FY 2003 RDT&E,N Budget Item Justification Sheet DATE: FEBRUARY 2002

BUDGET ACTIVITY: 4 PROGRAM ELEMENT: 0604707N
PROGRAM ELEMENT TITLE: SEW Architecture/Eng Support

(U) COST: (Dollars in Thousands)

PROJECT NUMBER & TITLE	FY 2001 ACTUAL	FY 2002 ESTIMATE	FY 2003 ESTIMATE	FY 2004 ESTIMATE	FY 2005 ESTIMATE	FY 2006 ESTIMATE	FY 2007 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
X0798 OTH Targeting	1,986	2,093	1,664	2,083	2,118	1,980	2,050	CONT.	CONT.
X2144 SEW Engineering	12,086	8,359	9,959	13,686	12,364	13,923	12,807	CONT.	CONT.
X9054 IT-21 Block 1 C4ISR Computing Equipment		5,947						0	5,947
R2630 Adv Comm & Info		1,388						0	6,227
R2357 Maritime Battle Center	23,441	21,486	20,000	19,687	19,010	19,399	19,761	CONT.	CONT.
TOTAL	37,513	39,273	31,623	35,456	33,492	35,302	34,618	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This Program Element (PE) contains three projects: Over-the-Horizon Targeting (OTH-T), Space and Electronic Warfare (SEW) Engineering, and Maritime Battle Center (MBC). The projects are systems engineering non-acquisition programs with the objectives of developing, testing, and validating Naval Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) architectures to support naval missions in Joint and Coalition Theater. The mission of this program element is carried out by multiple tasks that are used to ensure Naval C4ISR Command and Control Warfare (C2W) components of SEW are effectively integrated into the C4ISR architectures. Additionally the program ensures that (1) the composite operational capabilities of SEW systems (not the individual component systems) conform to the Naval C4ISR architecture as related to the objectives of National Defense Strategy and evolving joint visions and direction, such as Joint Vision 2010 (JV 2010), "Copernicus…C4ISR for the 21st Century," "Forward…From the Sea," C4I For the Warrior, and the Defense Science Board Summer Study Task Force on Information Architecture for the Battlefield and are guided by CINC requirements; and (2) that SEW systems and systems integration effort involves leading-edge technology transfer of information processing technologies primarily through integration of government and commercial off-the-shelf (GOTS/COTS) products to enhance the Navy's operational capability, interoperability, flexible reconfiguration, as well as reduce costs and (3) that SEW systems integration

efforts support Expeditionary C5 Grid (EC5G) to provide the foundation for FORCEnet and the Navy's contribution to the Global Information Grid. The MBC is a distributed organization focusing on experimentation concept development and analysis tasks are coordinated by the Navy Warfare Development Command, with C4ISR technical and acquisition support coordinated by the Space and Naval Warfare Systems Command in FY99. Effective fiscal year 2000, MBC changes claimancies from Space and Naval Warfare Systems Command to Office of Naval Research. The MBC will also act as the Navy representative to the Joint Battle Center and the Battle Labs of other services.

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under DEMONSTRATION & VALIDATION because it develops and integrates hardware for experimental tests related to specific ship or aircraft applications. It also develops a virtual demonstration and validation environment across Navy for C4ISR.

B. (U) PROGRAM CHANGE FOR TOTAL P.E.:

	FY2001	FY2002	FY2003
(U) FY2002 President's Budget	37,750	32,259	
(U) Adjustments from PRESBUDG:			
(U) Congressional Plus-Ups		7,400	
(U) SBIR Adjustments	-470		
(U) Execution Adjustments	233		
(U) Section 8123 Mgmt. Reform Initiative Reduction		-351	
(U) FFRDC Reduction		-35	
FY2003 President's Budget Submission	37,513	39,273	31,623

FY 2003 RDT&E,N Budget Item Justification DATE: FEBRUARY 2002

BUDGET ACTIVITY: 4 PROGRAM ELEMENT: 0604707N
PROGRAM ELEMENT TITLE: SEW Architecture/Eng Support

(U) COST: (Dollars in Thousands)

NUMBER TITLE	FY 2001 ACTUAL	FY 2002 ESTIMATE	FY 2003 ESTIMATE	FY 2004 ESTIMATE	FY 2005 ESTIMATE	FY 2006 ESTIMATE	FY 2007 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
X0798 OTH Targeting	1,986	2,093	1,664	2,083	2,118	1,980	2,050	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Over-the-Horizon Targeting (OTH-T) program provides a virtual, global systems integration and test facility for Information Technology for the 21st Century (IT-21) C4ISR technology that supports the collection, transmission, correlation, and display of track data into a Common Operational Picture (COP) in support of warfighting requirements. This effort was originally undertaken to support targeting of over the horizon weapons such as the TOMAHAWK cruise missile. The common view of the battle space that was provided to the warfighter by OTH-T has been applied across the spectrum of warfare missions; however, the technology and doctrine on which it was based has changed radically in recent years. The result is that the first goal of the OTH-T program is to transition the OTH-T architectures and systems from older Military Standard (MIL-STD) technologies to Commercial Off the Shelf (COTS) and Government Off the Shelf (GOTS) based technologies that support Network Centric Warfare and the Navy's plan to support JV 2020 implementing IT-21 technology. The second goal of the OTH-T program is to support integration and interoperability of all C4I systems into warfighting capabilities. This support includes providing technical expertise afloat and ashore via a cadre of highly-trained Fleet Systems Engineers who ensure smooth integration of new capabilities to enhance OTH-T during major Fleet exercises and demonstrations which are used to validate and evaluate developed portions of configuration. The OTH-T program integration and testing in support of warfighting capabilities includes interoperability testing for both MIL-STD and IT-21 COTS equipment for submarines, surface, and land based components. Allied interoperability is an important issue for future naval operations, especially with the Navy initiative to expand Internet Protocol (IP) networking throughout the Fleet (IT-21 and Naval Intranet). Specific solutions do not exist to solve the IP connectivity issue with Allies. Funding will allow development of solutions for emerging Allied interoperability requirements. Data throughput will need to be increased for the exchange of large size files within the limitations of the high frequency (HF) medium in support of, for example, Collaboration at Sea (CAS). Funding will allow for further development of potential solutions for merging improved transmission control protocol/internet protocol (TCP/IP) capability with advance digital network systems (ADNS) and existing international standards (e.g.: STANAG 5066). Funding will also allow for development of subnet relay protocols, which will provide for a significant improvement within and between battlegroups.

