

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)							February 2002					
BUDGET ACTIVITY 5 - Engineering and manufacturing development				PE NUMBER AND TITLE 0604770A - Joint Surveillance/Target Attack Radar System				PROJECT 202				
COST (In Thousands)				FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
202	ARMY COMMON GROUND STATION (CGS) (TIARA)			28133	8026	4740	4939	6267	6184	5817	0	94898
A. Mission Description and Budget Item Justification: The Common Ground Station (CGS) is a rapidly deployable and mobile tactical sensor data processing and dissemination center mounted on 2 High Mobility Multi-Wheeled Vehicles (HMMWVs). CGS integrates imagery and signals Intelligence Surveillance and Reconnaissance (ISR) data products into a single visual presentation of the battlefield, providing commanders at Echelons Above Corps (EAC), Corps, Divisions and Brigades with Near Real Time (NRT) situational awareness, enhanced battle management and targeting capabilities. CGS initially served as the ground station for the Joint Surveillance Target Attack Radar System (Joint STARS), but has evolved into a multi-sensor ground station that receives, processes and displays sensor data from Predator, Tactical UAV (TUAV), Airborne Reconnaissance Low (ARL), U2, Guardrail/Common Sensor (GRCS) and Integrated Broadcast Service (IBS) while preserving a small tactical footprint. This system supports the legacy transition path of the Transformation Campaign Plan (TCP) and also develops advanced capabilities for incorporation into Army Distributed Common Ground System (DCGS-A) in support of the Objective Force. The long-term objective capability is a modular/scalable network centric design utilizing objective hardware that integrates signal, imagery, and other intelligence processing into a common ground station. Future capability includes improved connectivity with the Tactical Exploitation System (TES) and Guardrail Information Node (GRIFN) legacy systems to increase data sharing at the product library/database level. Next step is to develop an early objective capability based on legacy hardware that would improve information transfer and visualization/collaboration. Spiral development will address the upgrade of existing CGS data links, CGS software and ADP suite to receive and process the increased intelligence data generated by the JSTARS Radar Technology Improvement Program (RTIP), Aerial Common Sensor (ACS) and other sensors. CGS is the Army's premier radar Moving Target Indicator (MTI) ground station, receiving MTI data from Joint STARS, ARL and U2 sensors. Additionally, CGS receives, processes and cross cues data to include SAR, EO/IR, video and Signals Intelligence (SIGINT). CGS disseminates timely targeting and battlefield surveillance data to Army Battle Command System (ABCS) nodes such as the All Source Analysis System (ASAS) and Army Field Artillery Tactical Data System (AFATDS). A robust, self-contained communications suite ensures connectivity with both sensors and command and control nodes under a wide range of battlefield scenarios and conditions. As part of the Counter Offensive Force/Counter Attack Corps the CGS provides a key interface between intelligence and command and control systems by concurrently providing timely intelligence data and receiving the Common Tactical Picture (CTP) via the Tactical Operations Center (TOC) LAN. CGS contains a robust modeling and simulation capability that supports linkage to sensor simulations, system-of-systems training and participation in a wide range of exercises on a worldwide basis. The Joint Services Workstation (JSWS) is a single operator, transportable, reduced footprint, dismounted workstation variant of the CGS that uses the same hardware and software and provides the same functionality as the CGS. The CGS/JSWS fulfills an urgent air-land battlefield requirement by providing an Army/Air Force sensor and attack control capability to locate, track, classify and assist in attacking moving and stationary targets beyond the Forward Line of Troops (FLOT). Funding in FY03 will provide architecture upgrades facilitating dissemination of CGS products to command and control systems located across multiple echelons and expanding modeling and simulation capabilities in support of unit and staff training.												

