering Development	WR	NSWC, Carderock/Bethesda, MD	0.671	0.77	VAR	0.757	VAR		
Demonstration & Evaluation	WR	NSWC, Carderock/Bethesda, MD	0.709	0.763	VAR	0.786	VAR		
Subtotal Product Development			**2.128**	**2.302**		**2.345**			
Remarks:									
Subtotal Support Costs			**0.000**	**0.000**		**0.000**			
Remarks:									
Developmental Test & Evaluation	WR	NSWC, Carderock/Bethesda, MD	0.747	0.783	VAR	0.801	VAR		
Operational Test & Evaluation	WR	NSWC, Carderock/Bethesda, MD	0.187	0.195	VAR	0.201	VAR		
Live Fire Test & Evaluation	WR	NSWC, Carderock/Bethesda, MD	0.187	0.195	VAR	0.210	VAR		
Subtotal Test and Evaluation			**1.121**	**1.173**		**1.212**			
Remarks:									
Program Management Support	WR	NSWC, Carderock/Bethesda, MD	0.261	0.275	VAR	0.283	VAR		
Travel	ALLOT	NAVSEA/Washington, DC	0.037	0.039	VAR	0.041	VAR		
Test Assets	WR	NSWC, Carderock/Bethesda, MD	0.075	0.077	VAR	0.079	VAR		
Subtotal Management Services			**0.373**	**0.391**		**0.403**			
Remarks:									
Total Cost			**3.622**	**3.866**		**3.960**			

CLASSIFICATION:	UNCLASSIFIED	
EXHIBIT R-4, SCHEDULE PROFILE		DATE May 2009
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 4**	PROGRAM ELEMENT NUMBER AND NAME **0603724N/NAVY ENERGY PROGRAM**	PROJECT NUMBER AND NAME **0829/ENERGY CONSERVATION (ADV)**



CLASSIFICATION:	UNCLASSIFIED		
EXHIBIT R-4a, SCHEDULE DETAIL			DATE May 2009
APPROPRIATION/BUDGET ACTIVITY **RDTEN/BA 4**	PROGRAM ELEMENT NUMBER AND NAME **0603724N/NAVY ENERGY PROGRAM**		PROJECT NUMBER AND NAME **0829/ENERGY CONSERVATION (ADV)**

Schedule Profile	FY 2008	FY 2009	FY 2010
PROPOSAL DEVELOPMENT	3Q-4Q	1Q-3Q	1Q-3Q
PROPOSAL ACCEPTANCE	4Q	1Q-4Q	1Q-4Q
MODELING AND SIMULATION	4Q	1Q-4Q	1Q-4Q
PROTOTYPE DEVELOPMENT	4Q	1Q-4Q	1Q-4Q
PROTOTYPE DEMONSTRATION		1Q-4Q	1Q-4Q
LAND-BASED TESTING		2Q-4Q	1Q-4Q
DETERMINE FUEL & MAINTENANCE SAVINGS		2Q-4Q	1Q-4Q
SHIPBOARD EVALUATION		2Q-4Q	1Q-4Q
COMPONENT IMPLEMENTATION RECOMMEND			1Q-4Q

CLASSIFICATION:	UNCLASSIFIED						
EXHIBIT R-2a, RDT&E Project Justification					DATE **May 2009**		
APPROPRIATION/BUDGET ACTIVITY **RDT&E,N/BA 4**	PROGRAM ELEMENT NUMBER AND NAME 0603724N/NAVY ENERGY PROGRAM				PROJECT NUMBER AND NAME 0829/ENERGY CONSERVATION (ADV)		
COST (In Millions)	FY 2008	FY 2009	FY 2010				
Project Cost	1.574	1.709	4.516				
RDT&E Articles Qty	0	0	0				
ESCRIPTION AND BUDGET ITEM JUSTIFICATION:							

Aircraft Fuels
Perform development, test and evaluation work on Naval aircraft fuels to: a) determine the extent to which unnecessarily restrictive specification features can be relaxed to reduce cost and increase availability worldwide; b) provide guidance and approval to fleet operators for the safe use of military aircraft that include new additives or are derived from non-petroleum sources ; c) make needed periodic changes to the fuel specifications to ensure fuel quality and avoid fleet operating problems while accommodating evolutionary changes in the fuel supply industry and d) improve fleet methods to ensure fuel quality.

