DEFENSE

Cooperation

Memorandum of Understanding

Between the

UNITED STATES OF AMERICA

and AUSTRALIA

Signed at Washington and Canberra
November 5 and 18, 2004

with

Annexes

and

Agreement Amending and Extending the
Memorandum of Understanding

Signed at Washington and Canberra
October 7 and 28, 2009

NOTE BY THE DEPARTMENT OF STATE

Pursuant to Public Law 89—497, approved July 8, 1966 (80 Stat. 271; 1 U.S.C. 113)—

". . .the Treaties and Other International Acts Series issued under the authority of the Secretary of State shall be competent evidence . . . of the treaties, international agreements other than treaties, and proclamations by the President of such treaties and international agreements other than treaties, as the case may be, therein contained, in all the courts of law and equity and of maritime jurisdiction, and in all the tribunals and public offices of the United States, and of the several States, without any further proof or authentication thereof."

AUSTRALIA

Defense: Cooperation

Memorandum of understanding signed at Washington and Canberra November 5 and 18, 2004;
Entered into force November 18, 2004.
With annexes.
And agreement amending and extending the memorandum of understanding.
Signed at Washington and Canberra October 7 and 28, 2009;
Entered into force October 28, 2009.

MEMORANDUM OF UNDERSTANDING

BETWEEN

THE DEPARTMENT OF DEFENSE

OF THE UNITED STATES OF AMERICA

AND

THE DEPARTMENT OF DEFENCE

OF AUSTRALIA

FOR THE

COOPERATIVE DEVELOPMENT, PRODUCTION, AND SUPPORT OF THE COMBAT CONTROL SYSTEM AN/BYG-1 TACTICAL SUBSYSTEM

TABLE OF CONTENTS

INTRODUCTION 3
SECTION I 5
DEFINITIONS 5
SECTION II 11
OBJECTIVES 11
SECTION III 12
SCOPE OF WORK 12
SECTION IV 14
MANAGEMENT (ORGANIZATION AND RESPONSIBILITY) 14
SECTION V 19
FINANCIAL PROVISIONS 19
SECTION VI 23
CONTRACTING PROVISIONS 23
SECTION VII 26
PROJECT EQUIPMENT 26
SECTION VIII 29
DISCLOSURE AND USE OF PROJECT INFORMATION 29
SECTION IX 35
CONTROLLED UNCLASSIFIED INFORMATION 35
SECTION X 36
VISITS TO ESTABLISHMENTS 36
SECTION XI 37
SECURITY 37
SECTION XII 41
THIRD PARTY SALES AND TRANSFERS 41
SECTION XIII 43
LIABILITY AND CLAIMS 43
SECTION XIV 44
PARTICIPATION OF ADDITIONAL NATIONS 44
SECTION XV 45
CUSTOMS DUTIES, TAXES, AND SIMILAR CHARGES 45
SECTION XVI 46
SETTLEMENT OF DISPUTES 46
SECTION XVII 47
LANGUAGE 47
SECTION XVIII 48
AMENDMENT, TERMINATION, ENTRY INTO EFFECT, AND DURATION . 48
ANNEX A 51
PROJECT MANAGEMENT ORGANIZATION DIAGRAM 51
ANNEX B 53
COOPERATIVE PROJECT PERSONNEL 53
ANNEX C 59
PLANNED PROCUREMENT (ORDER) QUANTITIES AND ESTIMATED FUNDING SCHEDULE 59
ANNEX D 61

NOTE: Introduction of this Memorandum of Understanding appears to begin on Page 4.