FY 2003 RDT&E,N Budget Item Justification DATE: FEBRUARY 2002

BUDGET ACTIVITY: 4 PROGRAM ELEMENT: 0604707N PROJECT NUMBER: X0798
PROGRAM ELEMENT TITLE: SEW Architecture/Eng PROJECT TITLE: OTH Targeting

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 2001 ACCOMPLISHMENTS

- (U) ($234) Integrated code combination techniques developed during FY00 into internationally agreed HF data profiles for significant improvement in guarantee of delivery of email attachments in poor propagation conditions associated with the HF medium.

- (U) ($254) Exploited and coordinated subnet relay protocols and multi-frequency band channels to provide greater data throughput in the HF and ultra high frequency (UHF) Line-of-Site radio frequency (RF) mediums.

- (U) ($145) Based on results of integration testing, developed capability functional description documents which will be used by the programs of record to define system functional requirements that support these capabilities. Developed system interface standards where required. Provided a valid master configuration database in support of the new IT-21 Battle Group configurations.

- (U) ($296) Conducted systems integration, interoperability, using the facilities of the Land Based Test Network (LBTN) and Systems Integration Environment. (Reconfigurable Land Based Test Sites (RLBTS) have been expanded to validate IT-21 technologies prior to shipboard installation.) Developed test plans and executed integration tests for IT-21 networks to GCCS-M, participated in JFK battlegroup Distributed Engineering Plant, by providing GCCS-M nodes during the test and collecting track data. Provided the key C4ISR node to the DEP. Provided DEMO, Dry Run, and Briefings for Mr. Schneider, Deputy ASN,RD&A. Provided over 30 briefs to visiting dignitaries, test agencies, program offices, etc. to describe interoperability efforts and certification requirements.

- (U) ($463) Validated and verified the interoperability of architectures for new capabilities and supporting systems to the fleet. Made corrections and modified Repeatable Performance Evaluation Analysis Tool (REPEAT) software for use in interoperability testing, and distributed to more than 75 additional DoD users, for conducting Navy and joint interoperability testing. Served as technical expert in researching the fleet’s technical questions and providing information.

- (U) ($392) Ensured joint interoperability of all systems on the NI by enforcing compliance with the Joint Technical Architecture. Verified relevance, recommended modifications to, and maintained OTH-T specifications for support of distribution of the COP to maritime forces. The program's systems engineers made input into the SPAWAR advanced technology division to insure critical deficiencies are high priority during investigation of IT-21. Provided connectivity and conducted integration and interoperability testing and provided systems engineering expertise for both IT-21 and MIL-STD technologies.

- (U) ($202) Developed test plans and procedures, and executed interoperability tests in accordance with OPNAV 9410.5A. Identified testing issues via documented trouble reports and worked with developers to resolve prioritized issues. Also worked with developers prior to test events to identify potential problem areas prior to the expenses of testing to preserve resources. Provided test reports and certifications. The following systems were tested: ATWCS and OASIS Display System, TTWCS, GCCS-M, CCS MK II, to name a few.

2. (U) FY 2002 PLAN

- (U) ($243) Integrate code combination techniques developed during FY01 into internationally agreed HF data profiles for significant improvement in guarantee of delivery of email attachments in poor propagation conditions associated with the HF medium. Exploit HF Full Duplex protocols and adaptive compression techniques to greatly improve data throughput.

- (U) ($273) Exploit and coordinate subnet relay protocols and multi-frequency band channels to provide greater data throughput in the HF and UHF Line of Site RF mediums. Exploit HF Beyond-Line-of-Site and Extended-Line-of-Sight ground – and sky – waveforms to improve long range tactical communications. Adapt IP Quality of Service (QOS), Voice over IP (VoIP) and IP VTC (H.323) protocols to subnet relay communications.

- (U) ($154) Based on results of integration testing, develop capability functional description documents which will be used by the programs of record to define system functional requirements that support these capabilities. Develop system interface standards where required. Provided a valid master configuration database in support of the new IT-21 Battle Group configurations.

- (U) ($314) Conduct systems integration, interoperability, using the facilities of the Land Based Test Network (LBTN) and Systems Integration Environment. (Reconfigurable Land Based Test Sites (RLBTS) have been expanded to validate IT-21 technologies prior to shipboard installation.) Develop test plans and execute integration tests for IT-21 networks to GCCS-M, participate in Distributed Engineering Plant certification testing, by providing GCCS-M nodes during the test and collecting track data. Provide the key C4ISR node to the DEP. Provide DEMO's, Dry Run, and Briefings as required to visiting dignitaries, test agencies, program offices, etc. to describe interoperability efforts and certification requirements.

- (U) ($446) Validate and verify the interoperability of architectures for new capabilities and supporting systems to the fleet. Make corrections and modify REPEAT (Repeatable Performance Evaluation Analysis Tool) software for use in interoperability testing, and distribute to new DoD users, to facilitate Navy and joint interoperability testing. Serve as technical experts in researching the fleet's technical questions and providing information.

- (U) ($413) Ensure joint interoperability of systems on the NI by enforcing compliance with the Joint Technical Architecture. Verify relevance, recommend modifications to, and maintain OTH-T specifications for support of distribution of the COP to maritime forces. The program's systems engineers make input into the SPAWAR advanced technology division to insure critical deficiencies are high priority during investigation of IT-21. Provide connectivity and conduct integration and interoperability testing and provide systems engineering expertise for both IT-21 and MIL-STD technologies.

- (U) ($250) Perform integration and interoperability testing Over The Horizon, Targeting systems in accordance with OPNAV 9410.5A. Perform certification testing for systems undergoing configuration change, developmental testing or operational testing in accordance with program requirements. Develop test plans and test procedures to perform such testing, record data, submit and track trouble reports and report on status to N62 as to disposition of certification status of OTH-T programs.

3. (U) FY 2003 PLAN

- (U) ($235) Integrate code combination techniques developed during FY02 into internationally agreed HF data profiles for significant improvement in guarantee of delivery of email attachments in poor propagation conditions associated with the HF medium. Exploit HF Full Duplex protocols and adaptive compression techniques to greatly improve data throughput.

- (U) ($261) Exploit and coordinate subnet relay protocols and multi-frequency band channels to provide greater data throughput in the HF and UHF Line-of-Sight RF mediums. Exploit HF Beyond-Line-of-Site and Extended-Line-of-Sight ground – and sky – waveforms to improve long range tactical communications. Adapt IP Quality of Service (QOS), Voice over IP (VoIP), and IP VTC (H.323) protocols to subnet relay communications.