Ship Fuels
Performs development, test and evaluation work on Naval ship propulsion fuels to: a) determine the extent to which unnecessarily restrictive specification features can be relaxed to reduce cost and increase availability worldwide; b) provide guidance to fleet operators for the safe use of off-specification or commercial grade fuels when military fuels are unavailable or in limited supply; and c) make needed periodic changes to fuel specifications to ensure fuel quality and avoid fleet operating problems while accommodating evolutionary changes in the fuel supply industry including fuel derived from non-petroleum sources.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **May 2009**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-4	0603724N, Navy Energy Program	0838, Mobility Fuels (ADV)

B. Accomplishments/Planned Program

Aircraft Fuels	FY 08	FY 09	FY 10	
Accomplishments/Effort/Subtotal Cost	0.765	0.869	2.257	
RDT&E Articles Quantity				

Aircraft Fuels
Perform development, test and evaluation work on Naval aircraft fuels to: a) determine the extent to which unnecessarily restrictive specification features can be relaxed to reduce cost and increase availability worldwide; b) provide guidance and approval to fleet operators for the safe use of military aircraft that include new additives or are derived from non-petroleum sources ; c) make needed periodic changes to the fuel specifications to ensure fuel quality and avoid fleet operating problems while accommodating evolutionary changes in the fuel supply industry and d) improve fleet methods to ensure fuel quality.

FY 2008 Plans:
Continue development of an equipment/fuel qualification procedure to evaluate and approve alternative fuels. Continue development of shipboard-based sensors and instruments to rapidly determine critical jet fuel properties. Field trial Portable and benchtop fuel contamination detector.

FY 2009 Plans:
Continue development of equipment/fuel qualification protocol to evaluate and approve alternative fuels. Continue development and test prototype of multi-property shipboard-based sensors and instruments to rapidly determine critical jet fuel properties.

FY 2010 Plans: Complete development of Navy qualification protocol to evaluate and approve alternative fuels. Transition multi-property shipboard-based sensors and instruments to rapidly determine critical jet fuel properties. Initiate development dual compatible (ship and aircraft) lubricity improving additive.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **May 2009**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-4	0603724N, Navy Energy Program	0838, Mobility Fuels (ADV)

B. Accomplishments/Planned Program (Cont.)

Ship Fuels	FY 08	FY 09	FY 10	
Accomplishments/Effort/Subtotal Cost	0.809	0.840	2.259	
RDT&E Articles Quantity				

Ship Fuels
Performs development, test and evaluation work on Naval ship propulsion fuels to: a) determine the extent to which unnecessarily restrictive specification features can be relaxed to reduce cost and increase availability worldwide; b) provide guidance to fleet operators for the safe use of off-specification or commercial grade fuels when military fuels are unavailable or in limited supply; and c) make needed periodic changes to fuel specifications to ensure fuel quality and avoid fleet operating problems while accommodating evolutionary changes in the fuel supply industry including fuel derived from non-petroleum sources.

FY 2008 Plans:
Complete feasibility study of specifying JP-5 as the Single Fuel At-Sea for use by all Naval Systems (ships, aircraft and ground equipment). Continue development of a qualification procedure to evaluate and approve utilization of synthetic and ultra-clean, low sulfur ship fuels. Continue development of shipboard-based sensors and instruments to rapidly determine critical ship fuel properties. Complete evaluation of impact of increased utilization of commercial specification fuels.

FY 2009 Plans:
Continue development of a qualification procedure to evaluate and approve utilization of synthetic and ultra-clean, low sulfur ship fuels. Complete development of shipboard-based sensors and instruments to rapidly determine critical ship fuel properties. Continue review of the F-76 ship distillate fuel specification and test requirements evaluation to remove any unnecessary requirements to increase availability.

FY2010 Plans: Continue development of Navy protocol to evaluate and approve alternative fuels. Test shipboard-based sensors to rapidly determine critical fuel properties. Initiate development dual compatible (ship and aircraft) lubricity improving additive.

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: **May 2009**	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-4	0603724N, Navy Energy Program	0838, Mobility Fuels (ADV)	

C. OTHER PROGRAM FUNDING SUMMARY:

Line Item No. & Name	FY 2008	FY 2009	FY 2010

Not Applicable

D. ACQUISITION STRATEGY:

Not Applicable

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)												DATE: **May 2009**
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**			PROGRAM ELEMENT 0603724N, Navy Energy Program			PROJECT NUMBER AND NAME 0838, Mobility Fuels (ADV)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date					Target Value of Contract
Primary Hardware Development												
Ancillary Hardware Development												
Aircraft Integration												
Ship Integration												
Ship Suitability												
Systems Engineering	WX	NRL, WASHINGTON, DC	0.350			0.200	10/09					
Systems Engineering	WX	NAWCAD, PAX RIVER	3.000	0.800	10/08	0.800	10/09					
Licenses												
Tooling												
GFE												
Award Fees												
Subtotal Product Development			3.350	0.800		1.000						
Remarks:												
Development Support												
Software Development												
Integrated Logistics Support												
Configuration Management												
Technical Data												
Studies & Analyses												
GFE												
Award Fees												
Subtotal Support			0.000	0.000		0.000						
Remarks:												