PROJECT OVERVIEW 61

INTRODUCTION

The Department of Defense of the United States of America (U.S. DoD) and the Department of Defence of Australia (Australian DoD), hereinafter referred to as the "Participants":

Recognizing the Exchange of Notes Constituting an Agreement between the Government of the United States of America and the Government of Australia Concerning Certain Mutual Defence Commitments done at Sydney on 1 December 1995 (the Chapeau Agreement) will apply to this Memorandum of Understanding (MOU);

Having a common interest in defense;

Recognizing the intent of the Statement of Principles for Enhanced Cooperation between the United States Navy and the Royal Australian Navy in matters relating to Submarines dated 10 September 2001 to facilitate defense cooperation activities;

Recognizing the advantages in mutual cooperation in the areas of tactical development, system employment and operation implementation;

Recognizing that the costs and responsibilities set out in this MOU represent an equitable sharing between the Participants of the costs and responsibilities of the Project;

Recognizing the benefits to be obtained from standardization, rationalization, and interoperability of military equipments;

Desiring to improve their mutual conventional defense capabilities through the application of emerging technology;

Having a mutual need for the continuing development, production, and support of the Combat Control System (CCS) AN/BYG-1 Tactical Subsystem (formerly called CCS MK2 Tactical Subsystem) to satisfy common operational requirements;

Having independently and jointly conducted studies, research, exploratory development, and testing of the applications of various technologies to the AN/BYG-1 Tactical Subsystem; and

Recognizing the benefits of cooperation for continuing development, production, and support of the AN/BYG-1 Tactical Subsystem,

Have reached the following understandings:

SECTION I

DEFINITIONS

The Participants have jointly decided upon the following definitions for provisions used in this MOU:

Advanced Processing Build Process (APB Process)	The purpose of the APB Process is to produce hardware independent software builds to create or improve functionality for transition to naval combat systems programs. The software enhancements are produced via an evolutionary process.
Advanced Systems & Technology Office (ASTO)	The United States Department of the Navy (USN) organization that manages the technology improvements from the various sources as they transit through the APB Process.
Classification Guide	A document that lists the security classification of each document, system, subsystem and component either provided or created.
Classified Information	Official information that requires protection in the interests of national security of either of the Participants and is so designated by the application of a security classification marking. This information may be in oral, visual, magnetic or documentary form or in the form of equipment or technology.
Contract	Any mutually binding legal relationship under national laws that obligates a Contractor to furnish supplies or services, and obligates one or both of the Participants to pay for them.
Contracting	The obtaining of supplies or services by Contract from sources outside the government organizations of the Participants. Contracting includes description (but not determination) of supplies and services required, solicitation and selection of sources, preparation and award of Contracts, and

	all phases of Contract administration.
Contracting Agency	The entity within the government organization of a Participant that has authority to enter into, administer, and/or terminate Contracts.
Contracting Officer	A person representing a Contracting Agency of a Participant who has the authority to enter into, administer, and/or terminate Contracts.
Contractor	Any entity awarded a Contract by a Participant's Contracting Agency.
Contractor Support Personnel	Persons specifically identified in support Contracts who provide administrative, managerial, scientific, or technical support services to a Participant under a Contract with that Participant that prohibits using information received under the Contract for any other purpose than those authorized under this MOU.
Controlled Unclassified Information	Unclassified information to which access or distribution limitations have been applied in accordance with applicable national laws or regulations. Whether the information is provided or generated under this MOU, the information will be marked to identify its "in confidence" nature. It could include information that has been declassified, but remains controlled. U.S. export controlled technical data will be marked as "International Traffic in Arms Regulations (ITAR) - Controlled". Australian export controlled information will be marked as "Australian Export Controlled".
Cooperative Project Personnel (CPP)	Australian DoD military members or civilian employees assigned to the AN/BYG-1 program office or U.S. DoD field activities, and U.S. DoD military members and civilian employees assigned to Australian DoD field activities, who perform managerial, engineering, technical, administrative, Contracting,

	logistics, financial, planning or other functions in furtherance of the Project.
Defense Purposes	Manufacture or other use in any part of the world by or for the armed forces of either Participant.
Designated Security Authority (DSA)	The security office approved by national authorities to be responsible for the security aspects of this MOU.
Financial Costs	Project costs met with monetary contributions.
Financial Cost Ceiling	The maximum amount of Financial Costs which will be dedicated to the Project.
Financial Management Procedures Document (FMPD)	A document that describes the estimated schedule, handling, and auditing of monetary contributions for the Project in which one Participant contracts on behalf of the other Participant or on behalf of both Participant to fulfil the objectives of the Project.
Initial Operational Capability (IOC)	That date when the first unit or units of a system are fielded, have completed testing, and are determined to be ready for deployment and operational field support.
Intellectual Property Rights	Intellectual Property rights means all copyright and neighboring rights, all rights in relation to inventions (including patent rights), registered and unregistered trademarks (including service marks), registered and unregistered designs, confidential information (including trade secrets and know how), circuit layouts and all other rights resulting from intellectual activity in the industrial, scientific, literary and artistic fields.
Joint Project Office (JPO)	The management organization with representatives from both Participants to implement the objectives of this

