

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification							DATE: February 2004				
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-5					R-1 ITEM NOMENCLATURE PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEMS						
COST (\$ in Millions)	Prior Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		Cost to Complete	Total Program
Total PE Cost	0.000	19.231	88.601	78.624	189.558	162.896	33.042	11.965		Continuing	Continuing
3073 Joint Tactical Radio System-Maritime/Fixed (JTRS-M/F)											
Digital Modular Radio (DMR) Multifunctional Information Distribution System Joint Tactical Radio System (MIDS JTRS)	0.000	19.231	86.871	56.216	177.845	162.896	33.042	11.965		Continuing	Continuing
3020 Multifunctional Information Distribution System Joint Tactical Radio System (MIDS JTRS)	0.000	0.000	0.000	22.408	11.713	0.000	0.000	0.000		0.000	34.121
9375 Super Conductor Micro-Electronics	0.000	0.000	1.730	0.000	0.000	0.000	0.000	0.000		0.000	1.730
Quantity of RDT&E Articles											
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The Joint Tactical Radio System-Maritime/Fixed (JTRS-M/F) will be designed to support communications readiness and mission success by providing military commanders with the ability to command, control and communicate with their forces via secure voice, video, and data media forms during all aspects of military operations. The JTRS-M/F will be a hardware configurable and software definable radio (SDR) system that provides increased interoperability, flexibility and adaptability to support the varied mission requirements of the warfighter. The JTRS-M/F procurement will provide radio sets that are software definable, multi-band, multi-mode capable, secure, network-centric, and able to provide simultaneous voice, data, and video communications over multiple frequency bands between 2 MegaHertz (MHz) and 2 GigaHertz (GHz) as well as scalable to meet the needs of multiple platforms. As a requirement, the JTRS-M/F will operate with legacy equipment and waveforms currently used by civilian and military surface, subsurface, and fixed platforms as well as incorporate new waveforms and CEAs as they are developed. JTRS-M/F will incorporate the following key concepts into its design: commonality across JTRS clusters, transformational communications, networking, automation and control, information gateways, and quality of service. The JTRS-M/F procurement specifically involves the development of Joint Tactical Radio (JTR) Set and Service Integration Kits (SIK) and the integration of these capabilities with Software Communication Architecture (SCA) compliant waveforms and Cryptographic Equipment Applications (CEA) provided by the JTRS Joint Program Office (JPO). The JTR Set is planned to consist of a JTR (receiver/exciter/modem), Cryptographic Sub-System (CS/S), common power amplifiers to meet the 2 MHz to 2 GHz frequency range, baseband (voice, video and data) Input/Output (I/O), common filters, Radio Frequency (RF) networking services, and basic Human Machine Interface (HMI) and control. The JTRS-M/F SIKs are planned to consist of RF legacy interface capability, service site-specific power amplifiers (e.g. High Frequency (HF) broadband amplifiers for Navy ships and 10 KW for U.S. Air Force fixed stations), couplers/multicouplers, antennae, baseband networking services, dynamic control, automatic RF switching, co-site mitigation devices, interference mitigation devices, and other Service-specific installation requirements. The combination of the JTR Set and the various SIKs will allow for a modular/scalable solution to meet the Joint Services' various JTRS-M/F implementation requirements. Note: In November 2003, USD(ATL) directed the merge of Clusters 3 and 4 (Navy & Air Force) to establish a combined JTRS Cluster, to be renamed AMF JTRS, Airborne Maritime/Fixed JTRS. Funding represents Navy's portion of AMF JTRS.</p> <p>Super Conductor Micro-Electronics project - Funding will assist in the development of an All Digital Transceiver (ADT), which will improve a range of defense missions including tactical radio, satellite communications, signal intelligence, electronic warfare, and radar systems. This funding will also help to continue the Superconductor Micro-Electronics (SME) currently being developed in the Challenge Program-funded ONR SBIR phase III project, the All Digital Receiver (ADR), towards the development of an All Digital Transceiver.</p> <p>The Digital Modular Radio (DMR) provides improvements for fleet radio requirements in the HF, VHF, and UHF frequency band. The DMR replaces and will be interoperable and backwards compatible with legacy systems. The DMR is a digital, modular, software programmable, multi-channel, multi-function and multi-band (2MHz-2 GHz) radio system.</p> <p>The MIDS-LVT is a jam-resistant, secure, digital (voice and data) information distribution system, enabling rapid integrated communications, navigation and identification for tactical and command and control operations. The MIDS-LVT will be upgraded to become JTRS Software Communications Architecture compliant (MIDS JTRS), bringing a JTRS radio to space-constrained platforms. MIDS JTRS will provide programmable channels to support additional waveforms (WNW, EPLRS, DWTS, Link-11, Link-22, SINCGARS, HAVEQUICK, DAMA SATCOM, Soldier Radio, etc.) while retaining the Link-16 and TACAN interfaces with the legacy MIDS-LVT. The MIDS JTRS upgrade effort begins in FY04 (\$17.678M), will continue in FY05 (\$22.408M), and will be completed in FY06 (\$11.713M). In FY04, MIDS JTRS will be executed under project unit 3073. Beginning in FY05, MIDS JTRS funding transferred to a new project unit number, 3020.</p> <p>JUSTIFICATION FOR BUDGET ACTIVITY:</p> <p>This program is funded under ENGINEERING AND MANUFACTURING DEVELOPMENT because it encompasses engineering and manufacturing development of new end-items prior to production approval decision.</p>											