- (U) ($239) Exploit GOTS/COTS to support integration and interoperability of multi-level coalition forces to enhance OTH-T capabilities in a Network Centric Warfare environment. Validate and verify the specifications for interoperability of the COP, chat, distributive collaborative planning, and network management tools with allied maritime forces.

- (U) ($426) Conduct systems integration, interoperability, using the facilities of the Land Based Test Network (LBTN) and Systems Integration Environment. (Reconfigurable Land Based Test Sites (RLBTS) have been expanded to validate IT-21 technologies prior to shipboard installation.) Develop test plans and execute integration tests for IT-21 networks to GCCS-M, participate in Distributed Engineering Plant certification testing, by providing GCCS-M nodes during the test and collecting track data. Provide the key C4ISR node to the DEP. Provide DEMO's, Dry Run, and Briefings as required to visiting dignitaries, test agencies, program offices, etc. to describe interoperability efforts and certification requirements. Update REPEAT test tool to meet the needs of DoD testers in over 50 commands.

- (U) ($147) Validate and verify the interoperability of architectures for new capabilities and supporting systems to the fleet. Work with the fleet staffs and Naval Doctrine Command to develop policy and doctrine for operations of NVI in support of Network Centric Warfare ideology. Serve as technical expert in researching the fleet's technical questions and providing information. Conduct systems integration and interoperability using the facilities of the Land Based Test Network (LBTN) and Systems Integration Environment (SIE). (Reconfigurable Land Based Test Sites (RLBTS) have been expanded to validate IT-21 technologies prior to shipboard installation.)

- (U) ($356) Conduct integration testing and certification, in accordance with OPNAVINST 9410.5, of OTH-T and combat systems with tactical data exchanged over CST (Common operational picture (COP) Synchronization Tools) networks and other networks. These CST networks will operate within battle groups and to ashore nodes while other networks will continue to use Battle Group Database Management (BGDBM). Integration testing to include testing of GCCS-M and Combat Decision Systems (CDS) two-way interfaces. Testing to also address issues of Time Critical Strike with for example Tactical Tomahawk Weapons Control System (TTWCS).

FY 2003 RDT&E,N Budget Item Justification DATE: FEBRUARY 2002

BUDGET ACTIVITY: 4 PROGRAM ELEMENT: 0604707N PROJECT NUMBER: X0798
PROGRAM ELEMENT TITLE: SEW Architecture/Eng PROJECT TITLE: OTH Targeting

B. (U) OTHER PROGRAM FUNDING SUMMARY:

	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
(U) PE 0204660N, AGSAG 4B7N	280	430	429	450	444	456	467
(U) PE 0303113N, AGSAG 4A6M	1,086	836	1,156	1,260	1,246	1,263	1,298

(U) RELATED RDT&E: (SEW) Architecture/Engineering Support program element is related to all Naval C4I related efforts.

C. (U) ACQUISITION STRATEGY: Not applicable.

D. (U) SCHEDULE PROFILE: Not applicable.

Exhibit R-3, FY 2003 RDT&E,N Program Element/Project Cost Breakdown DATE: FEBRUARY 2002

BUDGET ACTIVITY: 4 PROGRAM ELEMENT: 0604707N PROJECT NUMBER: X0798
PROGRAM ELEMENT TITLE: SEW Architecture/Eng PROJECT TITLE: OTH TARGETING

Exhibit R-3 Cost Analysis (page 2)												Date:
APPROPRIATION/BUDGET ACTIVITY RDT&E, N/4			PROGRAM ELEMENT 0604707N								PROJECT NAME AND NUMBER OTH Targeting X0798	
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY-01 Cost	FY-01 Award Date	FY-02 Cost	FY-02 Award Date	FY-03 Cost	FY-03 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Program Management	Various	Various	1468							Cont.	Cont.	Cont.
System Test and Evaluation	Various	Various	3648							Cont.	Cont.	Cont.
Systems Engineering	Various	Various	1076	488	Various	516	Various	735	Various	Cont.	Cont.	Cont.
Interoperability Requirements	Various	Various	3266							Cont.	Cont.	Cont.
T & E Tools Development	Various	Various	137	145	Various	154	Various			Cont.	Cont.	Cont.
Systems Integration & Interoperability Testing (LBTN & SIE)	Various	Various	284	296	Various	314	Various	426	Various	Cont.	Cont.	Cont.
Interoperability Validation	Various	Various	443	463	Various	446	Various	147	Various	Cont.	Cont.	Cont.
Joint Interoperability	Various	Various	377	392	Various	413	Various			Cont.	Cont.	Cont.
Testing OTH-T Systems	Various	Various	194	202	Various	250	Various	356	Various	Cont.	Cont.	Cont.
Subtotal T&E			10893	1986		2093		1664		Cont.	Cont.	Cont.
Remarks												
Subtotal Management												
Remarks												
Total Cost			10893	1986		2093		1664		Cont.	Cont.	Cont.

R-1 Line Item No 92

Exhibit R-3, FY 2003 RDT&E,N Program Element/Project Cost Breakdown DATE: FEBRUARY 2002

BUDGET ACTIVITY: 4 PROGRAM ELEMENT: 0604707N
PROGRAM ELEMENT TITLE: SEW Architecture/Eng Support

(U) COST: (Dollars in Thousands)

NUMBER TITLE	FY 2001 ACTUAL	FY 2002 ESTIMATE	FY 2003 ESTIMATE	FY 2004 ESTIMATE	FY 2005 ESTIMATE	FY 2006 ESTIMATE	FY 2007 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
X2144 SEW Engineering	12,086	8,359	9,959	13,686	12,364	13,923	12,807	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: Space and Electronic Warfare (SEW) Engineering is a non-acquisition engineering effort defined as the neutralization or destruction of enemy targets and the enhancement of friendly force battle management through integrated employment and exploitation of the electromagnetic spectrum and the medium of space. SEW Engineering encompasses efforts to ensure that 1) the composite operational capabilities of SEW systems (not the individual component systems) conform to the Naval C4ISR architecture as related to the National Defense Strategy and evolving joint visions and direction such as Joint Vision 2020, Joint Vision 2010, "Copernicus...C4ISR for the 21st Century," "Forward…From the Sea," C4I for the Warrior, and the Defense Science Board Summer Study Task Force Report on Information Architecture for the Battlefield, and are guided by CINC requirements; 2) the systems support emerging fleet requirements as documented and necessitated through concepts of Network Centric Warfare; and 3) the SEW systems and systems integration effort involves leading edge technology transfer of information processing technologies primarily through integration of government and commercial off-the-shelf (GOTS/COTS) products to enhance the Navy's operational capability, interoperability, flexible reconfiguration, as well as reduce costs; and 4) systems integration efforts support Expeditionary C5 Grid (EC5G) to provide the foundation for FORCEnet and the Navy's contribution to the Global Information Grid. SEW Engineering also provides the Navy support in the demonstration and integration of C4I systems developed by the services and by commercial vendors as part of the annual Joint Warrior Interoperability Demonstration (JWID) sponsored by the Joint Chiefs of Staff as directed by CJCSI 6260.1. Each JWID is designed to identify joint interoperability deficiencies, and to solicit solutions to these deficiencies from commercial industry and military RDT&E agencies. JWID demonstrates these technologies and architecture improvements, conducts an assessment by the joint warfighters and considers mature, low cost, systems/applications for rapid acquisition. Service participants benefit from the exposure and training on new and existing new technologies, infrastructure improvements left behind from the demonstration, knowledge gained on joint and combined operations, and the assessment, selection, and acquisition of mature solutions to existing deficiencies.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 2001 ACCOMPLISHMENTS:

- (U) ($2,633) IAW CJCSI 6260.01, developed plans for the integration of maturing system developments, military and commercial technologies that support enhanced operational capabilities in key CINC priority areas, Joint Mission Area (JMA) Assessment Thrust Areas, and combined operations into the annual Joint Warrior Interoperability Demonstration (JWID). Integration plans included high-capacity communications, improved Command and Control Warfare (C2W), integrated land fight architecture, trusted systems/multi-level security, improved sensors/strike planning, common operational picture, collaborative planning, knowledge based systems, smart push-warrior pull data flow, theater air defense/force protection, and combat identification. Field demonstrated and assessed Joint Chief of Staff mandated Golden Nuggets Technologies that will benefit operational forces with their immediate employment at sea or in the field.

- (U) ($1,501) Implemented a C4ISR-T Systems Design effort that is comprised of Battlegroup engineering design activities for Battlegroup deployment and new ship construction, integration of C4ISR systems throughout the Battlegroup, systems interfacing, and high level design across Battlegroup activities (Configuration Management, integration with training, logistics, spares, safety and EMI). Design activities included tactical shore systems, relationships of C4ISR systems to NMCI, and pier-side design and integration across the shore sites and the Fleet.

- (U) ($963) Continued the migration of the Overarching C4ISR Operational Requirements Documentation to a web-based, fully interactive, collaborative site, where requirements generators, systems developers, and other users requiring such data, can gain access to automated databases and accompanying tools. Continued support to the C4ISR portion of the Joint Technical Architecture/Standards development/documentation and implementation effort, and published periodic updates. Represented and coordinated Navy inputs into the Joint Technical Architecture developed in conjunction with both internal Naval and external service units and agencies including the and ASD(C3I) Joint Technical Architecture (JTA) Development Group (JTADG). Navy inputs to the C4ISR portion of the JTA Version 3.0 were developed in accordance with direction from the Technical Architecture Steering Group (TASG) and the DoD Architecture Coordination Council (ACC).

- (U) ($788) Developed concept and evaluation alternatives to be explored as part of the CNO N6 Advanced Command & Control Wargame (AC2WG) series. Provided technical guidance and roadmaps that link AC2WG

concepts and Fleet Battle Experiments (FBE's) to evolving Naval C4ISR programs. Translated concepts and guidance into technical design requirements.

- (U) ($906) Enhanced and refined the C4ISR Planned Systems Design for the POM years. Continued to develop and validate a Naval C4ISR systems design environment to support Naval missions in a Joint and Coalition Theater. Architectural development consisted of (1) assisting OPNAV, Navy Doctrine Command, and Fleet Commanders in the development of battlegroup-wide and hull specific designs, (2) maintaining documentation describing the Systems Architectures/shipboard and ashore configurations; and (3) providing system architecture parameters, attributes, and characteristics necessary to ensure that Program Executives and Managers acquire systems that achieve the desired operational objectives. Participated with the Joint Battle Center and Naval Battle Laboratories to verify and validate overall systems designs and detailed implementation designs. The decomposition of the overarching POM C4ISR Systems Architecture was accomplished. This involved breaking down the specifics of warfighter functions to lower levels of detail. From this, SPAWAR developed the functional design documents for Battle Groups/Amphibious Ready Groups, generic platform designs, and detailed designs for each platform. These developed documents, coupled with control measures, allowed configuration management of installed designs. Sponsored and participated in related IPTs within the claimancy and throughout the Navy Department and DoD, as required and participated in OSD and joint architectural working groups and panels. Defined an end-to-end process model to document the C4ISR systems development process and relationships among the systems development components. Finally, the generated and analyzed a goal C4ISR integrated architecture that provides operational, system, and technical views for a notional Battle Group/Amphibious Ready Group in the future. The integrated architecture followed the guidance of applicable DoD and DoN policies i.e. Operational, Systems and Technical Architectures as defined in the OSD DoD C4ISR Architecture Framework, Joint Technical Architecture, and Information Technology Standard Guidance. The goal architecture denotes integrated naval C4ISR system functionality that help to guide future C4ISR system integration and interoperability. The Operational Architecture integrated architecture captures operational nodes, warfighter activities, system functions, interoperability standards, information exchange requirements (IERs), and performance attributes associated with the IERs.

- (U) ($716) Augmented/updated/maintained the Overarching C4ISR Operational Requirements documentation. The composite operational capabilities of C4ISR systems were designed so that they conform to the Naval C4ISR architecture as it relates to the National Defense Strategy, evolving joint visions, and direction. This includes items such as Joint Vision 2020, Joint Vision 2010, "Copernicus.C4ISR for the 21st Century," "Forward from the Sea", and C4I for the Warrior and they are guided by CINC requirements. As

operational requirements changed, either through changes in mission, technological change, technical insertion into systems, or through systems integration efforts, these changes were reflected in all applicable requirements documents. Additionally, support to related C4ISR projects as they define and maintain Theater and Battleforce, C4ISR architectures were maintained. Also, integrated future Naval C4ISR capabilities within migration plans and roadmaps linked to operational requirements documentation. Finally, assisted OPNAV in REQ/BAM support for the development of warfighter C4ISR requirements. These requirements were defined by both OPNAV and the Fleet. The products included the support for requisite Baseline Assessment Memoranda, Copernicus Requirements Working Group statements of Fleet requirements, the generation of a SMIDB or like requirements functional traceability matrix from the Fleet based on requirements documents (ORDs, MNS, etc.) and IWARS inputs.