	MOU.
Non-financial Costs	Project costs met with non-monetary contributions.
Participant	A signatory to this MOU represented by its military and civilian DoD personnel. Contractors and Contractor Support Personnel will not be representatives of a Participant under this MOU.
Patent	Legal protection of the right to exclude others from making, using, importing, or selling an invention. The term refers to any and all Patents including, but not limited to, Provisional and Non-Provisional Patents of implementation, improvement or addition, petty Patents, utility models, appearance design Patents, registered designs, and inventor certificates or like statutory protection as well as divisions, reissues, continuations, renewals, and extensions of any of these.
Peer Review	The Peer Review forum is a working group where APB candidate technologies, ideas, or systems are evaluated. The Peer Review ensures that submarine community inputs are voiced and fairly evaluated ensuring delivery of high quality products.
Project	The U.S. DoD-Australian DoD cooperative engineering and manufacturing project to develop, produce, and support the AN/BYG-1 Tactical Subsystem as described in this MOU.
Project Background Information	Information not generated in the performance of the Project.
Project Equipment	Any material, equipment, end item, subsystem, component, special tooling or test equipment acquired or provided for use in the Project.
Project Foreground Information	Information generated in the performance of the Project.

Project Information	Any information provided to, generated in, or used in this Project regardless of form or type, including, but not limited to, that of a scientific, technical, business, or financial nature, and also including computer software (including source code), photographs, reports, manuals, threat data, experimental data, test data, designs, specifications, processes, techniques, inventions, drawings, technical writings, sound recordings, pictorial representations, and other graphical presentations, whether in magnetic tape, computer memory, or any other form and whether or not subject to Intellectual Property rights.
Project Invention	Any invention or discovery formulated or made (conceived or first actually reduced to practice) in the course of work performed under the Project. For the purposes of this definition, the term first actually reduced to practice means the first demonstration, sufficient to establish to one skilled in the art to which the invention pertains, of the operability of an invention for its intended purpose and in its intended environment.
Project Management Plan (PMP)	A plan developed by the Project Manager (PM) that provides a Description of the Project's Delivery requirements and Milestones.
Project Security Instruction (PSI)	A document that harmonizes, clarifies, and articulates the domestic security policies and practices of the Participants as they apply to the Project.
Project Test and Evaluation Master Plan (PTEMP)	A document to be developed by the PM to delineate Project test requirements, goals, and schedules to meet the national requirements of both Participants.

Special Tooling	Jigs, dies, fixtures, molds, patterns, tapes, gauges, other equipment and manufacturing aids, and all components of these items, which are of such a specialized nature that without substantial modification or alteration their use is limited to the development or production of particular supplies or parts thereof or to the performance of particular services and excluding material, special test equipment, facilities (except foundations and similar improvements necessary for installing special tooling) general or special machine tools or similar capital items.
Submarine Tactical Requirements Group (STRG)	The STRG is a forum of senior fleet-experienced submarine officers responsible for defining and prioritizing Submarine Force tactical requirements, defining modernization requirements for future acquisitions, and establishing the target baseline for functionality and capability improvements.
Tactical Control Development Working Group (TCDWG)	The TCDWG is responsible for the overall coordination of the Tactical Control APB Process.
Tactical Control Support Group (TCSG)	The TCSG serves as the primary interface between the requirements group and the operational forces of both Participants. The TCSG's primary objective is to represent the interest of the operational forces regarding APB functionality and process execution.
Technical Insertions (TI)	Technical Insertions modernize existing system hardware, replace obsolete equipment, and improve existing systems to accommodate the greater demands brought about by APB driven software changes.
Third Party	A government other than the government of a Participant and any person or other entity whose government is not the government of a Participant.