R-1 SHOPPING LIST - Item No. 100

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Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 1 of 22)

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EXHIBIT R-2a, RDT&E Project Justification							DATE:		February 2004		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME					
RDT&E, N / BA-5		PE: 0604280N TITLE: JOINT TACTICAL RADIO SYS				3073 Airbrone Maritime Fixed Joint Tactical Radio System (JTRS-M/F)					
COST (\$ in Millions)		Prior Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		Total Program
Total Project Cost		0.000	19.231	86.871	56.216	177.845	162.896	33.042	11.965		Continuing
3073 Joint Tactical Radio System-Maritime/Fixed (JTRS-M/F)		0.000	8.389	60.114	56.216	177.845	162.896	33.042	11.965		Continuing
3073 Digital Modular Radio (DMR)		0.000	10.842	9.079	0.000	0.000	0.000	0.000	0.000		19.921
3073 Multifunctional Information Distribution System Joint Tactical Radio System (MIDS JTRS)		0.000	0.000	17.678	0.000	0.000	0.000	0.000	0.000		17.678
RDT&E Articles Qty											0
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:											
<p>The Joint Tactical Radio System-Maritime/Fixed (JTRS-M/F) will be designed to support communications readiness and mission success by providing military commanders with the ability to command, control and communicate with their forces via secure voice, video, and data media forms during all aspects of military operations. The JTRS-M/F will be a hardware configurable and software definable radio (SDR) system that provides increased interoperability, flexibility and adaptability to support the varied mission requirements of the warfighter. The JTRS-M/F procurement will provide radio sets that are software definable, multi-band, multi-mode capable, secure, network-centric, and able to provide simultaneous voice, data, and video communications over multiple frequency bands between 2 MegaHertz (MHz) and 2 GigaHertz (GHz) as well as scalable to meet the needs of multiple platforms. As a requirement, the JTRS-M/F will operate with legacy equipment and waveforms currently used by civilian and military surface, subsurface, and fixed platforms as well as incorporate new waveforms and CEAs as they are developed. JTRS-M/F will incorporate the following key concepts into its design: commonality across JTRS clusters, transformational communications, networking, automation and control, information gateways, and quality of service. The JTRS-M/F procurement specifically involves the development of Joint Tactical Radio (JTR) Set and Service Integration Kits (SIK) and the integration of these capabilities with Software Communication Architecture (SCA) compliant waveforms and Cryptographic Equipment Applications (CEA) provided by the JTRS Joint Program Office (JPO). The JTR Set is planned to consist of a JTR (receiver/exciter/modem), Cryptographic Sub-System (CS/S), common power amplifiers to meet the 2 MHz to 2 GHz frequency range, baseband (voice, video and data) Input/Output (I/O), common filters, Radio Frequency (RF) networking services, and basic Human Machine Interface (HMI) and control. The JTRS-M/F SIKs are planned to consist of RF legacy interface capability, service site-specific power amplifiers (e.g. High Frequency (HF) broadband amplifiers for Navy ships and 10 KW for U.S. Air Force fixed stations), couplers/multicouplers, antennae, baseband networking services, dynamic control, automatic RF switching, co-site mitigation devices, interference mitigation devices, and other Service-specific installation requirements. The combination of the JTR Set and the various SIKs will allow for a modular/scalable solution to meet the Joint Services' various JTRS-M/F implementation requirements. Note: In November 2003, USD(ATL) directed the merge of Clusters 3 and 4 (Navy & Air Force) to establish a combined JTRS Cluster, to be renamed AMF JTRS, Airborne Maritime/Fixed JTRS. Funding represents Navy's portion of AMF JTRS.</p>											
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Exhibit R-2, RDTE Budget Item Justification
(Exhibit R-2, page 2 of 22)

