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BMDO RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)	DATE June 2001
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BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603876C Intelligence Program
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COST <i>(In Thousands)</i>	FY2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY2005 Estimate	FY2006 Estimate	FY2007 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	21575	22414								
3155 Systems Engineering and Integration	0	9692								
3270 Threat and Countermeasures Program	21575	12722								

The BMD Program and resulting FY02 President's Budget request has been developed based on revised Secretary of Defense direction to develop capabilities to defend against the missile threat and sustain appropriate deterrence levels. Beginning in FY02, funding from this Program Element is moved to the Ballistic Missile Defense (BMD) System Program Element 0603880C to facilitate BMD system capability evolution, allow timely responses and reactions to changes in the BMD program, and provide the programmatic agility to mitigate unforeseen consequences.

A. Mission Description and Budget Item Justification

The purpose of this Intelligence program is to define potential adversary military force missile threats. The program consists of two component tasks: Intelligence Program and Intelligence Applications. A new Program Element (PE) was consolidated under project 3155. This provision calls for the establishment of a PE to be referred as the "Systems Engineering and Integration Program." The purpose of this program is to assist TMD and NMD acquisition program offices in developing ballistic missile defense systems that are robust to potential countermeasures and are practical and within the means of anticipated adversaries.

<u>B. Program Change Summary</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>
Previous President's Budget (<u>FY 2001</u> PB)	21002	22293		
Appropriated Value		22621		
Adjustments to Appropriated Value		-207		
a. OSD Inflation Adjustment				
b. Internal Reprogramming		573		
Adjustments to Budget Years Since <u>FY 2001</u> PB				
Current Budget Submit (<u>FY 2002</u> PB)	21575	22414		

Change Summary Explanation:
 Funding: Funding adjustments made to support revisions in TMD core program schedules and requirements. Beginning in FY02, funding from this PE is moved to the BMD System Program Element 0603880C.
 Schedule: None
 Technical: None

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BUDGET ACTIVITY 4 - Demonstration and Validation				PE NUMBER AND TITLE 0603876C Intelligence Program				PROJECT 3155		
COST <i>(In Thousands)</i>	FY2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY2005 Estimate	FY2006 Estimate	FY2007 Estimate	Cost to Complete	Total Cost
3155 Systems Engineering and Integration	0	9692								
<p>A. <u>Mission Description and Budget Item Justification</u></p> <p>This program is part of the System Engineering and Integration project. BMDO has realigned Systems Engineering functional tasks, previously accomplished under a number of projects. In this PE, Threat Systems Engineering activities are consolidated under this project 3155. This Program Element contains only the Threat Systems Engineering Program. A more complete description of the overall System Engineering and Integration project, can be found in the Mission Description for project 3155 in Program Element 0603873C, Family of Systems E & I and Program Element 0603874C, BMD Technical Operations.</p> <p>The BMDO Threat Systems Engineering Program assists TMD and NMD acquisition program offices in developing ballistic missile defense systems that are robust to potential countermeasures and are practical and within the means of anticipated adversaries. Included in this mission are Countermeasures Integration Program (CMIP) support to the TMD and NMD threat development process and advance warning to BMDO system designers. The BMDO CMIP reviews TMD and NMD systems for susceptibilities and identifies potential countermeasures, determines credibility through analyses and tests, characterizes credible countermeasures by providing designs and performance parameters, informs intelligence and system threat developers of potential countermeasures, informs TMD and NMD system designers with advance warning of potential countermeasures, and assists TMD and NMD system designers in developing counter-countermeasures. Providing vulnerability and susceptibility information, or "threat risk assessments", to the system designers early on enables them to build robustness into their designs during the early stages of the system development process, a cost-effective means for providing a flexible high-performance design. The program takes a "rest-of-world" perspective in developing credible, potential countermeasures.</p> <p>FY 2000 Accomplishments:</p> <ul style="list-style-type: none"> • <p>Total 0</p> <p>FY 2001 Planned Program:</p> <ul style="list-style-type: none"> • 1130 Analyze to Threat/Capability based Threat development • 1790 Threat Risk Assessment • 2092 Provide Red Team Leadership and support for BMD related working group and Study Teams • 3670 Experiments and CHOP missions • 1010 DTT Baseline maintenance and update <p>Total 9692</p>										
Project 3155			<i>Page 2 of 8 Pages</i>				Exhibit R-2A (PE 0603876C)			

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B. Other Program Funding Summary	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>To Compl</u>	<u>Total Cost</u>
3155 System Engineering and Integration, PE 0603872C	47144									
3155 Systems Engineering and Integration, PE 0603873C	60700	49289								
3155 Systems Engineering and Integration, PE 0603874C		23574								
3155 Systems Engineering and Integration, PE 0603877C										
3155 System Engineering and Integration, PE 0208864C		3938								

C. Acquisition Strategy: The 3155 Project acquisition strategy leverages existing system acquisition programs (which are subject to milestone decisions and testing) and accomplishes supporting tasks to satisfy Systems Engineering performance requirements. A portion of this project entails systems engineering of separately funded and managed service programs so that all systems will interoperate when fielded.