SECTION II

OBJECTIVES

2.1. The objectives of this Project are:

2.1.1. To design, develop, and test through the Advanced Processing Build (APB) and Technical Insertions (TI) Processes AN/BYG-1 Tactical Subsystem upgrades meeting the requirements of the Participants.

2.1.2. To produce both AN/BYG-1 Tactical Subsystem TI upgrades and APB software upgrades, install and test them in the AN/BYG-1 Tactical Subsystems on the Participants' submarines.

2.1.3. To provide in-service support of the Participants' AN/BYG-1 Tactical Subsystems including maintenance builds and upgrading of the Participants' maintenance and training infrastructures.

2.1.4. To maintain configuration control between the U.S. DoD and the Australian DoD AN/BYG-1 Tactical Subsystems through Australian DoD participation on the AN/BYG-1 Configuration Control Board.

2.1.5. To identify and implement changes that will maintain or improve the military effectiveness, safety, and availability of the AN/BYG-1 Tactical Subsystem.

2.1.6. To accommodate and support, to the maximum extent possible, any future Australian DoD and/or U.S. DoD requirements for logistics/resupply, support, configuration control, operation, Combat Systems research and development, future upgrades, and mutual use of facilities for the AN/BYG-1 Tactical Subsystem.

SECTION III

SCOPE OF WORK

3.1. The overall work (which is described in greater detail in the Project Management Plan (PMP)) to be performed under this MOU includes:

3.1.1. Development of AN/BYG-1 computer software upgrades through the APB Process and hardware modifications through planned TIs to provide improved combat system effectiveness in an increasingly difficult modern diesel electric submarine threat environment. It will include hardware modifications and upgrades through TIs that will enable the AN/BYG-1 to operate in the harsh littoral environment with future generation software and technology enhancements requiring greater processing capability brought about through the APB Process.

3.1.2. Testing of the hardware and software upgrades at the component, subsystem, and system level. Following an APB software upgrade or TI installation, extensive at-sea testing will be conducted at both U.S. DoD and Australian DoD ranges and littoral environments. Testing will be performed in accordance with the Project Test and Evaluation Master Plan (PTEMP) and Annex D (Project Overview).

3.1.3. Preparation of detailed specifications, requirements, and other information to enable the Participants to maintain hardware and computer software configuration management and to track performance improvements against known threats. Hardware and computer software configuration management will be performed in accordance with the configuration management plan and software management plan.

3.1.4. Production and installation, as necessary, of hardware modifications through TIs to upgrade U.S. DoD and Australian DoD submarines to the latest AN/BYG-1 Tactical Subsystem. The procurement activities initiated by the Australian DoD to establish the initial AN/BYG-1 baseline for the COLLINS Class Submarine will be conducted in accordance with the PMP and PTEMP.

Production of hardware and installation, to the extent USN or RAN requirements demand, in the current submarine inventory configured with the AN/BYG-1 Tactical Subsystem. Production will be performed in accordance with Annex C (Planned Procurement (Order) Quantities and Estimated Funding Schedule) and Annex D (Project Overview).

3.1.5. Development, establishment, modification and maintenance of the support and training infrastructures of both Participants.

3.1.6. Supporting logistics and sparing requirements as well as sharing of indigenous maintenance capabilities.

3.1.7. Sharing Project Information relating to the development, production, and support of the AN/BYG-1 Tactical Subsystem and related support and training infrastructures.

SECTION IV

MANAGEMENT (ORGANIZATION AND RESPONSIBILITY)

4.1. This Project will be directed and administered on behalf of the Participants by an organization consisting of a Steering Committee (SC), and a Joint Project Office (JPO) headed by a Project Manager (PM). The SC will have overall authority over the PM, in accordance with this MOU. The PM will have primary responsibility for effective implementation, efficient management, and direction of the Project in accordance with this MOU.