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EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-5	PROGRAM ELEMENT NUMBER AND NAME PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEMS	PROJECT NUMBER AND NAME 3073 Joint Tactical Radio System-Maritime/Fixed (JTRS-M/F)	
(U) B. Accomplishments/Planned Program			
	FY 03	FY 04	FY 05
DMR	10.842	9.079	0.000
RDT&E Articles Quantity			
<p>FY03: Prepared DMR Test and Evaluation Plan (\$2.337M). Commenced development of 6.4 Software (\$7.005M). Commenced development of HF Power Amplifier (\$1.5M).</p> <p>FY04: Complete modification of HF PA DMR (\$1.3M). Continue modifying the 6.4 upgrade of the DMR (\$6.851M). Test and evaluation (IOT&E) of DMR (\$928K).</p>			
	FY 03	FY 04	FY 05
JTRS-M/F	8.389	60.114	56.216
RDT&E Articles Quantity			
<p>FY03: Continued development of contract package for JTRS-M/F (Cluster 3) System Development & Demonstration (SDD) contract, prepared acquisition documentation in preparation for Milestone B, including CARD, ASR, APB, development cost of PLCCE. Continued preparation of Request for Proposal (RFP) (\$8,389).</p> <p>FY04: JTRS-M/F Pre-System Development and Demonstration Phase contract award to one or more vendor teams for development of an JTRS-M/F system covering 2 MHz - 2GHz that meets JTRS ORD Joint Service Requirements. Development is estimated at 3 years and is expected to continue through FY06. The new system will be comprised of a JTR Set and Service Integration Kit. Each vendor team will be required to develop and deliver 3 Engineering Development Models (EDM's) built off common building blocks and scaled to meet the requirements of a small, medium and large surface ship platform (\$49,171). JTRS-M/F developmental engineering and management support (\$10,943).</p> <p>FY05: Conclude JTRS-M/F Pre-System Development and Demonstration Phase and begin full System Development and Demonstration Phase (\$44,168). JTRS-M/F development engineering and management support (\$12,048) .</p>			

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(U) B. Accomplishments/Planned Program			
	FY 03	FY 04	FY 05
MIDS JTRS	0.000	17.678	(MIDS JTRS funding transfers to project 3020 beginning FY05.)
RDT&E Articles Quantity			
<p>FY04: Released MIDS JTRS Request for Proposal 25 Nov 2003 with proposals due 4 Feb 2004. Extended Phase 2A Specification Development effort for the Functional and Allocated baseline. Updating program documentation for an SAE/DAB review prior to contract award planned in April 2004.</p> <p>Note: MIDS JTRS is included in project unit 3073 in FY04, then moves to project unit 3020 starting in FY05.</p>			