- (U) ($579) Continued development of the web-based collaborative grid approach where programs/projects are synchronized across the claimancy/acquisition community. The shift for the afloat part of the Navy, from platform-centric warfare to network-centric warfare, and the Naval Intranet for the land-based portion of the Navy, demands that new approaches are identified, matured, and tested with the warfighters and systems developers. The product was a validated and modeled methodology, based on web technology, whereby a matrix of capabilities are mapped to organizations and products, leading to prioritized and scoped C4ISR work elements for claimancy pursuits. This web site contained the results of technology insertion experiments and "lessons learned" from those trials, so that successes can be applied to similar systems enhancement attempts. Included were software reuse experiments, hardware applications, and networking trials.

- (U) ($4,000) Navy Collaborative Integrated.

2. (U) FY 2002 PLAN:

- (U) ($2,631) CJCSI 6260.01, directs all Services to provide funds to support Joint Warrior Interoperability Demonstrations (JWID). JWIDs integrate maturing system developments, military and commercial technologies that support enhanced operational capabilities in key CINC priority areas and Joint Mission Area (JMA) Assessment Thrust Areas with a combined force structure into the annual Joint Warrior Interoperability Demonstration (JWID). JWID 02-03 will continue the 2-year demonstration process. The Theme Year (FY02) demonstration will select promising technologies for acquisition through a rigorous warfighter assessment in a Joint Operational Environment.

- (U) ($474) Implement a C4ISR-T Systems Design effort that is comprised of Battlegroup engineering design activities for Battlegroup deployment and new ship construction, integration of C4ISR systems throughout the Battlegroup, systems interfacing, and high level design across Battlegroup activities (Configuration Management, integration with training, logistics, spares, safety and EMI).

- (U) ($455) Develop concept and evaluation alternatives to be explored as part of the CNO N6 Advanced Command & Control Wargame (AC2WG) series in order to further develop the operational concept and requirements for Battle Force C2. Provide technical guidance and roadmaps that link AC2WG concepts and Fleet Battle Experiments (FBE's) to evolving Naval C4ISR programs. Translate concepts and guidance into technical design requirements. Using these experiments translate the successful experiments into operational developmental evaluations for long term procurement.

- (U) ($1,330) Enhance and refine the C4ISR Planned Systems Design and implementation of fleet systems. Continue to develop and validate a Naval C4ISR systems design environment to support the development and implementation of the Expeditionary C4 Grid to enable Network Centric Operations capabilities in support of Naval missions in a Joint and Coalition Theater. Architectural development will consist of (1) assisting OPNAV, Navy Doctrine Command, and Fleet Commanders in the development of battlegroup-wide and hull specific designs, (2) maintaining documentation describing the Systems Architectures/shipboard and ashore configurations; and (3) providing system architecture parameters, attributes, and characteristics necessary to ensure that Program Executives and Managers acquire systems that achieve the desired operational objectives. This architecture will ensure the interoperability of current system/technical architectures with the emerging architecture for the Expeditionary C4 Grid. Participate with the Joint Battle Center and Naval Battle Laboratories to verify and validate overall systems designs and detailed implementation designs. The decomposition of the overarching POM C4ISR Systems Architecture will be accomplished. This involves breaking down the specifics of warfighter functions to lower levels of detail. From this, SPAWAR can develop the functional design documents for Battle Groups/Amphibious Ready Groups, generic platform designs, and detailed designs for each platform. These developed documents, coupled with control measures, will allow configuration management of installed designs. Sponsor and/or participate in related IPTs within the claimancy and throughout the Navy Department and DoD, as required and participate in OSD and joint architectural working groups and panels. Define an end-to-end process model to document the C4ISR systems development process and relationships among the systems development components. Finally, the generation and analysis of a goal C4ISR integrated architecture that provides operational, system, and technical views for a notional Battle Group/Amphibious Ready Group in the future. The integrated architecture

will follow the guidance of applicable DoD and DoN policies i.e. Operational, Systems and Technical Architectures as defined in the OSD DoD C4ISR Architecture Framework, Joint Technical Architecture, and Information Technology Standard Guidance. The goal architecture denotes integrated naval C4ISR system functionality that will help to guide future C4ISR system integration and interoperability. The Operational Architecture integrated architecture captures operational nodes, warfighter activities system functions, interoperability standards, information exchange requirements (IERs), and performance attributes associated with the IERs. Work will be evaluated during fleet experimentation.

- (U) ($598) Augment/update/maintain the Overarching C4ISR Operational Requirements documentation. The composite operational capabilities of C4ISR systems must be designed so that they conform to the Naval C4ISR architecture as it relates to the National Defense Strategy and evolving joint visions and direction, such as Joint Vision 2020, Joint Vision 2010, "Copernicus...C4ISR for the 21st Century," "Forward…From the Sea", C4I for the Warrior and are guided by CINC requirements. As operational requirements change, either through changes in mission, technological change, technical insertion into systems, or through systems integration efforts, these changes must be reflected in all applicable requirements documents. Additionally, support to related C4ISR projects as they define and maintain Theater and Battleforce C4ISR architectures must be maintained. Also, integrate future Naval C4ISR capabilities within migration plans and roadmaps linked to operational requirements documentation. Finally, assist OPNAV in REQ/BAM support for the development of warfighter C4ISR requirements. These requirements are defined by both OPNAV and the Fleet. The products include the support for requisite Baseline Assessment Memoranda, Copernicus Requirements Working Group statements of Fleet requirements, the generation of a SMIDB or like requirements functional traceability matrix from the Fleet based on requirements documents (ORDs, MNS, etc.) and IWARS inputs.

- (U) ($2,000) Develop architecture and supporting systems to tie together the unique C2 requirements of a battle force for a fully web enabled Network Centric operation that will allow the operators to take full advantage of the meta data available to them over sensor, weapon, and C4I information grids. Forward deployed forces fully netted with multiple air, sea, and undersea platforms will create a huge base of information to be processed and analyzed. The Expeditionary C4 grid (EC4G) will automate the infrastructure for forward deployed forces.

- (U) ($871) Develop architecture for establishing a BF network using LOS C4ISR systems for surface and air platforms that interface with organic shore elements and asses this LOS and the band and bandwidth requirements as well as the meta data requirements for this system. Include the network interoperability strategy to ensure this concept is integrated and not a stand alone.