4.2. The SC will consist of a representative appointed by each Participant. The SC will meet semi-annually with additional meetings held at the request of either representative. Each meeting of the SC will be chaired by the representative of the Participant hosting the meeting. Decisions of the SC relating to joint project requirements will be made unanimously. In the event that the SC is unable to reach a timely decision on an issue, each SC representative will refer the issue to its higher authority for resolution. In the meantime, the approved PMP will continue to be implemented without interruption under the direction of the PM while the issue is being resolved by higher authority.

4.3. The SC will be responsible for:

4.3.1. Exercising executive-level oversight of the Project.

4.3.2. Reviewing progress in meeting system requirements and overall technical progress of the Project as specified in the PMP and Annex D (Project Overview).

4.3.3. Reviewing the financial status of the Project to ensure compliance with the provisions of Section V (Financial Provisions) of this MOU, and the Financial Management Procedures Document (FMPD).

4.3.4. Resolving issues brought forth by the PM or the Australian Deputy Project Manager (DPM) via the PM.

4.3.5. Reviewing and forwarding to the Participants for approval recommended amendments to this MOU in accordance with Section XVIII (Amendment, Termination, Entry into Effect, and Duration).

4.3.6. Approving amendments to Annexes A, C and D of this MOU consistent with Section XVIII (Amendment, Termination, Entry into Effect, and Duration).

4.3.7. Approving plans to manage and control the transfer of Project Equipment provided by either Participant to support the execution of the Project in accordance with Section VII (Project Equipment).

4.3.8. Approving plans for the disposal of jointly acquired Project Equipment under this MOU in accordance with Section VII (Project Equipment).

4.3.9. Maintaining oversight of the security aspects of the Project, including reviewing and obtaining approval from the appropriate Designated Security Authority (DSA) of a Project Security Instruction and Classification Guide prior to the transfer of Classified Information or Controlled Unclassified Information.

4.3.10. Providing recommendations to the Participants for the addition of new Participants in accordance with Section XIV (Participation of Additional Nations).

4.3.11. Monitoring Third Party sales and transfers authorized in accordance with Section XII (Third Party Sales and Transfers).

4.3.12. Reviewing and approving the semi-annual status report submitted by the PM.

4.3.13. Reviewing and approving the FMPD and the PMP (including any changes), and reviewing and endorsing the PTEMP (including any changes).

4.3.14. Two years prior to expiration of this MOU, consulting about an amendment to extend this MOU or pursuing a follow-on MOU.

4.4. The JPO will be established in the Washington DC area to manage the Project. The Department of the Navy within the US DoD will appoint the PM who, as head of the JPO, will be responsible for implementing this MOU and for day-to-day management of the Project.

4.5. The Participants will each provide national representation to the JPO. In accordance with Annex A (Project Management Organization Diagram), the Australian DoD will appoint a DPM and the U.S. DoD will appoint a PM and an Assistant PM (APM). The DPM will report to the PM heading the JPO and the APM will report to the DPM.

4.6. The PM will be responsible for:

4.6.1. Managing the cost, schedule, performance requirements, technical, security, and financial aspects of the Project described in this MOU.

4.6.2. Executing the approved Annex D (Project Overview).

4.6.3. Developing, submitting for approval by the SC (including any proposed changes), implementing and maintaining the PMP.

4.6.4. Developing, submitting for approval by the SC (including any proposed changes), implementing and maintaining the FMPD.

4.6.5. Executing the financial aspects of the Project in accordance with Section V (Financial Provisions) of this MOU, Annex C (Planned Procurement (Orders) and Estimated Funding Schedule), and the FMPD.

4.6.6. Developing, forwarding to the SC for review and approval (including any proposed changes), and implementing a Project Security Instruction and Classification Guide for the Project within three months after MOU signature.

4.6.7. Appointing a Project security officer.

4.6.8. Developing, forwarding to the SC for review and approval (including any proposed changes), and implementing plans to manage and control the transfer of Project Equipment, provided by either Participant in accordance with Section VII (Project Equipment).

4.6.9. Developing, forwarding to the SC for review and approval (including any proposed changes), and implementing plans for the disposal of jointly acquired Project Equipment under this MOU in accordance with Section VII (Project Equipment).

4.6.10. Developing and forwarding a PTEMP to the SC for review and endorsement (including any proposed changes), and implementing the PTEMP.

