Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*				R-1 ITEM NOMENCLATURE PE 0305178F: *National Polar-Orbiting Op Env Satellite*							
COST ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**Cost To Complete**	**Total Cost**
Total Program Element	394.986	325.505	444.900	-	444.900	526.785	515.609	423.723	417.942	Continuing	Continuing
644056: *National Polar-orbiting Operational Env. Sat. Syst.*	394.986	325.505	444.900	-	444.900	526.785	515.609	423.723	417.942	Continuing	Continuing

Note

The program funding includes overhead reduction efficiencies that are not intended to impact program content. The efficiencies reductions total $179.701M in FY12.

Starting in the FY12 year of execution, DWSS funds will be transferred to a new PE (0305187F, Defense Weather Satellite System).

Totals include funding for PRCP Program Number 239, NPOESS.

A. Mission Description and Budget Item Justification

Presidential Decision Directive/National Science and Technology Council-2 (PDD/NCTC-2) (May 1994) directed the DoD, Department of Commerce (DOC), and the National Aeronautics and Space Administration (NASA) to establish a converged national polar-orbiting weather satellite program. The converged program, the National Polar-orbiting Operational Environmental Satellite System (NPOESS), combined the follow-on to DoD's Defense Meteorological Satellite System (DMSP) and the DOC's Polar-orbiting Operational Environmental Satellite (POES) program.

On 1 February 2010, the Executive Office of the President announced a restructure of the NPOESS program which directed the acquisition and development of separate military and civil weather satellite programs. The Air Force will acquire the Defense Weather Satellite System (DWSS) to satisfy military weather requirements. The National Oceanographic and Atmospheric Administration (NOAA) will acquire the Joint Polar Satellite System (JPSS) and shared common ground system to address civil weather and environmental requirements. The DWSS system will produce environmental data records for regional/global meteorological, oceanographic, environmental, and climatic data, and will provide space environmental remote sensing information. DWSS will enable the anticipation and exploitation of atmospheric and space environment conditions for military operations planning. DWSS data will also be instrumental to civilian weather forecasters as they work to improve climate forecasting and severe weather modeling and prediction, reducing the potential for loss of civilian life and property.

The DWSS program will satisfy DoD's environmental monitoring requirements in the early morning orbit by developing and launching two satellites [flight-1 (F1) and flight-2 (F2)], each with a Visible Infrared Imager Radiometer Suite (VIIRS), Space Environment Monitor (SEM-N), and Microwave Imager/Sounder (MIS) sensor suite with an initial launch capability no earlier than 2018.

RDT&E funds through FY 2010 were used to develop and acquire the VIIRS, Cross-track Infrared Sounder (CrIS), and the Ozone Mapping and Profile Suite (OMPS) sensors for the NPOESS Preparatory Project (NPP) and the first two NPOESS Satellites (C-1 and C-2).

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0305178F: *National Polar-Orbiting Op Env Satellite*

RDT&E funds in FY 2011 were used for early development of the two DWSS satellites, contract restructure efforts, and continued transition of non-DoD payloads to NASA/NOAA for JPSS.

RDT&E funds in FY 2012 will be used to begin redesign of the NPOESS spacecraft bus to a smaller and lighter version for DWSS. In addition, FY12 funding will allow for continued development of the VIIRS and MIS sensors, spacecraft and sensor subsystems and materials, algorithms, and DoD-specific elements of the common ground system. FY12 RDT&E funding will also support DWSS Program risk reduction by providing the capability to route Defense Meteorological Satellite Program (DMSP) mission data through the DWSS ground system at McMurdo Station, Antarctica. The DWSS program includes development of two satellites and will not utilize procurement funding starting in FY12.