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<p>(U) C. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 10%; text-align: right;">FY 2003</th> <th style="width: 10%; text-align: right;">FY 2004</th> <th style="width: 10%; text-align: right;">FY 2005</th> </tr> </thead> <tbody> <tr> <td>(U) Funding:</td> <td></td> <td></td> <td></td> </tr> <tr> <td>President's Budget PB04:</td> <td style="text-align: right;">19.913</td> <td style="text-align: right;">87.943</td> <td style="text-align: right;">84.140</td> </tr> <tr> <td>President's Budget PB05:</td> <td style="text-align: right;">19.231</td> <td style="text-align: right;">86.871</td> <td style="text-align: right;">56.216</td> </tr> <tr> <td>Total Adjustments</td> <td style="text-align: right; border-top: 1px solid black;">-0.682</td> <td style="text-align: right; border-top: 1px solid black;">-1.072</td> <td style="text-align: right; border-top: 1px solid black;">-27.924</td> </tr> <tr> <td colspan="4" style="padding-top: 10px;">Summary of Adjustments</td> </tr> <tr> <td>Issue 66556 FY03 SBIR 5-May-03</td> <td style="text-align: right;">-0.407</td> <td></td> <td></td> </tr> <tr> <td>Issue 66961 SPAWAR Service Cost Center Adj.</td> <td></td> <td style="text-align: right;">-0.070</td> <td style="text-align: right;">-0.076</td> </tr> <tr> <td>Realign JTRS OPN to JTRS RDT&E</td> <td></td> <td></td> <td style="text-align: right;">33.995</td> </tr> <tr> <td>Issue 67637 JTRS RE-PHASING</td> <td></td> <td></td> <td style="text-align: right;">-4.000</td> </tr> <tr> <td>Issue 67767 NWCF Rates- SPAWAR SSC Rates ADJ (JTRS)</td> <td></td> <td></td> <td style="text-align: right;">-0.063</td> </tr> <tr> <td>Issue 67124 MIDS JTRS Project Unit</td> <td></td> <td></td> <td style="text-align: right;">-22.495</td> </tr> <tr> <td>Section 8094: Mgmt Improvements</td> <td></td> <td style="text-align: right;">-0.232</td> <td></td> </tr> <tr> <td>Section 8029 FFRDC Reduction</td> <td></td> <td style="text-align: right;">-0.023</td> <td></td> </tr> <tr> <td>Section 8126 Efficiencies/Revised Econ. Assumptions</td> <td></td> <td style="text-align: right;">-0.747</td> <td></td> </tr> <tr> <td>Issue 69379 Merge clusters 3&4- 5 mo preSDD delay</td> <td></td> <td></td> <td style="text-align: right;">-35.000</td> </tr> <tr> <td>Issue 68849 FY 2003 Update</td> <td style="text-align: right;">-0.275</td> <td></td> <td></td> </tr> <tr> <td>Issue 69025 WCF - R&D - SPAWAR - PBD 430</td> <td></td> <td></td> <td style="text-align: right;">-0.030</td> </tr> <tr> <td>Issue 69045 PBD 426 Rates - SSC</td> <td></td> <td></td> <td style="text-align: right;">0.075</td> </tr> <tr> <td>Issue 69492 PBD-604 Inflation</td> <td></td> <td></td> <td style="text-align: right;">-0.243</td> </tr> <tr> <td>Issue 69512 PBD604 non purchase inflation</td> <td></td> <td></td> <td style="text-align: right;">-0.053</td> </tr> <tr> <td>Issue 69707 FY 05 ITR RDTEN Balancing</td> <td></td> <td></td> <td style="text-align: right;">-0.034</td> </tr> <tr> <td>Subtotal</td> <td style="text-align: right; border-top: 1px solid black;">-0.682</td> <td style="text-align: right; border-top: 1px solid black;">-1.072</td> <td style="text-align: right; border-top: 1px solid black;">-27.924</td> </tr> </tbody> </table> <p style="margin-top: 20px;">(U) Schedule:</p> <p>DMR: FY03: Changes reflect OSD NII direction not to pursue DMR JTRS Software Communication Architecture (SCA) compliance. Current budget reflects vendor's delivery schedule of follow-on DMR software builds that provide additional required functionality.</p> <p>JTRS: FY05: Adjustments reflect breakout of the DMR and JTRS programs and the merger of JTRS Clusters 3 & 4.</p> <p style="margin-top: 20px;">(U) Technical:</p> <p>DMR: FY03: SCA Compliance is no longer being funded per OSD NII direction. Per OPNAV N61 SCA Compliance requirement is replaced with 6.4, HF PA, and additional HF functionality.</p>						FY 2003	FY 2004	FY 2005	(U) Funding:				President's Budget PB04:	19.913	87.943	84.140	President's Budget PB05:	19.231	86.871	56.216	Total Adjustments	-0.682	-1.072	-27.924	Summary of Adjustments				Issue 66556 FY03 SBIR 5-May-03	-0.407			Issue 66961 SPAWAR Service Cost Center Adj.		-0.070	-0.076	Realign JTRS OPN to JTRS RDT&E			33.995	Issue 67637 JTRS RE-PHASING			-4.000	Issue 67767 NWCF Rates- SPAWAR SSC Rates ADJ (JTRS)			-0.063	Issue 67124 MIDS JTRS Project Unit			-22.495	Section 8094: Mgmt Improvements		-0.232		Section 8029 FFRDC Reduction		-0.023		Section 8126 Efficiencies/Revised Econ. Assumptions		-0.747		Issue 69379 Merge clusters 3&4- 5 mo preSDD delay			-35.000	Issue 68849 FY 2003 Update	-0.275			Issue 69025 WCF - R&D - SPAWAR - PBD 430			-0.030	Issue 69045 PBD 426 Rates - SSC			0.075	Issue 69492 PBD-604 Inflation			-0.243	Issue 69512 PBD604 non purchase inflation			-0.053	Issue 69707 FY 05 ITR RDTEN Balancing			-0.034	Subtotal	-0.682	-1.072	-27.924
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Exhibit R-2a, RDTEN Project Justification
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APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME				
RDT&E, N / BA-5			PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEM			3073 Joint Tactical Radio System-Maritime/Fixed (JTRS-M/F)				

(U) D. OTHER PROGRAM FUNDING SUMMARY:

<u>Line Item No. & Name</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>To Complete</u>	<u>Total Cost</u>
3010 - Ship Tactical Communications - JTRS	0.000	0.000	0.000	0.000	0.000	101.980	137.187	Continuing	Continuing
3010 - Ship Tactical Communications - DMR	0.000	11.902	1.550	2.609	1.884	0.000	0.000	0	17.945

(U) E. ACQUISITION STRATEGY:

	FY 2003	FY 2004	FY2005
Program Milestones: N/A			
Digital Modular Radio (DMR)	3Q LRIP III 4Q LRIP IV		3Q LRIP V
JTRS-M/F			2Q RFP Release 3Q Pre-SDD Contract Award
T&E Milestones:			
Digital Modular Radio (DMR)			3Q OT 2Q-3Q DT 3Q OPEVAL
JTRS-M/F: N/A			

(U) F. MAJOR PERFORMERS:

DMR: General Dynamics Decisions Systems, Phoenix AZ - 6.4 Software Development, HF PA Development, and additional HF Capabilities.

JTRS-M/F: FY04: JTRS-M/F is a competitively awarded Pre-System Development and Demonstration contract expected to be awarded in Q3 FY04.