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<u>FY 2001 Accomplishments:</u> • 3235 Developed the interfaces and software modifications that support Common Ground Station (CGS) Interoperability with Tactical Exploitation System (TES), Guardrail Information Node (GRIFIN) and participate in DCGS-A working Groups. • 2936 Joint Service Work Station (JSWS) Battle Lab Hardware and Support. • 905 Coalition Aerial Surveillance and Reconnaissance (CAESAR) Support. • 2105 Operational Assessment for Block 10 Pre-Planned Product Improvement to CGS V(2). • 4245 Developed and Supported Enhanced CGS Interoperability Capability for Division Capstone Exercise I and II. • 7200 Commercial-Off-The-Shelf (COTS) Technology Insertion for the CGS technology relative to modeling & simulation, Digitization, Visualization and Collaborative Tools. • 4200 Completed Phase 3 of the SCDL System Improvement Program (SIP 3). • 1884 Integration of SATCOM higher data rate. • 1423 Enhanced Modeling and Simulation Capabilities. Total 28133 <u>FY 2002 Planned Program</u> • 3411 Conduct integration and enhance CGS Collaboration/Data sharing with other tactical processing nodes across Battlefield echelons to support migration to DCGS-A Architecture. • 2276 Expand Modeling & Simulation capabilities to support unit and staff training via network environment. • 893 Coalition Aerial Surveillance and Reconnaissance (CAESAR) Support. • 1446 Enhance Sensor Exploitation, Visualization and Operator assisted tools sets to support migration to DCGS-A Architecture. Total 8026		

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<u>FY 2003 Planned Program</u> • 1010 Developmental Test/Operational Test to support simulation based environment. • 600 Coalition Aerial Surveillance and Reconnaissance (CAESAR) Support. • 1095 Continue Modeling & Simulation capabilities to support unit and staff training via network environment. • 2035 Continue integration and enhance CGS Collaboration/Data sharing with other tactical processing nodes across Battlefield echelons to support migration to DCGS-A Architecture. Total 4740																																														
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; padding: 5px;"><u>B. Program Change Summary</u></th> <th style="text-align: center; padding: 5px;">FY 2001</th> <th style="text-align: center; padding: 5px;">FY 2002</th> <th style="text-align: center; padding: 5px;">FY 2003</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">Previous President's Budget (FY2002 PB)</td> <td style="text-align: center; padding: 5px;">28632</td> <td style="text-align: center; padding: 5px;">8093</td> <td style="text-align: center; padding: 5px;">8896</td> </tr> <tr> <td style="padding: 5px;">Appropriated Value</td> <td style="text-align: center; padding: 5px;">28898</td> <td style="text-align: center; padding: 5px;">8093</td> <td style="text-align: center; padding: 5px;">0</td> </tr> <tr> <td style="padding: 5px;">Adjustments to Appropriated Value</td> <td style="text-align: center; padding: 5px;">0</td> <td style="text-align: center; padding: 5px;">0</td> <td style="text-align: center; padding: 5px;">0</td> </tr> <tr> <td style="padding: 5px;">a. Congressional General Reductions</td> <td style="text-align: center; padding: 5px;">0</td> <td style="text-align: center; padding: 5px;">-67</td> <td style="text-align: center; padding: 5px;">0</td> </tr> <tr> <td style="padding: 5px;">b. SBIR / STTR</td> <td style="text-align: center; padding: 5px;">0</td> <td style="text-align: center; padding: 5px;">0</td> <td style="text-align: center; padding: 5px;">0</td> </tr> <tr> <td style="padding: 5px;">c. Omnibus or Other Above Threshold Reduction</td> <td style="text-align: center; padding: 5px;">0</td> <td style="text-align: center; padding: 5px;">0</td> <td style="text-align: center; padding: 5px;">0</td> </tr> <tr> <td style="padding: 5px;">d. Below Threshold Reprogramming</td> <td style="text-align: center; padding: 5px;">-500</td> <td style="text-align: center; padding: 5px;">0</td> <td style="text-align: center; padding: 5px;">0</td> </tr> <tr> <td style="padding: 5px;">e. Rescissions</td> <td style="text-align: center; padding: 5px;">-265</td> <td style="text-align: center; padding: 5px;">0</td> <td style="text-align: center; padding: 5px;">0</td> </tr> <tr> <td style="padding: 5px;">Adjustments to Budget Years Since FY2002 PB</td> <td style="text-align: center; padding: 5px;">0</td> <td style="text-align: center; padding: 5px;">0</td> <td style="text-align: center; padding: 5px;">-4156</td> </tr> <tr> <td style="padding: 5px;">Current Budget Submit (FY 2003 PB)</td> <td style="text-align: center; padding: 5px;">28133</td> <td style="text-align: center; padding: 5px;">8026</td> <td style="text-align: center; padding: 5px;">4740</td> </tr> </tbody> </table> Change Summary Explanation: FY2003 - Funds were realigned from this project to support DCGS-A.			<u>B. Program Change Summary</u>	FY 2001	FY 2002	FY 2003	Previous President's Budget (FY2002 PB)	28632	8093	8896	Appropriated Value	28898	8093	0	Adjustments to Appropriated Value	0	0	0	a. Congressional General Reductions	0	-67	0	b. SBIR / STTR	0	0	0	c. Omnibus or Other Above Threshold Reduction	0	0	0	d. Below Threshold Reprogramming	-500	0	0	e. Rescissions	-265	0	0	Adjustments to Budget Years Since FY2002 PB	0	0	-4156	Current Budget Submit (FY 2003 PB)	28133	8026	4740
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<u>D. Acquisition Strategy:</u> The Milestone C approval for Common Ground Station (CGS) was granted by the Defense Acquisition Board in August 2000 and the remaining production quantity was procured in FY01. The baseline CGS is being fielded and is being enhanced via a spiral development approach which improves sensor interfaces, integration into Army Battle Command System (ABCS) networks, networked collaboration and exploitation tools. A block approach to migrate the CGS functionality into an objective Distributed Common Ground System Army (DCGS-A) is ongoing with Project Manager Signal Warfare (PM SW) and Army Space Program Office (ASPO). CGS is a critical component of DCGS-A Interim and Objective capability.																																																																																																			
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I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . TCDL	CPFF	General Dynamics, Scottsdale, AZ	1645	0		0		0		0	1645	1645
b . SCDL/JSWB Data Link Improvement	C/FP	Cubic Corp, San Diego, CA	11641	4000	4Q	0		0		0	15641	15641
c . Enhanced Sensor Exploitation & Operator Tools/P3I Development	C/FP	General Dynamics, Scottsdale, AZ	10612	0		1325	2Q	0		0	11937	0
d . Modeling & Simulation	C/FP	General Dynamics, Scottsdale, AZ	0	1038	2-4Q	2094	2Q	1007	2Q	Continue	Continue	Continue
e . JSWS Battle Lab Hardware Support	FFP	General Dynamics, Scottsdale, AZ	0	2836	2Q	0		0		0	2836	2250
f . Field Support	T&M	General Dynamics, Scottsdale, AZ	5764	686	3Q	0		0		0	6450	6882
g . Technology Insertion	FFP	General Dynamics, Scottsdale, AZ	0	7000	2Q	0		0		0	7000	7000
h . SATCOM Interface	T&M	General Dynamics, Scottsdale, AZ	0	1733	2Q	0		0		0	1733	0
i . CAESAR Support	C/FP	General Dynamics, Scottsdale, AZ	0	750	2-4Q	822	2Q	552	1Q	Continue	Continue	Continue

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I. Product Development (continued)	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
j . CGS Collaboration/Data Sharing	C/FP	General Dynamics, Scottsdale, AZ	0	2899	4Q	3138	2Q	1884	2Q	0	7921	0
Subtotal:			29662	20942		7379		3443		Continue	Continue	Continue
II. Support Cost	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Matrix Support	MIPR	CECOM	1557	1149	1Q	102	2Q	55	1Q	Continue	Continue	Continue
b . Joint Test Force Support	MIPR	Various	228	200	1Q	92	2Q	55	1Q	Continue	Continue	Continue
Subtotal:			1785	1349		194		110		Continue	Continue	Continue

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III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Operational Reliability Demonstration Test (ORDT)	MIPR	TEXCOM/OEC	6770	0		0		0		0	6770	6770
b . ORDT	C/T&M	General Dynamics, Scottsdale, AZ	5387	0		0		0		0	5387	5387
c . Block 10 Operational Assessment	T&M	General Dynamics, Scottsdale, AZ	0	1269	2Q	0		0		0	1269	5586
d . Division Capstone Exercise I & II	CPFF	General Dynamics, Scottsdale, AZ	0	3203	2-4Q	0		0		0	3203	4838
e . Spiral Developmental / Interoperability Testing	T&M	General Dynamics, Scottsdale, AZ	0	592	1Q	0		0		0	592	0
f . DT/OT	MIPR	Multiple	0	0		0		929	2Q	0	929	0
Subtotal:			12157	5064		0		929		0	18150	22581

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IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Project Management	In House	PM, Common Ground Station	2058	778	1Q	453	1Q	258	1Q	Continue	Continue	Continue
Subtotal:			2058	778		453		258		Continue	Continue	Continue
Project Total Cost:			45662	28133		8026		4740		Continue	Continue	Continue