4.6.11. Developing and approving the configuration management plan, and exercising configuration management in accordance with the plan.

4.6.12. Developing and approving the computer software management plan, and exercising computer software management in accordance with this plan.

4.6.13. Developing and recommending amendments to this MOU and its Annexes to the SC.

4.6.14. Forwarding recommendations to the SC for the addition of new Participants in accordance with Section XIV (Participation of Additional Nations).

4.6.15. In consultation with the Australian DPM, referring issues to the SC that cannot be resolved by the PM.

4.6.16. Conducting a quarterly management review.

4.6.17. Providing a semi-annual status report to the SC.

4.6.18. Providing recommendations on programmatic aspects of combat system requirements of both Participants to the USN Submarine Tactical Requirements Group (STRG).

4.6.19. In coordination with the Australian DPM, working with the appropriate Australian DoD and U.S. DoD agencies to plan for and prepare the appropriate authorizations including export licenses and necessary documentation to support the transfer of equipment and Project Information.

4.7. Either Participant may assign personnel to the other Participant's facilities to assist in the Project. The host Participant will provide office space and administrative support to personnel of the other Participant in accordance with the host Participant's normal practices. A Participant's assigned personnel will be subject to the normal procedures and regulations of the host Participant. Provisions for the personnel provided are described in Annex B (Cooperative Project Personnel) to this MOU.

4.8. Representatives from both the U.S. DoD and Australian DoD will participate in the STRG, Tactical Control Support Group (TCSG), Tactical Control Development Working Group (TCDWG), Peer Reviews, and other working groups that help define the requirements and direction of future improvements to the AN/BYG-1. Annex D (Project Overview) provides greater detail on the role the APB Process plays in the evolution of the submarine combat systems as defined in this MOU. One of the objectives of these working groups is to equitably reflect the Participants' operational and capability requirements.

SECTION V

FINANCIAL PROVISIONS

5.1. The Participants estimate that the performance of the shared responsibilities under this MOU will not cost more than a Financial Cost Ceiling of $109.660 million Then Year (TY) U.S. dollars for the development phase, $1.073 million TY U.S. dollars for the production phase, and $23.320 million TY U.S. dollars for the support phase. The Financial Cost Ceilings may be changed only upon the written consent of the Participants. The U.S. dollar will be the reference currency for the Project, and the Project fiscal years will be based on the U.S. fiscal year.

5.1.1. The Participants will use their best efforts to perform, or to have performed, the work specified in Section III (Scope of Work) and will use their best efforts to fulfill all of the shared responsibilities under this MOU within the Financial Cost Ceilings delineated in paragraph 5.1 and 5.3 of this MOU.

5.1.2. If at any time the PM has reason to believe that the Financial Cost Ceiling of any phase of the Project will be exceeded, the PM will promptly notify the SC and will set forth a new estimate of the Financial Cost Ceilings of the Project together with supporting documentation. The SC will advise the PM as to what action should be taken.

5.1.3. The estimated unique financial contributions of both Participants in support of the goals of the Project as defined in Section II (Objectives) and Section III (Scope of Work) are reflected in Annex C (Planned Procurement (Order) Quantities and Estimated Funding Schedule).

5.2. In accordance with this MOU, each Participant will contribute its equitable share of the full Financial and Non-financial Costs of the Project, including overhead costs, administrative costs, costs of claims, and financial contributions for JPO administration and associated support services, and will receive an equitable share of the results of the Project. JPO administration and associated support services include but are not limited to JPO costs of travel in support of Project efforts, JPO training costs, Contract award, Contract administration, office space, security services, information technology services, communications services, and supplies. Values for JPO Non-financial

contributions have been mutually determined by the Participants.

5.3. The shared Financial Cost Ceilings and non-financial contributions for the Project are as follows:

Development Phase - Shared

U.S. DoD Financial	$93.211 million TY U.S.
Australian DoD Financial	$16.449 million TY U.S.
Total Financial Shared	$109.660 million TY U.S.