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Exhibit R-3 Cost Analysis (page 1)								DATE: February 2004				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-5			PE: 0604280N TITLE: JOINT TACTICAL RADIO SYS			3073 Joint Tactical Radio System-Maritime/Fixed (JTRS-M/F)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
JTRS-M/F Dev Contract	CPIF	TBD				49.171	05/04	44.168		Continuing	Continuing	
MIDS JTRS HW/SW Development	CPIF	DLS Cedar Rapids, IA				8.470	Apr-04					
MIDS JTRS HW/SW Development	CPIF	ViaSat Inc. Carlsbad, CA				8.170	Apr-04					
H/W: DMR HF Power Amplifier	FFP	GDDS		1.500		1.300	TBD			Continuing	Continuing	
Ship Integration											0.000	
Ship Suitability											0.000	
Systems Engineering - JTRS	WX	SSC-SD		1.438		2.141		2.768			6.347	
Systems Engineering - JTRS	WX	SSC-CH		2.545		2.766		2.906			8.217	
Systems Engineering - JTRS	Various	Various		0.245		1.158		1.212			2.615	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			0.000	5.728		73.176		51.054		Continuing	Continuing	
<p>Remarks:</p> <p>Note: MIDS JTRS is included in project unit X3073 in FY04, then moves to project unit X3020 starting in FY05.</p>												
Development Support											0.000	
Software Dev: DMR Build 6.4	FFP	GDDS		6.745		6.600	TBD	0.000	TBD		13.345	
Integrated Logistics Support - JTRS				0.725		0.758		0.590			2.073	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.000	7.470		7.358		0.590		0.000	15.418	
<p>Remarks:</p>												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)								DATE: February 2004				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5			PROGRAM ELEMENT PE: 0604280N TITLE: JOINT TACTICAL RADIO SYS			PROJECT NUMBER AND NAME 3073 Joint Tactical Radio System-Maritime/Fixed (JTRS-M/F)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	various	various										
Operational Test & Evaluation											0.000	
Live Fire Test & Evaluation											0.000	
DMR Test & Evaluation (FOTE)	WX	SSC-SD		1.045		0.563				Continuing	Continuing	
DMR Test & Evaluation (FOTE)	WX	SSC-CH		1.292		0.365				Continuing	Continuing	
Test Assets											0.000	
Testing Support				0.341		0.472		0.742				
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	2.678		1.400		0.742		Continuing	Continuing	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support	various	various		3.355		4.937		3.830		Continuing	Continuing	
Travel											0.000	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	3.355		4.937		3.830		Continuing	Continuing	
Remarks:												
Total Cost			0.000	19.231		86.871		56.216		Continuing	Continuing	
Remarks:												

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																										DATE:				February 2004			
APPROPRIATION/BUDGET ACTIVITY										PROGRAM ELEMENT NUMBER AND NAME										PROJECT NUMBER AND NAME													
RDT&E, N / BA-5										PE: 0604280N TITLE: DMR										3073 DMR													
Fiscal Year	2002				2003				2004				2005				2006				2007				2008				2009				
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4					
Acquisition (DMR) Milestones												△ IOC																					
Prototype Phase																																	
System Development																																	
EDM Delivery																																	
Software Delivery							▲ V5.3			▲ V6.3						△ V6.4																	
Test & Evaluation Milestones	DT-IID UHF SATCOM LAB										DT-IIF VHF/UHF LOS LAB										DT-IIH HF Capable DMR												
Development Test												△ JITC 5.3	△ JITC																				
Technical Evaluation		▲ DT-IIIE								▲ DT-IIA UHF SATCOM		△ DT-IIIG VHF/UHF LOS	△ DT-IIIB VHF/UHF LOS				△ DT-IIJ	△ JITC															
Operational Evaluation																					△ DT-IIC HF												
Production Milestones																																	
Full Rate Production Start-up							▲ LRIP III	▲ LRIP IV				△ LRIP V																					
Low-Rate Initial Production (LRIP) Start-up																																	
Low-Rate Initial Production (LRIP) Delivery																																	

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* Not required for Budget Activities 1, 2, 3, and 6

Note: IOC on DDG 93 with Software Version 6.3

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 9 of 22)

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail					DMR		DATE: February 2004		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT			PROJECT NUMBER AND NAME				
RDT&E, N / BA-5		PE: 0604280N TITLE: DMR			X3073 DMR				
Schedule Profile			FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Prototype Phase									
System Design Review (SDR)									
Milestone B (MS-B)									
Contract Preparation									
Contract Award Development									
Software Specification Review (SSR)									
Preliminary Design Review (PDR)									
System Development									
Critical Design Review (CDR)									
Quality Design and Build									
Test Readiness Review (TRR)									
DT/OT Certification									
Developmental Testing (DT-IIA)									
Eng Dev Model (EDM) Radar Delivery - Lab									
Software Delivery 1XXSW									
Preproduction Readiness Review (PRR)									
EDM Radar Delivery - Flt Related									
Milestone III (MS III)									
Contractor Testing									
Operational Testing (OT-IIB)				3Q					
Operational Testing (OT-IIC)						1Q			
Low Rate Initial Production Decision (LRIP III)			3Q						
Low Rate Initial Production Decision (LRIP IV)			4Q						
Low Rate Initial Production Decision (LRIP V)				3Q					
Software Delivery 2XXSW									
Developmental Testing (DT-IIF)				2Q					
Developmental Testing (DT-IIG)				3Q					
Developmental Testing (DT-IIH)					4Q				
Developmental Testing (DT-III)					4Q				
Start Low-Rate Initial Production II									
Operational Testing (OT-II)									
Developmental Testing (DT-IIC)									
Functional Configuration Audit (FCA)									
Low-Rate Initial Production I Delivery									
Technical Evaluation (TECHEVAL)									
Physical Configuration Audit									
Operational Evaluation (OT-II) (OPEVAL)									
Low-Rate Initial Production III Delivery									
Contract Award Production									
IOC									
Full Rate Production (FRP) Decision									
Full Rate Production Start									
First Deployment									