3. (U) FY 2003 PLAN:

- (U) ($1,918) CJCSI 6260.01 directs all Services to provide funds to support Joint Warrior Interoperability Demonstrations (JWID). JWIDs integrate maturing system developments, military and commercial technologies that support enhanced operational capabilities in key CINC priority areas and Joint Mission Area (JMA) Assessment Thrust Areas with a combined force structure into the annual Joint Warrior Interoperability Demonstration (JWID). JWID 02-03 will continue the 2-year demonstration process. In the Exploitation Year (FY03) demonstration, selected technologies are acquired and receive verified Concepts of Operation (CONOPs), Standard Operating Procedures (SOPs), Tactics, Techniques and Procedures (TTPs), and will be distributed to the warfighters. Additionally, the Exploitation Year will provide an opportunity to assess other demonstration technologies that are not ready for acquisition but may have value for future use.

- (U) ($4,793) Demonstrate/validate EC5G networking and communication capabilities required to support all warfare missions (i.e. TAMD, TCS, USW, etc.) and support operations. Optimize experimentation, S&T, and acquisition to transform the tactical/operational network infrastructure for FORCEnet and Network-Centric Operations. Focus areas include Ashore Network Backbone Infrastructure, Wireless Line-of-Sight Networking, RF Connectivity and Throughput, TADILS Gateway, Composite Networking, Information Assurance, Automated Network Services, Aerial Communications Package, Allied/Coalition Interoperability.

- (U) ($396) Implement a C4ISR-T Systems Design effort that is comprised of Battlegroup engineering design activities for Battlegroup deployment and new ship construction, integration of C4ISR systems throughout the Battlegroup, systems interfacing, and high level design across Battlegroup activities (Configuration Management, integration with training, logistics, spares, safety and EMI).

- (U) ($243) Develop concept and evaluation alternatives to be explored as part of the CNO N6 Advanced Command & Control Wargame (AC2WG) series. Provide technical guidance and roadmaps that link AC2WG concepts and Fleet Battle Experiments (FBE's) to evolving Naval C4ISR programs. Translate concepts and guidance into technical design requirements. Using these experiments translate the successful experiments into operational developmental evaluations for long term procurement.

- (U) ($725) Enhance and refine the C4ISR Planned Systems Design for the POM years. Continue to develop

and validate a Naval C4ISR systems design environment to support Naval missions in a Joint and Coalition Theater. Architectural development will consist of (1) assisting OPNAV, Navy Doctrine Command, and Fleet Commanders in the development of battlegroup-wide hull specific designs; (2) maintaining documentation describing the Systems Architectures, shipboard/ashore configurations; and (3) providing system architecture parameters, attributes, and characteristics necessary to ensure that Program Executives and Managers acquire systems that achieve the desired operational objectives. Participate with the Joint Battle Center and Naval Battle Laboratories to verify and validate overall systems designs and detailed implementation designs. The decomposition of the overarching POM C4ISR Systems Architecture will be accomplished. This involves breaking down the specifics of warfighter functions to lower levels of detail. From this, SPAWAR can develop the functional design documents for Battle Groups/Amphibious Ready Groups, generic platform designs, and detailed designs for each platform. These developed documents, coupled with control measures, will allow configuration management of installed designs. Sponsor and/or participate in related IPTs within the claimancy and throughout the Navy Department and DoD, as required and participate in OSD and joint architectural working groups and panels. Define an end-to-end process model to document the C4ISR systems development process and relationships among the systems development components. Finally, the generation and analysis of a goal C4ISR integrated architecture that provides operational, system, and technical views for a notional Battle Group/Amphibious Ready Group in the future. The integrated architecture will follow the guidance of applicable DoD and DoN policies i.e. Operational, Systems and Technical Architectures as defined in the OSD DoD C4ISR Architecture Framework, Joint Technical Architecture, and Information Technology Standard Guidance. The goal architecture denotes integrated naval C4ISR system functionality that will help to guide future C4ISR system integration and interoperability. The Operational Architecture integrated architecture captures operational nodes, warfighter activities system functions, interoperability standards, information exchange requirements (IERs), and performance attributes associated with the IERs.

- (U) ($432) Augment/update/maintain the Overarching C4ISR Operational Requirements documentation. The composite operational capabilities of C4ISR systems must be designed so that they conform to the Naval C4ISR architecture as it relates to the National Defense Strategy and evolving joint visions and direction, such as Joint Vision 2020, Joint Vision 2010, "Copernicus...C4ISR for the 21st Century," "Forward…From the Sea", C4I for the Warrior and are guided by CINC requirements. As operational requirements change, either through changes in mission, technological change, technical insertion into systems, or through systems integration efforts, these changes must be reflected in all applicable requirements documents. Additionally, support to related C4ISR projects as they define and maintain Theater and Battleforce C4ISR architectures must be maintained. Also, integrate future Naval C4ISR capabilities within migration plans and roadmaps linked to operational requirements documentation.

Finally, assist OPNAV in REQ/BAM support for the development of warfighter C4ISR requirements. These requirements are defined by both OPNAV and the Fleet. The products include the support for requisite Baseline Assessment Memoranda, Copernicus Requirements Working Group statements of Fleet requirements, the generation of a SMIDB or like requirements functional trace-ability matrix from the Fleet based on requirements documents (ORDs, MNS, etc.) and IWARS inputs.

- (U) ($914) Develop architecture to tie together the unique C2 requirements of a battle force for a fully web enabled Network Centric operation that will allow the operators to take full advantage of the meta data available to them over sensor, weapon, and C4I information grids. Forward deployed forces, fully netted with multiple air, sea, and undersea platforms, will create a huge base of information to be processed and analyzed. The Expeditionary C4 grid (EC4G) will automate the infrastructure for forward deployed forces.

- (U) ($538) Develop architecture for establishing a BF network using LOS C4ISR systems for surface and air platforms that interface with organic shore elements and assess this LOS and the band and bandwidth requirements as well as the meta data requirements for this system. Include the network interoperability strategy to ensure this concept is integrated and not a stand alone.

