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BMDO RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)	DATE February 1999
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BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603876C Threat and Countermeasures	PROJECT 3270
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COST (In Thousands)	FY 1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
3270 Threat and Countermeasures Program	0	23263	16497	22763	22536	20834	21278	21723	Continuing	Continuing

* Funding in this project was transferred from PEs 0603871C and 0603872C to 0603876C in FY99. See those PE's for FY97-98 data.

A. Mission Description and Budget Item Justification

Threat and Countermeasures Program. The BMDO Threat Program defines potential adversary military forces missile threats. To accomplish this mission, BMDO has a threat development 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 three component tasks: Intelligence Threat, Threat Systems Engineering, and Threat Applications.

Intelligence Threat 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 the TMD and NMD "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."

Threat 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 BMDO cost and operational effectiveness analyses (COEA). 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 System Threat Scenario Descriptions.
- Produces threat computer digital media and supporting documentation for use by the development and acquisition communities.

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<p>Threat Systems Engineering Task. 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 to the system designers early 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 1998 Accomplishments:</p>		
<ul style="list-style-type: none"> • 0 		
<p>Total 0</p>		
<p>FY 1999 Planned Program:</p>		
<ul style="list-style-type: none"> • 7911 	<p>Intelligence Threat Task: Provide Capstone STAR, speciality threats, targets analysis, operational threat environment intelligence assessments, management, and planning support</p>	
<ul style="list-style-type: none"> • 1785 	<p>Threat 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.</p>	
<ul style="list-style-type: none"> • 13567 	<p>Threat Systems Engineering Task: Perform TMD/NMD CM Red/Blue activities and counter-countermeasure parametric studies and TMD/NMD CM technical experiments and evaluations. Support Countermeasures Hands-On Program (CHOP) "Skunkworks" teams in conducting CM concept, design, fabrication, tests. Conduct non-technical analysis, oversight, and database management.</p>	
<p>Total 23263</p>		
<p>FY 2000 Planned Program:</p>		
<ul style="list-style-type: none"> • 6905 	<p>Intelligence Threat Task: Provide Capstone STAR, speciality threats, targets analysis, operational threat environment intelligence assessments, management, and planning support</p>	
<ul style="list-style-type: none"> • 2152 	<p>Threat 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.</p>	

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- 7440 Threat Systems Engineering Task: Perform TMD/NMD CM Red/Blue activities and counter-countermeasure parametric studies and TMD/NMD CM technical experiments and evaluations. Support Countermeasures Hands-On Program (CHOP) "Skunkworks" teams in conducting CM concept, design, fabrication, tests. Conduct non-technical analysis, oversight, and database management.

Total 16497

FY 2001 Planned Program:

- 7634 Intelligence Threat Task: Provide Capstone STAR, speciality threats, targets analysis, operational threat environment intelligence assessments, management, and planning support
- 2518 Threat 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.
- 12611 Threat Systems Engineering Task: Perform TMD/NMD CM Red/Blue activities and counter-countermeasure parametric studies and TMD/NMD CM technical experiments and evaluations. Support Countermeasures Hands-On Program (CHOP) "Skunkworks" teams in conducting CM concept, design, fabrication, tests. Conduct non-technical analysis, oversight, and database management.

Total 22763

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.

B. Program Change Summary	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
Previous President's Budget (<u>FY 1999</u> PB)	0	22113	17608	23909
Congressional Adjustments		2500		
Appropriated Value		24613		
Adjustments to Appropriated Value				
a. Congressional Reductions (FFRDC, Inflation, etc)		-1350		
b. OSD Reductions				
c. Emergency Supplemental				
Adjustments to Budget Years Since <u>FY 1999</u> PB				
Current Budget Submit (<u>FY 2000 / 2001</u> PB)	0	23263	16497	22763

Change Summary Explanation:

Funding: Funding adjustments made to support revisions in TMD core program schedules and requirements.
 Schedule: None

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Technical: None

C. Other Program Funding Summary (\$ in Thousands)

	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2002</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To Compl</u>	<u>Total Cost</u>
3270 Threat & Countermeasures, PE 0603872C	22911	0	0	0	0	0	0	0	0	0
2400 NMD Program, PE 0603871C	5993	0	0	0	0	0	0	0	0	0

(U) D. Schedule Profile

	<u>FY 1998</u>			<u>FY 1999</u>			<u>FY 2000</u>			<u>FY 2001</u>		
	1	2	3	4	1	2	3	4	1	2	3	4
Skunkworks Mission #12												
Skunkworks Mission #13			X									
Skunkworks Mission #14								X				
Skunkworks Mission #15								X				
NMD STAR								X				X
TMD Capstone STAR					X			X				X
CM Risk Assessment								X		X		
NEA II Scenario								X				
SWA II Scenario								X				
AGCS Scenario								X				

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BMDO RDT&E COST ANALYSIS (R-3)

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PROJECT
3270

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a.												
b.												
c.												
d.												
e.												
f.												
Subtotal Product Development:												

Remark:

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. FFRDC	MIPR	DOE Sandia Labs		1189		698		2379		Cont	4266	
b. Govt Engr Spt	MIPR	JNTF-SPC		2716		2549		2527		Cont	7792	
c. FFRDC	MIPR	MIT-Lincoln Lab		1139		398		1804		Cont	3341	
d. Govt Engr Spt	MIPR	USA-SSDC		593		402		455		Cont	1450	
e. Research	MIPR	JH/APL		50		50		50		Cont	150	
f. Research	MIPR	CHOP/AFRL Phillips		4527		3316		3879		Cont	11722	
g. Research	MIPR	NGIC		245		50		151		Cont	446	
h. Research	MIPR	MSIC		2309		1490		1955		Cont	5754	
i. Research	MIPR	NAIC		2250		1490		1955		Cont	5695	
j. Research	MIPR	ONI		700		352		655		Cont	1707	
f.. Research	MIPR	SMDC		585		352		455		Cont	1392	
Subtotal Management Services:				16303		11147		16265			43715	

Remark:

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III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Contr Engr Spt	CPFF - C	SPC-CM		2000		1898		2004		Cont	5902	
b. Research/Mgmt/Spt	CPFF - C	BAH-Threat		1350		1452		1455		Cont	4257	
c. Contr Engr Spt	CPFF - C	BAH-Applications		2299		1202		2018		Cont	5519	
d. FFRDC	MIPR	IDA		100		38		100		Cont	238	
e. Govt Research/Spt	MIPR	TSC		1020		752		866		Cont	2638	
f. Overhead		Miscellaneous		191		8		55		Cont	254	
Subtotal Test and Evaluation:				6960		5350		6498			18808	

Remark:

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a.												
b.												
c.												
d.												
e.												
f.												
Subtotal Management Services:												

Remark:

Project Total Cost:				23263		16497		22763			62523	
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Remark: