

PART I – SECTION C

STATEMENT OF WORK

FOR

**STRATEGIC WAR PLANNING SYSTEM
(SWPS)**

Solicitation # F25600-02-R-0037

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REVIEWED BY:

CONTRACTING OFFICER

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SWPS PROJECT MANAGER

USSTRATCOM/J6341

SWPS MODERNIZATION PROGRAM – PHASE 1

STATEMENT OF WORK

FOR

ACQUISITION PLANNING SUPPORT

1.0 Background.

1.1 The President and the Secretary of Defense has directed transformation throughout the Department of Defense. This directly affects USSTRATCOM initially through the Nuclear Posture Review and more recently through change 2 to the Unified Command Plan (UCP) 2002. USSTRATCOM is directed to establish and provide capabilities established in the Nuclear Posture Review, full-spectrum global strike, coordinated space and information operations capabilities to meet both deterrent and decisive national security objectives, provide operational space support, integrated missile defense, global C4ISR and specialized planning expertise to the joint warfighter.

1.2 In anticipation of these additional missions, an element in the President's budget for FY03 was the Strategic Capability Modernization (SCM). SCM includes the integration of an advanced network infrastructure that enables communications/intelligence/ surveillance, command decision support, and situational awareness to provide the necessary capabilities to support the New TRIAD missions. These missions may include, but are not limited to, holding at risk Hard and Deeply Buried Targets, special strike C2 systems and countering Weapons of Mass Destruction.

1.3 One of the key capabilities necessary to meet these new critical missions is a robust planning and execution system that is capable of both deliberate and adaptive planning employing the full spectrum of kinetic and non-kinetic weapons. The Strategic War Planning System (SWPS) is the nation's only strategic war planning system. However, it was developed and deployed for the Cold War and is not designed to handle the collaboration, information exchange, peacetime deliberate mission planning, decision support and complex strike options required of the modern strategic environment. Additionally, as a deliberate planning system, SWPS is not sensitive to the improved speed of available surveillance, intelligence collection and analyses, and range of U.S. system capabilities. USSTRATCOM must transform SWPS to meet the new national objectives and assure the nation of a premier war planning system.

1.4 The "New" SWPS will transform as USSTRATCOM's missions are matured, new systems are developed, and the threat changes. The "New" SWPS must be innovative in its flexibility, scalability and extensibility so it can support the production of the following: OPLAN 8044; Theater Support Planning Documents; new UCP tasking and related products. The "New" SWPS must advance USSTRATCOM's adaptive and collaborative planning capabilities for UCP missions of nuclear, conventional, Global Strike, Information Operations, Integrated Missile Defense, Space, and other advanced strategic missions as they are defined. It must support the capability to interface USSTRATCOM with other parties (national leadership, combatants, intelligence and system acquisition) via the modernized C3 systems addressed in other parts of the SCM as managed by the C2 modernization program at USSTRATCOM.

2.0 Objectives.

2.1 "New" SWPS will be a transformation from the current system and the Government realizes there are multiple potential solutions to implement these objectives. Therefore, a two-phase approach has been designed for the acquisition of "New" SWPS. Phase One is a program definition and risk reduction effort that will look at multiple potential solutions and Phase Two will implement a single solution. This Statement of Work provides the background and objectives for both phases since successful execution of Phase One depends on an understanding of the total program objectives as follows:

- Support the evolving nuclear war-planning mission. "New" SWPS must continue to provide the national leadership with a national nuclear war plan that fully supports national objectives as it has for the past 30 years. The system must continue to be updated to meet evolving national guidance and objectives.
- Continue the current theater support-planning mission. USSTRATCOM must meet its commitment to the Theater Combatant Commander's strategic and weapons of mass destruction (WMD) planning needs.
- Transform SWPS planning within USSTRATCOM. This will be accomplished by changing the SWPS architecture from a federated systems concept to a system-of- systems concept. The objective is an innovative, flexible, scalable and extensible war planning architecture to support USSTRATCOM's changing and increasing missions. The "New" SWPS will be required to support new mission areas such as Global Strike, and incorporate the strategic planning of conventional and emerging non-kinetic strike systems.
- Establish management processes that will allow USSTRATCOM to evaluate impacts on cost, schedule and performance due to evolving requirements. These processes will link together cost, schedule and requirements, so USSTRATCOM will be able to change priorities and analyze impacts with minimal contractor involvement.

3.0 "New" SWPS.

3.1 To meet the above objectives, USSTRATCOM has developed process simulation models based upon transforming the current system to meet redesigned planning processes. The models call for:

- Reuse of the existing planning functions but reengineered to increase speed and efficiency.
- Expansion of the architecture to integrate and or interface additional and more sophisticated planning tools and analysis models that address not only best-estimate performance and effects, but also plausible uncertainties in these parameters,
- Implementation of a revolutionary new optimization function that is rules-based to allow for the rapid building of various options to support different and varied scenarios.
- Implementation of a new decision support capability that provides better insight into the increasing array of solutions being proposed and their confidence or uncertainty bounds to be understandable by not only combatants but also to systems and intelligence experts that support the planning process.
- Implementation of a revolutionary new executive function that provides workflow management, increased automation, and a broad insight into the operation of the system.

Implementation of this transformation is aggressive but not unprecedented and as such could have multiple solutions.

3.2 The system's architecture will be a key component to the successful achievement of the objectives. The architecture must be flexible, extensible and scalable to meet evolving USSTRATCOM and national decision requirements. The final architecture design will be innovative in its approach to supporting current and future functionality and integration of that functionality, and recommend a reasonable migration strategy from the current architecture. It will allow for a software architecture that takes into consideration various, but limited, integration strategies for subsystems based on USSTRATCOM's ability to change the subsystem. The architecture will consider the security implications of the system and be compliant with the information assurance strategies of the Department of Defense.

4.0 Phase One.

4.1 Phase One is designed to reduce the risk to the program by providing further program definition in support of a milestone decision and investigating integration alternatives. Phase One is highlighted by a Risk Reduction contract. This effort may be awarded to two different contractors to provide the Government with more than one approach to the system architecture, software architecture, integration strategy, and program management processes. This will be a firm fixed price, estimated seven-month effort that will provide documented results in the above areas for Government evaluation. The Risk Reduction contract will provide the Government a range of options to consider as it proceeds to a Milestone B Decision and the production of the system in Phase Two. During Phase One, the contractors shall produce several documents for delivery to the Government and the Government will meet

monthly with the contractors to review progress on the documents. The contractors shall work with the Systems IPT to resolve ambiguities, answer questions, and provide additional source documentation as appropriate.

4.1.1 The Software Development Plan (SDP) describes the developer's plans for conducting a software development effort. The term "software development" is meant to include new development, modification, reuse, reengineering, integration, maintenance, and all other activities resulting in software products. The SDP provides the Government insight into, and a tool for monitoring, the processes to be followed for software development, the methods to be used, the approach to be followed for each activity, and project schedules, organization, and resources.

4.1.2 The Software Requirements Specification (SRS) specifies the requirements for a Computer Software Configuration Item (CSCI). During Phase One the SRS shall describe the requirements for the optimizer, decision support, and executive functions.

4.1.3. The contractors shall look at the potential for applying Effects Based Planning (EBP) to the SWPS environment. The Government will implement effects based planning and desires recommendations and suggestions for implementation in this environment.

4.1.4 The Program Plan (PP) shall be an integrated document showing technical, cost and schedule data as they apply to a contract work breakdown structure (CWBS). It shall provide information on the contractor's organization and practices and techniques to be used in managing the program and provide information on how the contractor shall operate and interface with the Government, as the integrator, and other SWPS contractors.

4.1.5 The Integrated Master Plan (IMP) clearly and succinctly documents how SWPS will transform to meet the changing USSTRATCOM missions. The IMP brings together several planning disciplines to provide a comprehensive description of the activities that need to occur throughout the modernization effort. The IMP shall show how the processes described in the Program Plan would be applied to implementing solutions.

4.1.6 The System/Subsystem Design Description (SSDD) describes the software architecture to be developed by the contractor, to include integration/interface with other applications and system elements (e.g., database, interfaces), COTS and GOTS use, as well as all newly developed Computer Software Configuration Items (CSCIs).

5.0 Phase Two.

5.1 Phase Two is the actual production phase that will incorporate evolutionary acquisition¹ and utilize spiral² and incremental³ development as appropriate. To support Phase Two, a multiple-year contract with multiple optional extensions will be awarded to a single contractor to:

- Design and develop the software for the optimization, decision support, and executive functional requirements;
- Provide integration support to the Government program office team through the Systems IPT; and
- Provide software maintenance to several existing applications such as: Theater Integrated Planning System (TIPS), Document Production System (DPS), Document Management System (DMS), etc.

This contract may also include some additional optional tasks that will be defined at a later date and priced separately. As the system's integrator, the Government will provide the interface with the existing application.

¹ Evolutionary Acquisition – An acquisition strategy that defines, develops, produces or acquires and fields an initial hardware or software increment or operation capability. It is based on technologies demonstrated in the relevant environments, time phased requirements and demonstrated manufacturing or software deployment capabilities.

² Spiral Development – A development process used in evolutionary acquisition in which the desired capability is identified, but end state requirements are not known at program initiation. Requirements for future increments may be dependant upon technology maturation and/or user feedback.

³ Incremental Development – A development process used in evolutionary acquisition in which the end state requirement is known and the requirements will be met over time in one or more increments. Portions of an increment could utilize the spiral development process.

contractors and winner of this effort. The SWPS application contracts will be expanded as appropriate to include requirements to transform their applications to meet the goals for the overall system. Prior to the initiation of this phase, the Government will define the Systems Engineering processes that will be shared between the Government and contractors, who has responsibility for the other processes, and how the Government will implement those processes for which it is responsible.

5.2 The Government envisions software capabilities will be delivered to the Government in the same manner as they are today. For example, each year capabilities, as previously documented in Technical Requirements Documents (TRDs), and any new requirements are negotiated for delivery in the following year. Requirements placed on contract include traditional software maintenance type requirements (corrective and perfective changes), enhancements driven by the users and enhancements driven by the need to transform the system. It will be the Government's responsibility, in close coordination with all contractors, to ensure that all requirements are properly coordinated and phased. This will result in a single baseline of SWPS software in the production environment at any one time. Two baselines will not be maintained. It also provides the flexibility to implement capabilities that meet the Government's priorities as they change throughout the program. Once the software components are delivered to the Government, they will go through rigorous testing processes to ensure all agreed capabilities have been delivered and function properly and previously existing capabilities are still functional. After approval in the testing process, the software will then be considered for promotion into the operational environment.

6.0 Deliverables:

6.1 Phase One. This phase shall be performed over an estimated seven-month period and result in the following deliverables. Additional information for each deliverable is contained on the DD Form 1423, Contract Data Requirements List:

Deliverables	
Document	Due Date
Software Development Plan (SDP)	December 19, 2003
Software Requirements Specification (s) (SRS)	December 19, 2003
Application of Effects Based Planning to the SWPS environment (EBP)	December 19, 2003
Program Plan (PP)	December 19, 2003
Integrated Master Plan (IMP)	December 19, 2003
System/Subsystem Design Description (SSDD)	December 19, 2003

6.2 Phase Two. Phase Two deliverables will be defined at a later date prior to the implementation of Phase Two.

LIST OF LEGACY STRATCOM APPLICATIONS
(NON-INCLUSIVE)

SYSTEM NAME	ACRONYM	
Strategic War Planning System	SWPS	
?		
Program Execution Planning System	PEPS	
Air-to Air Probability of Kill	AAPK	
Advanced Air-to-Air System Performance Evaluation Model	AASPEM	
Arsenal Exchange Model	AEM	M
Airborne Radar Detection	AIRADE	M
? Advanced Joint Effectiveness Model	AJEM	
Advanced Low Altitude Radar Model	ALARM	M
Airborne Radar, Infrared, and Electro Optical Sensor	ARIES	
?		
	ARMDGR	
Avoidance Range	AVOID	
? BLUEMAX III (V 2.0)	BLUEMAX III	
? Ballistic Missile Damage	BMD	
? Brawler	BRAWLER	
Consequence Analysis Tool Set	CATS	
Consequences Assessment Tool Set	CATS	
? Ballistic Missile Damage Model	CIBMDX	
?		
	CLUTTER	
? Consolidated Radiation Environment Software	CORES	
? Computation of Vulnerable Areas and Repair Times model.	COVART	
? Coverage Table Generator	COVER	
	CRADII	
Digital Integrated Air Defense Simulation	DIADS	
Digital Integrated Modeling Environment	DIME	M
Extended Air Defense Simulation	EADSIM	M
Earth Penetrating Weapon	EPW	M
Enhanced Surface to Air Missile Simulation	ESAMS	
? Event Sequence Processor	ESP	
Fallout Assessment System / Civilian Vulnerability Indicator Code Replacement & Maintenance	FAS / CIVIC	M
? Multiple Engagement Model Preprocessor	FLYMEM	
? Flight Path Generator	FPG	
Front End / Back End to AEM	FROBAK	M

Get Meteorological Data -- STRATCOM	GETMETSTRAT
	GNU PLOT
Hazard Assessment System and Consequence Analysis (Delivered with the Hazard Prediction and Assessment Capability (HPAC) System)	HASCAL
High Speed Exoatmospheric Multiburst Model (Delivered with the Multiple Engagement Module (MEM))	HISEMM
Higher Level Architecture	HLA
HOTSPOT	HOTSPOT
Hazard Prediction and Assessment	HPAC
Integrated Analysis System	IAS
Integrated Analysis System DV Mover interface	IAS DV
Integrated Analysis System EADSIM Interface	IAS EADSIM
Integrated Analysis System Executive Interface	IAS EXEC
Integrated Analysis System RISOP Interface	IAS RISOP Interface
Integrated Analysis System Strategic Offensive Defensive Simulation (SODSIM) Input	IAS SODSIM (I)
Integrated Analysis System Strategic Offensive Defensive Simulation (SODSIM) Output	IAS SODSIM (O)
Integrated Missile and Radar Simulation (not used??)	IMARS
Improved Many-on-Many	IMOM
Integrated Nuclear Computational Aid	INCA
	IVIEW
Joint Modeling and Simulation System	J-MASS
Joint Resource Assessment Data System	JRADS
Joint Services Endgame Model	JSEM
Joint Simulation System	JSIMS
Joint Warfare System	JWARS
Fallout Environment Mode (Delivered with the Fallout Assessment System / Civilian Vulnerability Indicator Code (FAS/CIVIC) System)	KDFOC3
LAN SCAN	LAN SCAN
Low Observable Radar Output Model	LOROM
Munitions Effectiveness Assessment (Delivered with the Hazard Prediction and Assessment capability (HPAC) System)	MEA

X	Multiple Engagement Model	MEM	ABM M attention
	Multiple Engagement Model Viewer??	MEMVIEW	
	Man-In-Loop Advanced Air-to-Air Performance Evaluation Model II	MIL-AASPEM II	M
	Nuclear Effects Models for Estimating Sensitivities to Input Scenarios	NEMESIS	
	Nuclear Weapons Effects (formerly called SNE)	NEW	
	New Fallout Radiation Environment (Delivered with the Fallout Assessment System / Civilian Vulnerability Indicator Code (FAS/CIVIC) System)	NEWFALL	
	Network of Integrated Period Airborne Surveillance Systems (not used, was a DIME product)	NIPASS	
	Network Interdiction Tool (under development)	NIT	
?	Oilstock	Oilstock	
?	Passive Detection	PD	
	Probability of Damage Calculator	PDCALC	-g
	Probability Of Damage Calculator - Windows Version	PDWin	M
	Persistent Environments & Aircraft Response Model	PEARL	M
?	PHOENIX (ACES PHOENIX)	PHOENIX	
?	Probability of Intercept/Probability of Lethality Table	PIPL	
	Radar Directed Gun System Simulation	RADGUNS	M
	Retrieval Software	Retrieval Software	
?	Radio Frequency Fuze (part of JMASS)	RF Fuze	
?	Radiation-Induced Performance Decrement	RIPD	
	Red Integrated Strategic Operations Plan	RISOP	
?	Rapid Production Module	RPM	
?	Radar Terrain Masking	RTM	
	Surface-to-Air Missile Automated Routing and Maintenance System	SAMARMS	M
	Surface-to-Air Missile Probability of Kill	SAMPK	
		SANDX	
X	SLBM Adaptive Targeting System	SATS	-g M -g
	Second-Order Closure Integrated PUFF (C345)	SCIPUFF	
	Secondary Nuclear Effects (now called NEW)	SNE	
	Strategic Offensive Defensive Simulation	SODSIM	M

Spectral In-Band Radiometric Imaging Of Targets and Scenes	SPIRITS
SODSIM to SAS Intermediate File Generator	SSINTGEN
TAC Brawler	TAC Brawler
Tactical Aircraft Mission Planning System	TAMPS
Total Operational Environment for Aircraft Systems (Delivered with the Fallout Assessment System / Civilian Vulnerability Indicator Code (FAS/CIVIC) System)	TORAS
Technical Radar Analysis Modeling Simulation	TRAMS
Trajectory Analysis Program	TRAP
Tactical Sensor Planner	TSP
Vapor, Liquid, & Solid Tracking (Delivered with the Fallout Assessment System / Civilian Vulnerability Indicator Code (FAS/CIVIC) System)	VLSTRAK
Weapon Assignment Model	WAM
Weapons Effects Modeling System	WEMS
Internet / Joint National Test Facility (JNTF)	
Wargaming Enhancements	
Penetration and Cratering Effects	PC Effects
Enhanced Document Generation Engine	EDGE
SWPS Adaptive Planning	SWPSAP
TAFI	TAFI
Theater Integrated Planning SubSystem (TIPS) Application Graphical Management	TAGM
Target Activity Management	TAM
Target Activity Planning	TAP
Theater Integrated Planning SubSystem (TIPS) Applying Rings and Triangles	TART
Theater Integrated Planning SubSystem (TIPS) Alert Services	TAS
Theater Integrated Planning SubSystem (TIPS) EDB Interface	TEDB
Theater Integrated Planning SubSystem (TIPS) File Structure	TFS
Theater Integrated Planning SubSystem (TIPS) Help and Users Manual	THUM
Theater Integrated Planning SubSystem (TIPS) Interface for Data Exchange	TIDE

TIPS
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Theater Integrated Planning SubSystem (TIPS)	TIPS
Theater Integrated Planning SubSystem (TIPS) Online Support Services	TOSS
Theater Planning Support Document Nuclear	TPDN
Theater Plans Response Cell	TPRC
Theater Planning Support Document Conventional	TPSDC
Theater Planning Support Document Developer	TPSDD
Theater Integrated Planning SubSystem (TIPS) Request Activity Control	TRAC
Theater Integrated Planning SubSystem (TIPS) Utility Frame	TUF
Theater Integrated Planning SubSystem (TIPS) Work Flow Manager	TWFM
Strategic War Planning System Enterprise Database	SWPS EDB
Automated Air Facilities Information File	AAFIF
Block Transmission System	BKXMIT
Consolidated Air Defense Order of Battle / Generated Defense Order of Battle	CADOB / GENDOB
Document Production System	DPS
Document Production System Viewer	DPSV
DV to DV Mover	DV_MOVER
EDB New Look Data Mover	ENDAM
EDB New Look API	ENLAP
EDB New Look Object Manager	ENLOM
External Support System	ESS
Fratricide Build System	FRATBLD
File View System	FV
Radar Fix Point System	RFP
Reserve Force Target List Viewer	RFTLV
Reconnaissance Planning System	RPS
Terrain Contour Matching	TERCOM
Terrain Contour Map (TERCOM) Placement and Evaluation Program	TPEP
Climatological and Forecast Winds Data	WINDS
National Target Base/National Desired Ground Zero List Integrated Development System	NIDS II
Census Bureau Urban Polygons	CBURP
NDL Stored Procedures	NDLSP
NDL Support System	NDLSS
Nuclear Earth Penetrator Planning System	NEPPS

DMS

NIDS
NDL

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Automated Windows Planning System	AWPS
Air Vehicle Planning System	APS
Common Low Observable Auto Router	CLOAR
Cruise Missile Pre-processor/Final Acceptance Procedures Check	CMPP/FAP
Portable Flight Planning System--Route Translator Utility	PFPS-RTU
Probability of Damage Calculation	PD CALC
Flight Performance Model	FPM
Flexible Missile Model (Delivered with the Missile Graphics Planning System (MGPS))	FMM
Footprint Model (Delivered with the Missile Graphics Planning System (MGPS))	FTPRT
Minuteman III Accessibility Program (Delivered with the Missile Graphics Planning System (MGPS))	G101
MIRV Domain Generator Program (Delivered with the Missile Graphics Planning System (MGPS))	M115
Missile Graphics Planning System	MGPS
Universal Interactive Domain Module (Delivered with the Missile Graphics Planning System (MGPS))	UIDM
Universal Rapid Accessibility Program (Delivered with the Missile Graphics Planning System (MGPS))	URAP
SLBM INTEGRATED PLANNING SYSTEM (DELIVERED BY DAHLGREN REPS TO SWPS)	SIPS

APS

MGPS

M-9

MGPS - M

Also 20/10/00
CCB/ISLAN
etc

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