D. Schedule Profile	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
Threat Risk Assessments		X						
Support the CHOP missions		X						
Maintain the Threat Systems Engineering Library		X						
DTT baseline Maintenance and update		X						
Provide Red Team Leadership and support for BMD related Working Groups and Study Teams		X						

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BMDO RDT&E COST ANALYSIS (R-3)											DATE June 2001	
BUDGET ACTIVITY 4 - Demonstration and Validation					PE NUMBER AND TITLE 0603876C Intelligence Program					PROJECT 3155		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	<u>FY 2002</u> Cost	<u>FY 2002</u> Award Date	<u>FY 2003</u> Cost	<u>FY 2003</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a.												
Subtotal Product Development:												
Remark:												
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	<u>FY 2002</u> Cost	<u>FY 2002</u> Award Date	<u>FY 2003</u> Cost	<u>FY 2003</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a.												
Subtotal Support Costs:												
Remark:												
III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	<u>FY 2002</u> Cost	<u>FY 2002</u> Award Date	<u>FY 2003</u> Cost	<u>FY 2003</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a.												
Subtotal Test and Evaluation:												
Remark:												
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	<u>FY 2001</u> Cost	<u>FY 2001</u> Award Date	<u>FY 2002</u> Cost	<u>FY 2002</u> Award Date	<u>FY 2003</u> Cost	<u>FY 2003</u> Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Threat Engineering	CPFF	SPARTA, CA		1940								
b. Red Engineering Team	MIPR	MIT/LL, MA		2041								
c. Red Engineering Team	MIPR	SNL, NM		2041								
d. CHOP Missions	MIPR	AFRL, NM		3670								
Subtotal Management Services:				9692								
Remark:												
Project Total Cost:				9692								
Remark:												

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BMDO RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)	DATE June 2001
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BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603876C Intelligence Program	PROJECT 3270
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COST <i>(In Thousands)</i>	FY2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY2005 Estimate	FY2006 Estimate	FY2007 Estimate	Cost to Complete	Total Cost
3270 Threat and Countermeasures Program	21575	12722								

A. Mission Description and Budget Item Justification

Intelligence Directorate. The BMDO Directorate of Intelligence defines potential adversary military force missile threats. To accomplish this mission, BMDO has a threat definition program, which is based on intelligence community projections and is traceable to quantifiable analysis. This project produces capstone threat and countermeasure documentation to ensure consistent technical threat definitions across all the Services. It does not duplicate Service-unique activities. The program consists of two component tasks: Intelligence Program and Intelligence Applications; and a secondary task providing funds for an Executing Agent at USASMDC to support the Intelligence Threat task.

Intelligence Program Task. The purpose of this task is to provide an Intelligence Community-Validated TMD and NMD threat description. The threat is divided into four major categories under this task: Operational Threat Environment, Targets, System Specific Threats (SST), and Reactive Threats. The Operational Threat Environment includes assessments of the operational and technological environments and projects the effects of developments and trends on TMD and NMD mission capability. The Targets category includes a projection of foreign missile systems and countermeasures that enhance their performance. This includes force structure, performance characteristics, and sample signatures. SST addresses threats to NMD and the TMD "family of systems" including reconnaissance, surveillance, and target acquisition; lethal and non-lethal threats; and regional integrated SST assessments. The Reactive Threats category includes those that an adversary may develop as a result of deployment of NMD and the TMD "family of systems."

Intelligence Applications Task. The accurate specification and characterization of ballistic missiles and the appropriate development and integration of scenarios using these characterizations are critical to the analysis of alternative ballistic missile architectures, the performance assessments of potential technology applications, and the operational performance evaluations of candidate designs. This task provides baseline and excursion scenario descriptions in documentary and digital form for use in analysis of BMD architectures and operational effectiveness. These descriptions are the only approved threat employment portrayals authorized for acceptable BMDO analysis. This task:

- Identifies user needs for threat scenario descriptions.
- Identifies analyses needed to fully specify and characterize the threat missile systems, penetration aids, tactics, etc., and ensures the analyses are accomplished.
- Provides the analysis results to all interested agencies for review and comment.
- Addresses critical threat issues, which arise during the analysis process.
- Ensures all supporting agencies' views on threat issues are fully aired.
- Reviews, approves, produces, and distributes all threat scenario descriptions.
- Produces threat computer digital media (threat tapes) and supporting documentation for use by the development and acquisition communities.