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 10 of 22)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								JTRS-M/F								DATE: February 2004							
APPROPRIATION/BUDGET ACTIVITY												PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME															
RDT&E, N / BA-5												PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEMS												3073 Joint Tactical Radio System-Maritime/Fixed (JTRS-M/F)															
Fiscal Year	2002				2003				2004				2005				2006				2007				2008				2009										
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4											
Acquisition Milestones																																							
Prototype Phase																																							
Contract Preparation																																							
RFP Release																																							
Contract Award																																							
Preliminary Design Review																																							
System Development																																							
Critical Design Review																																							
Test & Evaluation Milestones																																							
DT/OT Certification																																							
EDM's																																							
EDM's																																							

R-1 SHOPPING LIST - Item No. 100

* Not required for Budget Activities 1, 2, 3, and 6

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CLASSIFICATION:

Exhibit R-4a, Schedule Detail					JTRS-M/F		DATE:		
					February 2004				
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT			PROJECT NUMBER AND NAME				
RDT&E, N / BA-5		PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEMS			3073 Joint Tactical Radio System-Maritime/Fixed (JTRS-M/F)				
Schedule Profile			FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Prototype Phase					3Q			2 Q	
System Design Review (SDR)									
Milestone B (MS-B)					3Q				
Contract Preparation				2Q					
RFP Release				2Q					
Contract Award Pre-SDD				3Q					
Contract Award SDD					3Q				
Preliminary Design Review (PDR)					3Q				
System Development				3Q					4Q
Critical Design Review (CDR)						3Q			
Quality Design and Build									
Test Readiness Review (TRR)									
DT/OT Certification							4Q		
Eng Dev Model (EDM) Radar Delivery - Lab							3Q		
Software Delivery 1XXSW									
Preproduction Readiness Review (PRR)									
EDM Radar Delivery - Flt Related									
Milestone C (MS C)								2Q	
Contractor Testing									
Operational Testing (OT-IIA)									
Start Low-Rate Initial Production I (LRIP I)							4Q		
Software Delivery 2XXSW									
Start Low-Rate Initial Production II									
Operational Testing (OT-II)									
Developmental Testing (DT-IIC)							4Q		
Functional Configuration Audit (FCA)									
Low-Rate Initial Production I Delivery								3Q	
Technical Evaluation (TECHEVAL)									
Physical Configuration Audit									
Operational Evaluation (OT-II) (OPEVAL)							4Q		3Q
Low-Rate Initail Production II Delivery									
Contract Award Production									
IOC									
Full Rate Production (FRP) Decision									
Full Rate Production Start									
First Deployment									

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 12 of 22)

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EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2004			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEMS			PROJECT NUMBER AND NAME 3020 MIDS JTRS					
COST (\$ in Millions)	Prior Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to Complete	Total Program
Total Project Cost	0.000	0.000	0.000	22.408	11.713	0.000	0.000	0.000	0.000	34.121
3020 Multifunctional Information Distribution System										
Joint Tactical Radio System (MIDS JTRS)	0.000	0.000	0.000	22.408	11.713	0.000	0.000	0.000	0.000	34.121
RDT&E Articles Qty										0
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>The MIDS-LVT is a jam-resistant, secure, digital (voice and data) information distribution system, enabling rapid integrated communications, navigation and identification for tactical and command and control operations. The MIDS-LVT will be upgraded to become JTRS Software Communications Architecture compliant (MIDS JTRS), bringing a JTRS radio to space-constrained platforms. MIDS JTRS will provide programmable channels to support additional waveforms (WNW, EPLRS, DWTS, Link-11, Link-22, SINCGARS, HAVEQUICK, DAMA SATCOM, Soldier Radio, etc.) while retaining the Link-16 and TACAN interfaces with the legacy MIDS-LVT. The MIDS JTRS upgrade effort begins in FY04 (\$17.678M), will continue in FY05 (\$22.408M), and will be completed in FY06 (\$11.713M).</p> <p>(U) B. Accomplishments/Planned Program</p> <p>FY05: Continue MIDS JTRS development effort. Conduct Preliminary Design Review, Software Specification Review and Critical Design Review. Start build of initial MIDS JTRS terminals for First Article Qualification Testing.</p> <p>Note: MIDS JTRS is included in project unit 3073 in FY04, then moves to project unit 3020 starting in FY05.</p>										