B. (U) OTHER PROGRAM FUNDING SUMMARY: Not applicable.

C. (U) ACQUISITION STRATEGY: Not applicable.

D. (U) SCHEDULE PROFILE: Not applicable.

Exhibit R-3, FY 2003 RDT&E,N Program Element/Project Cost Breakdown DATE: FEBRUARY 2002

BUDGET ACTIVITY: 4 PROGRAM ELEMENT: 0604707N PROJECT NUMBER: X2144
PROGRAM ELEMENT TITLE: SEW Architecture/Eng PROJECT TITLE: SEW ENGINEERING

Exhibit R-3 Cost Analysis (page 1)										Date:		
APPROPRIATION/BUDGET ACTIVITY RDT&E,N 4			PROGRAM ELEMENT 0604707N							PROJECT NAME AND NUMBER SEW Engineering X2144		
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY-01 Cost	FY-01 Award Date	FY-02 Cost	FY-02 Award Date	FY-03 Cost	FY-03 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal Product Development												
Remarks:												
SEW/C4I Technology Integration	Various	Various	4554							0	4554	4554
Systems A&E and Validation	Various	Various	12985							0	12985	12985
C4ISR/C4ISR-T Systems Design/Capabilities*	Various	Various	5091	2986	Various	4675	Various	2573	Various	Cont.	Cont.	Cont.
C4ISR Operational Requirements	Various	Various	2773	1679	Various	598	Various	432	Various	Cont.	Cont.	Cont.
AC2WG	Various	Various		788	Various	455	Various	243	Various	Cont.	Cont.	Cont.
Information Repository/Naval Architecture Database	Various	Various	4544							0	4544	4544
Navy Collaborated Integrated	Various	Various		4000	Various					Cont.	Cont.	Cont.
Subtotal Support	Various	Various	29947	9453		5728		3248		Cont.	Cont.	Cont.
Remarks:												

R-1 Line Item No 92

FY 2002 RDT&E,N Program Element/Project Cost Breakdown DATE: FEBRUARY 2002

BUDGET ACTIVITY: 4 PROGRAM ELEMENT: 0604707N PROJECT NUMBER: X2144
PROGRAM ELEMENT TITLE: SEW Architecture/Eng PROJECT TITLE: SEW ENGINEERING

Exhibit R-3 Cost Analysis (page 2)												Date:
APPROPRIATION/BUDGET ACTIVITY RDT&E,N 4			PROGRAM ELEMENT 0604707N									PROJECT NAME AND NUMBER SEW Engineering X2144
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY-01 Cost	FY-01 Award Date	FY-02 Cost	FY-02 Award Date	FY-03 Cost	FY-03 Award Date	Cost To Complete	Total Cost	Target Value of Contract
SEW Engr/JWID	Various	Various	7522	2633	Various	2631	Various	1918	Various	Cont.	Cont.	Cont.
SEW Engr/EC5G	Various	Various						4793	Various	Cont.	Cont.	Cont.
Subtotal T&E	Various	Various	7522	2633		2631		6711		Cont.	Cont.	Cont.
Remarks												
Subtotal Management												
Total Cost			37469	12086		8359		9959		Cont.	Cont.	Cont.

FY 2003 RDT&E,N Budget Item Justification DATE: FEBRUARY 2002

BUDGET ACTIVITY: 4 PROGRAM ELEMENT: 0604707N
PROGRAM ELEMENT TITLE: SEW Architecture/Eng Support

(U) COST: (Dollars in Thousands)

PROJECT NUMBER TITLE	FY 2001 ACTUAL	FY 2002 ESTIMATE	FY 2003 ESTIMATE	FY 2004 ESTIMATE	FY 2005 ESTIMATE	FY 2006 ESTIMATE	FY 2007 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
R2357 Maritime Battle Center	23,441	21,486	20,000	19,687	19,010	19,399	19,761	CONT.	CONT.

A. (U) MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The mission of the Maritime Battle Center (MBC) is to execute the Naval Warfare Innovation Process. The process takes concepts developed by the Strategic Studies Group and approved by the Chief of Naval Operations into Fleet Battle Experiments; conducts preliminary sub-scale experiments and technological demonstrations focused on the advanced engineering and operational system development of systems related to all conflict levels of Littoral Battlespace. The MBC environment is a network centric environment that links the existing "core" Naval facilities to the Marine Corps Warfighting Lab (MCWL), the Joint Battle Center/Federated Battle Lab, and technologists in industry and academia. The MBC is essential to the evolution of combat capabilities since it is the engine for validating the new network centric warfare techniques in conjunction with the Sea Based Battle Laboratories (SBBL), Science & Technology (S&T) initiatives and other initiatives that originate with the operating forces. The MBC supports the early and sustained involvement of Joint Warfighters in refining the technology to meet the tactics, techniques, and procedures needed for 2010-2020 Littoral Battlespace. The MBC will have multiple roles since it is a crosscutting organization involved in several facets of concept, platform, weapons, weapon systems and Information Technologies (IT), Information System (IS) and Information Management (IM) systems development and integration. These include collaborative planning, operational experimentation planning and execution, technology transition/acquisition support, systems engineering and integration, technology assimilation and operational demonstrations.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY 2001 ACCOMPLISHMENTS

- (U) ($4,788) Fleet Battle Experiment (FBE) Analysis and Core Support: The management and administration of MBC activities includes oversight of the experimental planning phase, the execution and collection phases, the analysis phase, and the output decision phase. This entails the integration of many preliminary experiments and technology demonstrations coupled with the inputs of experienced military leaders, current warfighting CINCs, and technologists from industry and academia.

- (U) ($3,187) Enabling Technical Development: Prior to any technology transition to the Numbered Fleet Commanders during a FBE or Limited Objective Experiment (LOE). The technology needs preliminary engineering experimentation to determine its compatibility and compliance with the Global Command and Control System (GCCS) architectures, IT 21 architectures, and the identification of high performance and interoperability issues. The objectives of these preliminary experiments is to bring information superiority to Fleet operations while achieving a level of critical mass in the early identification of technologies with "production" potential. These technologies include commercially developed technologies in collaborative planning, interactive sharing, the correlation of decision data-reducing "decision time, and the exploration of dynamically managed circuits operating in sea, ground, and/or aerospace domains.

- (U) ($14,135) FBE Direct Experimentation: The Numbered Fleet Commanders are designated experimentation leads for FBEs and LOEs. The Fleet Commander in the Area of Responsibility where the experiment is held will lead the FBE series and designate their flagship as SBBL that will work with the MBC Director in the conduct of the FBE. This enables the Fleet to directly participate in the development of future Navy concepts and capabilities and provides the Fleet an opportunity to provide immediate feedback to the technologist and concept developer.

- (U) ($1,331) Technical Evaluation: MBC will plan and participate in planning by other services and joint commands of exercises and tests that involve the Navy experimentation process. Its core competency will be fleet operations, exercise designs, costing, equipping and exercise analysis and overall evaluations with recommendations for future related activities. The technical operations will also evaluate the results of Advanced Concept Technology Demonstrations (ACTDs), Joint Warrior Interoperability Demonstration (JWIDs), and Joint Battle Center (JBC) activities and determine the most expeditious paths to transition such

concepts into actual and sustainable Naval warfighting capability. As promising innovative technologies emerge from the commercial section, the technical operations element will devise insertion strategies for prototypes. Using existing resources, the components needed to provide the required set of capabilities will be generated and brought into operation for testing and analysis purposes. Navy laboratory support from all claimancies will be tasked dependent on the requirements. Knowledge of laboratory capabilities and projected needs of such laboratories will be inherent in this support. Joint exercise support supplied by maritime forces will also be coordinated using this organizational function.