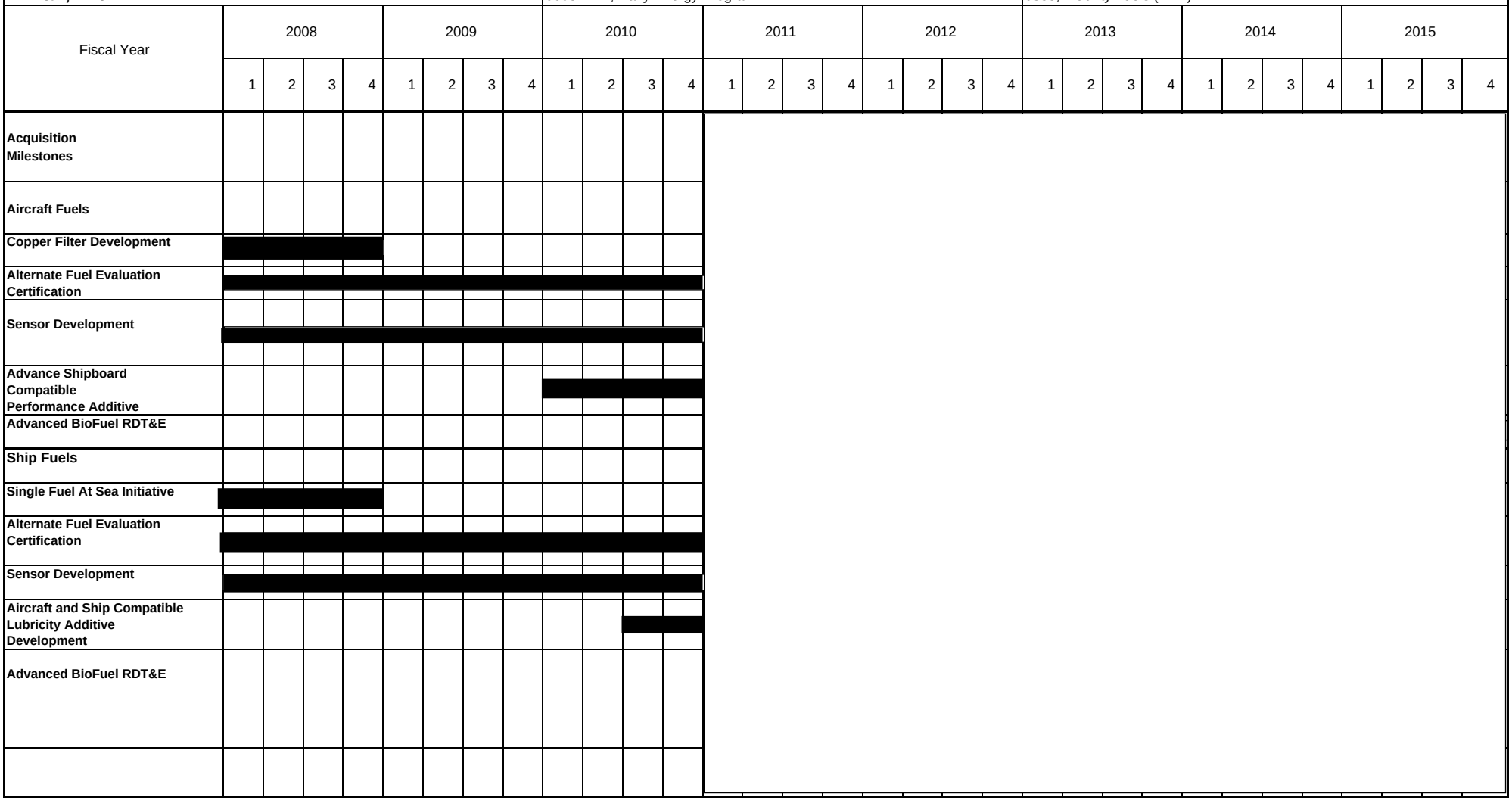
CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)						DATE: **May 2009**						
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**			PROGRAM ELEMENT 0603724N, Navy Energy Program			PROJECT NUMBER AND NAME 0838, Mobility Fuels (ADV)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 09 Cost	FY 09 Award Date	FY 10 Cost	FY 10 Award Date					
Developmental Test & Evaluation	Various	Various	2.447	0.078	Various	1.894	Various					
Developmental Test & Evaluation	MIPR	Army Tank & Armaments Warren, MN	0.228									
Live Fire Test & Evaluation												
Test Assets												
Tooling												
GFE												
Award Fees												
Subtotal T&E			2.675	0.078		1.894						
Contractor Engineering Support												
Program Management Support	Various	Various	2.420	0.831	Various	1.622	Various					
Program Management Support	MIPR	Southwest Res Instit., San Antonio, TX	0.696									
Travel												
Transportation												
SBIR Assessment												
Subtotal Management			3.116	0.831		1.622						
Total Cost			9.141	1.709		4.516						