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	394.986	325.505	226.283	-	226.283
Current President's Budget	394.986	325.505	444.900	-	444.900
Total Adjustments	-	-	218.617	-	218.617
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	218.617	-	218.617

Change Summary Explanation

NPOESS restructure continued in FY11 for the DWSS follow-on program. FY12 adjustment reflects initial DWSS cost estimate which was completed in October 2010.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0305178F: *National Polar-Orbiting Op Env Satellite*	PROJECT 644056: *National Polar-orbiting Operational Env. Sat. Syst.*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
644056: *National Polar-orbiting Operational Env. Sat. Syst.*	394.986	325.505	444.900	-	444.900	526.785	515.609	423.723	417.942	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

Totals include funding for PRCP program number 239, NPOESS.

The FY 2012 request reflects the February 2010 Executive Office of the President (EOP) decision to restructure the NPOESS program. The EOP restructure directed that DoD is responsible for the early morning orbit, and the Department of Commerce (DOC), with NASA as their acquisition agent, is responsible for the afternoon orbit. In June 2010, OSD designated the DoD portion of the NPOESS program as the Defense Weather Satellite System (DWSS).

The DWSS program does not have procurement funding starting in FY 2012. In the FY 2011 year of execution, DWSS funds will be transferred to a new PE (0305187F, Defense Weather Satellite System).

The program funding includes reductions for Overhead Reduction Efficiencies that are not intended to impact program content. The efficiencies reductions total $179.701M in FY12.

A. Mission Description and Budget Item Justification

Presidential Decision Directive/National Science and Technology Council-2 (PDD/NCTC-2) (May 1994) directed the DoD, Department of Commerce (DOC), and the National Aeronautics and Space Administration (NASA) to establish a converged national polar-orbiting weather satellite program. The converged program, the National Polar-orbiting Operational Environmental Satellite System (NPOESS), combined the follow-on to DoD's Defense Meteorological Satellite System (DMSP) and the DOC's Polar-orbiting Operational Environmental Satellite (POES) program.

On 1 February 2010, the Executive Office of the President announced a restructure of the NPOESS program which directed the acquisition and development of separate military and civil weather satellite programs. The Air Force will acquire the Defense Weather Satellite System (DWSS) to satisfy military weather requirements. The National Oceanographic and Atmospheric Administration (NOAA) will acquire the Joint Polar Satellite System (JPSS) and shared common ground system to address civil weather and environmental requirements. The DWSS system will produce environmental data records for regional/global meteorological, oceanographic, environmental, and climatic data, and will provide space environmental remote sensing information. DWSS will enable the anticipation and exploitation of atmospheric and space environment conditions for military operations planning. DWSS data will also be instrumental to civilian weather forecasters as they work to improve climate forecasting and severe weather modeling and prediction, reducing the potential for loss of civilian life and property.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0305178F: *National Polar-Orbiting Op Env Satellite*	**PROJECT** 644056: *National Polar-orbiting Operational Env. Sat. Syst.*

The DWSS program will satisfy DoD's environmental monitoring requirements in the early morning orbit by developing and launching two satellites [flight-1 (F1) and flight-2 (F2)], each with a Visible Infrared Imager Radiometer Suite (VIIRS), Space Environment Monitor (SEM-N), and Microwave Imager/Sounder (MIS) sensor suite with an initial launch capability no earlier than 2018.

RDT&E funds through FY 2010 were used to develop and acquire the VIIRS, Cross-track Infrared Sounder (CrIS), and the Ozone Mapping and Profile Suite (OMPS) sensors for the NPOESS Preparatory Project (NPP) and the first two NPOESS Satellites (C-1 and C-2).

RDT&E funds in FY 2011 were used for early development of the two DWSS satellites, contract restructure efforts, and continued transition of non-DoD payloads to NASA/NOAA for JPSS.