2. (U) FY 2002 PLAN:

- (U) ($4,091) FBE Analysis and Core Support: The management and administration of MBC activities includes oversight of the experimental planning phase, the execution and collection phases, the analysis phase, and the output decision phase. This entails the integration of many preliminary experiments and technology demonstrations coupled with the inputs of experienced military leaders, current warfighting CINCs, and technologists from industry and academia.

- (U) ($2,598) Enabling Technical Development: Prior to any technology transition to the Numbered Fleet Commanders during a FBE or LOE. The technology needs preliminary engineering experimentation to determine its compatibility and compliance with the GCCS architectures, IT 21 architectures, and the identification of high performance and interoperability issues. The objectives of these preliminary experiments is to bring information superiority to Fleet operations while achieving a level of critical mass in the early identification of technologies with “production” potential. These technologies include commercially developed technologies in collaborative planning, interactive sharing, the correlation of decision data-reducing “decision time, and the exploration of dynamically managed circuits operating in sea, ground, and/or aerospace domains.

- (U) ($13,887) FBE Direct Experimentation: The Numbered Fleet Commanders are designated experimentation leads for FBEs and LOEs. The Fleet Commander in the AOR where the experiment is held will lead the FBE series and designate their flagship as SBBL that will work with the MBC Director in the conduct of the FBE. This enables the Fleet to directly participate in the development of future Navy concepts and capabilities and provides the Fleet an opportunity to provide immediate feedback to the technologist and concept developer.

- (U) ($910) Technical Evaluation: MBC will plan and participate in planning by other services and joint commands of exercises and tests that involve the Navy experimentation process. Its core competency will be fleet operations, exercise designs, costing, equipping and exercise analysis and overall evaluations with recommendations for future related activities. The technical operations will also evaluate the results of ACTDs, JWIDs, and JBC activities and determine the most expeditious paths to transition such concepts into actual and sustainable Naval warfighting capability. As promising innovative technologies emerge from the commercial section, the technical operations element will devise insertion strategies for prototypes. Using existing resources, the components needed to provide the required set of capabilities will be generated and brought into operation for testing and analysis purposes. Navy laboratory support from all claimancies will be tasked dependent on the requirements. Knowledge of laboratory capabilities and projected needs of such laboratories will be inherent in this support. Joint exercise support supplied by maritime forces will also be coordinated using this organizational function.

3. (U) FY 2003 PLAN:

- (U) ($4,000) FBE Analysis and Core Support: The management and administration of MBC activities includes oversight of the experimental planning phase, the execution and collection phases, the analysis phase, and the output decision phase. This entails the integration of many preliminary experiments and technology demonstrations coupled with the inputs of experienced military leaders, current warfighting CINCs, and technologists from industry and academia.

- (U) ($2,034) Enabling Technical Development: Prior to any technology transition to the Numbered Fleet Commanders during a FBE or LOE. The technology needs preliminary engineering experimentation to determine its compatibility and compliance with the GCCS architectures, IT 21 architectures, and the identification of high performance and interoperability issues. The objectives of these preliminary experiments is to bring information superiority to Fleet operations while achieving a level of critical mass in the early identification of technologies with “production” potential. These technologies include commercially developed technologies in collaborative planning, interactive sharing, the correlation of decision data-reducing “decision time, and the exploration of dynamically managed circuits operating in sea, ground, and/or aerospace domains.

- (U) ($13,000) FBE Direct Experimentation: The Numbered Fleet Commanders are designated experimentation

leads for FBEs and LOEs. The Fleet Commander in the AOR where the experiment is held will lead the FBE series and designate their flagship as SBBL that will work with the MBC Director in the conduct of the FBE. This enables the Fleet to directly participate in the development of future Navy concepts and capabilities and provides the Fleet an opportunity to provide immediate feedback to the technologist and concept developer.

- (U) ($966) Technical Evaluation: MBC will plan and participate in planning by other services and joint commands of exercises and tests that involve the Navy experimentation process. Its core competency will be fleet operations, exercise designs, costing, equipping and exercise analysis and overall evaluations with recommendations for future related activities. The technical operations will also evaluate the results of ACTDs, JWIDs, and JBC activities and determine the most expeditious paths to transition such concepts into actual and sustainable Naval warfighting capability. As promising innovative technologies emerge from the commercial section, the technical operations element will devise insertion strategies for prototypes. Using existing resources, the components needed to provide the required set of capabilities will be generated and brought into operation for testing and analysis purposes. Navy laboratory support from all claimancies will be tasked dependent on the requirements. Knowledge of laboratory capabilities and projected needs of such laboratories will be inherent in this support. Joint exercise support supplied by maritime forces will also be coordinated using this organizational function.

B. (U) OTHER PROGRAM FUNDING SUMMARY: Not applicable.

C. (U) ACQUISITION STRATEGY: Not applicable.

D. (U) SCHEDULE PROFILE: Not applicable.

FY 2003 RDT&E,N Program Element/Project Cost Breakdown DATE: FEBRUARY 2002

BUDGET ACTIVITY: 4 PROGRAM ELEMENT: 0604707N PROJECT NUMBER: R2357
PROGRAM ELEMENT TITLE: SEW Architecture/Eng PROJECT TITLE: MARITIME BATTLE CENTER

Exhibit R-3 Cost Analysis (page 1)												Date:
APPROPRIATION/BUDGET ACTIVITY RDT&E,N			PROGRAM ELEMENT 0604707N									PROJECT NAME AND NUMBER Maritime Battle Center R2357
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY-01 Cost	FY-01 Award Date	FY-02 Cost	FY-02 Award Date	FY-03 Cost	FY-03 Award Date	Cost To Complete	Total Cost	Target Value of Contract
System Test and Evaluation	Various	Various	30454	18653	Various	17395	Various	16000		CONT	CONT	CONT
Subtotal T&E			30454	18653		17395		16000		CONT	CONT	CONT
Remarks												
Program Management	Various	Various	5941	4788	Various	4091	Various	4000		CONT	CONT	CONT
Subtotal Management			5941	4788		4091		4000		CONT	CONT	CONT
Remarks												
Total Cost			36395	23441		21486		20000		CONT	CONT	CONT