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:																																		
			February 2004																																		
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME																																			
RDT&E, N / BA-5	PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEMS	3020 MIDS JTRS																																			
<p>(U) C. PROGRAM CHANGE SUMMARY:</p> <table> <tr> <td>(U) Funding:</td> <td>FY 2003</td> <td>FY 2004</td> <td>FY 2005</td> </tr> <tr> <td>FY04 President's Budget:</td> <td>0.000</td> <td>0.000</td> <td>0.000</td> </tr> <tr> <td>FY05 President's Budget:</td> <td>0.000</td> <td>0.000</td> <td>22.408</td> </tr> <tr> <td>Total Adjustments</td> <td>0.000</td> <td>0.000</td> <td>22.408</td> </tr> </table> <table> <tr> <td colspan="3">Summary of Adjustments</td> </tr> <tr> <td>Issue 67124 MIDS JTRS Project Unit</td> <td></td> <td>22.495</td> </tr> <tr> <td>Issue 69492 PBD 604 inflation</td> <td></td> <td>-0.060</td> </tr> <tr> <td>Issue 69512 PBD 604 non purchase inflation</td> <td></td> <td>-0.013</td> </tr> <tr> <td>Issue 69707 FY 05 ITR RDTEN Balancing</td> <td></td> <td>-0.014</td> </tr> <tr> <td>Subtotal</td> <td></td> <td>22.408</td> </tr> </table> <p>(U) Schedule:</p> <p>No Changes</p> <p>(U) Technical:</p> <p>No Changes</p>				(U) Funding:	FY 2003	FY 2004	FY 2005	FY04 President's Budget:	0.000	0.000	0.000	FY05 President's Budget:	0.000	0.000	22.408	Total Adjustments	0.000	0.000	22.408	Summary of Adjustments			Issue 67124 MIDS JTRS Project Unit		22.495	Issue 69492 PBD 604 inflation		-0.060	Issue 69512 PBD 604 non purchase inflation		-0.013	Issue 69707 FY 05 ITR RDTEN Balancing		-0.014	Subtotal		22.408
(U) Funding:	FY 2003	FY 2004	FY 2005																																		
FY04 President's Budget:	0.000	0.000	0.000																																		
FY05 President's Budget:	0.000	0.000	22.408																																		
Total Adjustments	0.000	0.000	22.408																																		
Summary of Adjustments																																					
Issue 67124 MIDS JTRS Project Unit		22.495																																			
Issue 69492 PBD 604 inflation		-0.060																																			
Issue 69512 PBD 604 non purchase inflation		-0.013																																			
Issue 69707 FY 05 ITR RDTEN Balancing		-0.014																																			
Subtotal		22.408																																			

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2004		
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME			PROJECT NUMBER AND NAME				
RDTE&E, N / BA-5		PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEMS			3020 MIDS JTRS				
(U) D. OTHER PROGRAM FUNDING SUMMARY:									
<u>Line Item No. & Name</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	To <u>Complete</u>	Total <u>Cost</u>
No other funding exists for 3020, MIDS JTRS									
(U) E. ACQUISITION STRATEGY:									
MIDS JTRS will be an international cooperative development effort among the United States, France, Italy, Germany and Spain and will be initiated as a major modification to MIDS-LVT using an Engineering Change Proposal on the existing production contracts. The U.S. prime contractors from the MIDS-LVT program (Data Link Solutions and ViaSat, Inc.) will team with European industry to commonly design, develop and qualify the MIDS JTRS terminal. The MIDS JTRS terminal will be a one-for-one replacement for MIDS-LVT(1) utilizing the same footprint. After development, the U.S. will implement a continuous competition strategy that will be maintained throughout the MIDS JTRS production phase as was done successfully on MIDS-LVT.									
(U) F. MAJOR PERFORMERS:									
Prime Contractors: Data Link Solutions and ViaSat Inc. (United States)									
Subcontractors: Thales (France), Marconi (Italy), EADS (Germany), Indra (Spain)									

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Exhibit R-3 Cost Analysis (page 1)								DATE: February 2004				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEMS					PROJECT NUMBER AND NAME 3020 MIDS JTRS					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
MIDS JTRS HW/SW Development	CPIF	Data Link Solutions Cedar Rapids, IA						10.454		Continuing	Continuing	
MIDS JTRS HW/SW Development	CPIF	ViaSat Inc. Carlsbad, CA						10.454		Continuing	Continuing	
Ship Suitability											0.000	
Systems Engineering											0.000	
Training Development											0.000	
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			0.000	0.000		0.000		20.908		0.000	20.908	
Remarks: Note: MIDS JTRS is included in project unit X3073 in FY04, then moves to project unit X3020 starting in FY05.												
Development Support											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
Studies & Analyses											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2004				
APPROPRIATION/BUDGET ACTIVITY RD&E, N / BA-5		PROGRAM ELEMENT PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEMS					PROJECT NUMBER AND NAME 3020 MIDS JTRS					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 03 Cost	FY 03 Award Date	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000	
Live Fire Test & Evaluation											0.000	
Test Assets											0.000	
Testing Support											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Contractor Engineering Support								0.900			0.900	
Government Engineering Support								0.300			0.300	
Program Management Support											0.000	
Travel								0.300			0.300	
Transportation											0.000	
SBIR Assessment											0.000	
Subtotal Management			0.000	0.000		0.000		1.500		0.000	1.500	
Remarks:												
Total Cost			0.000	0.000		0.000		22.408		0.000	22.408	