RDT&E funds in FY 2012 will be used to begin redesign of the NPOESS spacecraft bus to a smaller and lighter version for DWSS. In addition, FY12 funding will allow for continued development of the VIIRS and MIS sensors, spacecraft and sensor subsystems and materials, algorithms, and DoD-specific elements of the common ground system. FY12 RDT&E funding will also support DWSS Program risk reduction by providing the capability to route Defense Meteorological Satellite Program (DMSP) mission data through the DWSS ground system at McMurdo Station, Antarctica. The DWSS program includes development of two satellites and will not utilize procurement funding starting in FY12.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: DWSS	394.986	325.505	444.900	-	444.900
Description: Develop and acquire DWSS satellites and sensors, fund development of DoD-specific elements within the common ground system, and develop algorithms.					
FY 2010 Accomplishments: Continued development of NPOESS Preparatory Project (NPP) and support. Additionally, used funds to begin implementation of the Presidential decision to restructure NPOESS.					
FY 2011 Plans: Began contract restructure and early development of DWSS. Continued transition of non-DoD payloads to NASA/ NOAA for JPSS.					
FY 2012 Base Plans: Continue development and acquisition of DWSS satellites and sensors, fund development of DoD-specific elements within the common ground system, develop algorithms, and utilize the McMurdo communication system for data processing risk reduction.					
FY 2012 OCO Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0305178F: *National Polar-Orbiting Op Env Satellite*	PROJECT 644056: *National Polar-orbiting Operational Env. Sat. Syst.*

B. Accomplishments/Planned Programs ($ in Millions)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Not applicable					
Accomplishments/Planned Programs Subtotals	394.986	325.505	444.900	-	444.900

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• PE 0305178F: *NPOESS MPAF*	3.889	26.308	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

The acquisition strategy for the Defense Weather Satellite System (DWSS) is in the process of being finalized. Known components include a restructured prime contract for two spacecraft with a DoD payload complement and an initial launch capability no earlier than 2018.

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0305178F: *National Polar-Orbiting Op Env Satellite*	PROJECT 644056: *National Polar-orbiting Operational Env. Sat. Syst.*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DWSS Development and System Integration	C/TBD	Northrop Grumman:Redondo Beach, CA	351.726	233.505	Nov 2010	311.900		-		311.900	Continuing	Continuing	0.000
GFE Sensor Development	MIPR	Naval Research Lab and Johns Hopkins Applied Physics Lab:Laurel, MD & Wash, DC,	31.448	40.000		79.000		-		79.000	Continuing	Continuing	0.000
Common Ground/Algorithm Development	MIPR	TBD:TBD,	-	10.000		11.000		-		11.000	Continuing	Continuing	0.000
		Subtotal	383.174	283.505		401.900		-		401.900			0.000

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Program Office (SPO) Support	Various	Support:El Segundo, CA	11.812	42.000	Nov 2010	43.000		-		43.000	Continuing	Continuing	0.000
		Subtotal	11.812	42.000		43.000		-		43.000			0.000

Remarks

FY10 support figures do not include DOC contribution to IPO support.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-	0.000	0.000	0.000

Remarks

Included in IPO Support for FY12 and out.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0305178F: *National Polar-Orbiting Op Env Satellite*	PROJECT 644056: *National Polar-orbiting Operational Env. Sat. Syst.*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-	0.000	0.000	0.000

Remarks

Included in IPO Support for FY12 and out.

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	394.986	325.505		444.900		-		444.900			0.000

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0305178F: *National Polar-Orbiting Op Env Satellite*	**PROJECT** 644056: *National Polar-orbiting Operational Env. Sat. Syst.*

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0305178F: *National Polar-Orbiting Op Env Satellite*	**PROJECT** 644056: *National Polar-orbiting Operational Env. Sat. Syst.*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Visible Infrared Imager Radiometer Suite (VIIRS) for DWSS F1	2	2011	4	2015
Microwave Sensor for DWSS F1	2	2011	4	2016
Space Environmental Monitor (SEM-N) for DWSS F1	1	2013	4	2015
Delta Preliminary Design Review	2	2012	2	2012
Early Electrical Power Subsystem and Attitude Control Subsytem Electrical Engineering Model Testbed (EEMTB)	1	2012	1	2014
DWSS Critical Design Reviews (CDR)	3	2012	4	2013
DWSS F1 Unit and Spacecraft Bus Manufacturing	1	2012	3	2016
DWSS F1 Spacecraft Integration	3	2016	4	2016