EXHIBIT R4, Schedule Profile

DATE: **May 2009**

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-4	0603724N, Navy Energy Program	0838, Mobility Fuels (ADV)



CLASSIFICATION:

Exhibit R-4a, Schedule Detail							DATE: **May 2009**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA 4**	PROGRAM ELEMENT 0603724N, Navy Energy Program				PROJECT NUMBER AND NAME 0838, Mobility Fuels (ADV)			
Schedule Profile	FY 2008	FY 2009	FY 2010					
Aircraft Fuels								
Copper Removing Filter Development	1Q-4Q							
Alternate Fuel Evaluation/Certification	1Q-4Q	1Q-4Q	1Q-4Q					
Sensor Development	1Q-4Q	1Q-4Q	1Q-4Q					
Advance Shipboard Compatible Performance Additive			1Q-4Q					
Advanced BioFuel RDT&E								
Ship Fuels								
Single Fuel At Sea Initiative	1Q-4Q							
Alternate Fuel Evaluation/Certification	1Q-4Q	1Q-4Q	1Q-4Q					
Sensor Development	1Q-4Q	1Q-4Q	1Q-4Q					
Aircraft and Ship Compatible Lubricity Additive Development			3Q-4Q					
Advanced BioFuel RDT&E								

CLASSIFICATION: UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification							DATE: **MAY 2009**	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**	PROGRAM ELEMENT NUMBER AND NAME 0603724N/NAVY ENERGY PROGRAM				PROJECT NUMBER AND NAME 9999 CONGRESSIONAL ADDS			
COST ($ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Project Cost	**0.772**	**4.688**						
RDT&E Articles Qty								

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Congressional Add:
Hydrogen Fuel Cell Development
Ocean Thermal Energy
The Molten Carbonate Fuel Cell Demonstration

CLASSIFICATION: UNCLASSIFIED

EXHIBIT R-2a, RDT&E Project Justification			DATE: **MAY 2009**
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME	
RDT&E, N / BA-4	0603724N/NAVY ENERGY PROGRAM	9999 CONGRESSIONAL ADDS	

B. Accomplishments/Planned Program

Hydrogen Fuel Cell Development	FY 08	FY 09		
Accomplishments/Effort/Subtotal Cost		1.197		
RDT&E Articles Quantity				

The Hydrogen Fuel Cell Development project will transfer a microfiber fuel cell technology's manufacturing process from a research and development level to a manufacturing environment and evaluate various parameters including production speed and product quality. Development and scale up of extrustion process to verify high speed production capability. Optimization of current Unicell production processes to meet manufacturing level production of extrusion process. Optimization and scale-up of fuel cell system production processes.

The Molten Carbonate Fuel Cell Dem	FY 08	FY 09	FY 10	
Accomplishments/Effort/Subtotal Cost		3.491		
RDT&E Articles Quantity				

The Molten Carbonate Fuel Cell Demo. is a turn-key project is to test and evaluate the operation and performance of a molten carbonate fuel cell (MCFC) power system integrated with the XX system at Submarine Base, located at Groton, CT to provide base load power. The key performance objective of the proposed program is to manufacture, install, commission, operate and maintain a 300 kilowatt (KW) MCFC power system at Submarine Base, located at Groton, CT. Selected operational parameters will be monitored, recorded, analyzed, and reported over a time period of 36 months. The Government may exercise an option or options to increase the installed capacity to 1 megawatt (MW).

OCEAN THERMAL ENERGY	FY 08	FY 09	FY 10	
Accomplishments/Effort/Subtotal Cost	0.772			
RDT&E Articles Quantity				

Ocean Thermal Energy Conversion to produce liquid hydrocarbon fuels from sea water.