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FY 2000 Accomplishments:

- 13553 Intelligence Program Task:
 Theater Air and Missile Defense (TAMD) Capstone System Threat Assessment Report (STAR) Support: Intelligence support to TAMD focuses on describing the current and projected (20 years into the future) systems and forces which must be countered by TAMD and which threaten its survivability.
 National Missile Defense (NMD) STAR Support: Intelligence support to NMD focuses on describing the current and projected (20 years into the future) systems and forces which must be countered by TAMD and which threaten its survivability. The purpose of the BMDO intelligence task is to provide Intelligence Community-validated NMD threat descriptions for use by the NMD Joint Program Office (JPO).
 Aerodynamic Missile Threat Document (AMTD) Support: This task provides integrated threat assessments on the current and future cruise missile threat from selected countries, to include land attack and antiship missiles.
 Missile Design Database (MDDDB)/STAMP upgrade and maintenance: MDDDB and STAMP are used to support BMDO analysis and studies in system-level evaluations.
 Ballistic Missile Reference Document (BMRD) production: Provides a comprehensive set of engineering data on worldwide ICBM, MRBM, SRBM, IRBM, and strategic SLBM systems for use in the BMRD.
 Space Missile Defense Command (SMDC) NMD and TMD related studies and designs: SMDC provides BMDO with technical inputs and review for the NMD and the TAMD Capstone STAR.
 National Ground Intelligence Center (NGIC) TMD related studies: NGIC provides BMDO with inputs into the STARS and with Defense Intelligence Reference Document (DIRD) reports. In an example task in support of TMD, NGIC will examine the ability of future air defense gun systems to defend fixed sites against cruise and tactical ballistic missile attacks.
 National Air Intelligence Center (NAIC) NMD related studies, designs, and models: NAIC provides BMDO with integrated ballistic missile threat assessments for use in the STARS and provides support to working groups and panels designed to develop or update the STARS.
 Missile Space Intelligence Center (MSIC) TMD related studies, designs and models: MSIC will provide BMDO with revised and updated SRBM and SAM/ATBM-related portions of the TAMD Capstone STAR to reflect new intelligence estimates.
 Office of Naval Intelligence (ONI) NMD related studies, designs and models: ONI provides BMDO with inputs into the STARS and with various level engineering designs for selected SLBMs which are addressed in the NMD STAR.

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4 - Demonstration and Validation		June 2001
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Demonstration and Validation	0603876C Intelligence Program	3270
<ul style="list-style-type: none"> • 3436 Intelligence Applications Task: <ul style="list-style-type: none"> Southeast Europe Campaign Scenario (scheduled completion Oct 01) (an update to an older scenario involving two bordering countries which attack a third country over water rights. This scenario is planned to have heavy NATO involvement) RT-2 Defense Plans Campaign Scenario (this scenario involves two countries which unify into one, and attack another border country) NMD IGT- Scenario engineering trajectories (JNIE-selected scenarios from the NMD Capability 1 Design-To Threats) North East Asia (NEA) III 2010 Campaign Scenario (weapons parameters updated) (an update to an older scenario involving two countries in northeast Asia. With updated weapons parameters and orders of battle) Directed Energy Weapons (DEW) Scenario engineering trajectories (strategic scenarios of analytical interest to the space-based laser program. Systems and trajectories are somewhat similar in detail to the NMD Design-To Threats) BMDO/SE Architecture Study (engineering trajectories for threat systems in a very far-term time period. Includes penaid) • 4586 Threat Systems Engineering Task: Establish and maintain common engineering threat definition across BMD architecture. Create and maintain a Ballistic Missile Defense (BMD) "Design-to-Threat". Revitalize and operate a Red Engineering Team that take the role of an enemy striving for an effective ballistic missile attack on targets defended by US BMD systems. Provide Threat Systems Engineering Support to BMD architecture development and evolution. Conduct studies and analyses of proposed BMD architecture(s), system(s), and component designs from an adversary's point of view. Expand and/or develop countermeasures designs to an engineering detail level sufficient to support scenario development, modeling, simulation, and analysis. Conduct hardware development, experiments, and/or ground-tests to quantify the level of difficulty in creating countermeasures, quantify countermeasure performance, and provide test data to support systems analyses. 		
Total	21575	
FY 2001 Planned Program:		
<ul style="list-style-type: none"> • 7524 Intelligence Program: Task: Provide Capstone STAR, specialty threats, targets analysis, operational threat environment intelligence assessments, management, and planning support • 5198 Intelligence Applications Task: Continue development of threat system characterizations and scenario descriptions in response to the analysis needs of the system/element developers. Upgrade the threat modeling capability and produce digital media and supporting documentation through the JNTF. Develop scenarios depicting threat systems employed in theater/strategic environments. 		
Total	12722	
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B. Other Program Funding Summary (\$In Thousands)	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	To Compl	Total Cost
2407 NMD Program, PE 0603871C	3000								
Missile Feasibility Assessment (MFA) 0603871C	2421								
1155 Technology- Research&Engr, PE 0603874C	200								

C. Acquisition Strategy: Funding is provided to executing agents who accomplish tasks under existing contracts via Military Interdepartmental Purchase Requests (MIPR); Scientific, Engineering, and Technical Assistance (SETA) contracts; and Federally Funded Research and Development Centers (FFRDCs) contracts.

D. Schedule Profile

	FY 2000				FY 2001				FY 2002				FY 2003			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
NMD STAR				X			X									
TMD Capstone STAR			X				X									
Threat Risk Assessment								X								
NEA III Scenario (Update)							X									
South East Europe Scenario				X				X								
RT-2 Campaign Scenario						X										