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Exhibit R-3, Project Cost Analysis
(Exhibit R-3, page 17 of 22)

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CLASSIFICATION:

EXHIBIT R4, Schedule Profile																								DATE:																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
MIDS JTRS Migration				Studies			Specification Development					Phase 2B Contract Award							CDR			TRR		FAQT			1st Articles		LRIP																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												

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Exhibit R-4a, Schedule Detail							DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEMS				PROJECT NUMBER AND NAME 3020 MIDS JTRS		
Schedule Profile		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
	MIDS JTRS Migration							
	Phase 2A: Specification Development	3Q						
	Phase 2A Extension: Specification Development		1Q					
	Phase 2B: Design, Development, Fabrication and Qualification		3Q					
	Software Specification Review (SSR)			1Q				
	Preliminary Design Review (PDR)			1Q				
	System Development		3Q			1Q		
	Critical Design Review (CDR)			4Q				
	Quality Design and Build			4Q	2Q			
	Test Readiness Review (TRR)				1Q			
	Contractor Testing				1Q			
	Operational Testing				3Q			
	Start Low Rate Initial Production					1Q		
	Functional Configuration Audit (FCA)				4Q			
	Low Rate Initial Production Delivery					4Q		
	Technical Evaluation (TECHEVAL)				3Q			
	Physical Configuration Audit					3Q		
	Operational Evaluation (OT-IIC) (OPEVAL)					4Q		
	Full Rate Production (FRP) Decision						2Q	
	First Deployment						3Q	

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Exhibit R-4a, Schedule Detail
(Exhibit R-4a, page 19 of 22)

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification							DATE: February 2004				
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-5		PROGRAM ELEMENT NUMBER AND NAME PE: 0604280N TITLE: JOINT TACTICAL RADIO SYS			PROJECT NUMBER AND NAME 9375 Super Conductor Micro-Electronics						
COST (\$ in Millions)	Prior Years Cost	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009		Cost to Complete	Total Program
Total Project Cost	0.000	0.000	1.730	0.000	0.000	0.000	0.000	0.000			1.730
9375 Super Conductor Micro-Electronics	0.000	0.000	1.730	0.000	0.000	0.000	0.000	0.000			1.730
RDT&E Articles Qty											0
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>Super Conductor Micro-Electronics project - Funding will assist in the development of an All Digital Transceiver (ADT), which will improve a range of defense missions including tactical radio, satellite communications, signal intelligence, electronic warfare, and radar systems. This funding will also help to continue the Superconductor Micro-Electronics (SME) currently being developed in the Challenge Program-funded ONR SBIR phase III project, the All Digital Receiver (ADR), towards the development of an All Digital Transceiver.</p>											

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CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2004	
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA-5	PROGRAM ELEMENT NUMBER AND NAME PE: 0604280N TITLE: JOINT TACTICAL RADIO SYSTEMS	PROJECT NUMBER AND NAME 9375 Super Conductor Micro-Electronics	
(U) B. Accomplishments/Planned Program			
	FY 03	FY 04	FY 05
9375 Super Conductor Micro-Electronics	0.000	1.730	0.000
RDT&E Articles Quantity			
<p>FY04: Super Conductor Micro-Electronics project - Funding will assist in the development of an All Digital Transceiver (ADT), which will improve a range of defense missions including tactical radio, satellite communications, signal intelligence, electronic warfare, and radar systems. This funding will also help to continue the Superconductor Micro-Electronics (SME) currently being developed in the Challenge Program-funded ONR SBIR phase III project, the All Digital Receiver (ADR), towards the development of an All Digital Transceiver.</p>			

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Exhibit R-4a, Schedule Detail
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(U) C. PROGRAM CHANGE SUMMARY:			
(U) Funding:	FY 2003	FY 2004	FY 2005
President's Budget PB04:	0.000	0.000	0.000
President's Budget PB05:	0.000	1.730	0.000
Total Adjustments	0.000	1.730	0.000
Summary of Adjustments			
Section 8094: Management Improvements		-0.005	
Section 8126: Effeciencies/Revised Econ. Assump.		-0.015	
FY04 Congressional Add		1.750	
Subtotal	0.000	1.730	0.000
(U) Schedule:			
(U) Technical:			

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