(The ratio of shared financial contributions for the Development Phase is 85:15, U.S. DoD:Australian DoD)

U.S. DoD Non-financial	$8.230 million TY U.S.
Australian Non-financial	$4.180 million TY U.S.
Total Non-Financial Shared	$12.410 million TY U.S.

Production Phase - Shared

U.S. DoD Financial	$0.912 million TY U.S.
Australian DoD Financial	$0.161 million TY U.S.
Total Financial Shared	$1.073 million TY U.S.

(The ratio of shared financial contributions for the Production Phase is 85:15, U.S. DoD:Australian DoD)

Support Phase - Shared

U.S. DoD Financial	$19.822 million TY U.S.
Australian DoD Financial	$3.498 million TY U.S.
Total Financial Shared	$23.320 million TY U.S.

(The ratio of shared financial contributions for the Support Phase is 85:15, U.S. DoD:Australian DoD)

5.4. In addition to the shared costs of JPO administration and associated support services costs described in paragraph 5.3., the cost of personnel in the JPO or CPP assigned to field activities will be borne as follows:

5.4.1. The host Participant will bear the costs of all pay and allowances of host Participant personnel in the JPO or the host Participant's field activities.

5.4.2. The parent Participant will bear the following CPP-related costs:

5.4.2.1. All pay and allowances of CPP assigned to the JPO or field activity.

5.4.2.2. Transportation of CPP, CPP dependents, and their personal property to the JPO or host Participant's field activity's location prior to commencement of the CPP assignment, and return transportation of the foregoing from the JPO or field activity location upon completion or termination of the CPP assignment.

5.4.2.3. Compensation for loss of, or damage to, the personal property of CPP or CPP dependants, subject to the laws and regulations of the Parent Participant.

5.4.2.4. Preparation and shipment of remains and funeral expenses in the event of the death of CPP or CPP dependents.

5.5. The following costs will be borne entirely by the Participant incurring the costs or on whose behalf the costs are incurred:

5.5.1. Costs associated with national representation at meetings by non-JPO members.

5.5.2. Costs associated with any unique national requirements identified by a Participant.

5.6. The PM will be responsible for establishing the detailed financial management procedures under which the Project will operate. These procedures, which will be in accordance with national accounting and audit requirements of the Participants, will be detailed in an FMPD prepared by the PM and subject to the approval of the SC. The FMPD will include details of the Financial Costs and the mutually determined Non-Financial Costs of the Project; identify planned expenditures including estimated schedule for financial

contributions, which will be consistent with the funding requirements of paragraph 5.7; describe periodic financial reporting requirements; and prescribe the payment procedures.

5.7. The Participants recognize that, in performing Contracting responsibilities on behalf of the other Participant, it may become necessary for the Contracting Participant, consistent with its national laws, to incur contractual or other responsibilities for the benefit of the other Participant prior to receipt of the other Participant's funds. In such event, the other Participant will make funds available in such amounts and at such times as may be required by a Contract or other responsibility and will pay any damages and costs that may accrue from the performance or cancellation of the Contract or other responsibility in advance of the time such payments, damages, or costs are due.

5.8. A Participant will promptly notify the other Participant if available funds are not adequate to fulfill its responsibilities under this MOU. If a Participant notifies the other Participant that it is terminating or reducing its funding for this Project, both Participants will immediately consult with a view toward continuation on a modified basis.

5.9. The U.S. DoD will be responsible for the audit of the procurement activities for which it is responsible under the Project in accordance with its national practices. The U.S. DoD will be responsible for the internal audit regarding administration of any Project funds provided by the Australian DoD to the U.S. DoD for this MOU in accordance with its national practices. Audit reports of such procurement activities will be promptly made available to the Australian DoD.

SECTION VI

CONTRACTING PROVISIONS

6.1. The U.S. DOD (acting through the Department of the Navy) will be primarily responsible for Contracting for this Project in accordance with U.S. Contracting laws, regulations, and procedures. However, for specific Contracts the SC may determine that the Australian DoD may provide the Contracting Agency and Contracting Officer. Such Contracting would be conducted in accordance with Australian Contracting laws, regulations, and procedures. The Contracting Officer is the exclusive source for providing contractual direction and instructions to Contractors.

6.2. The PM will be responsible for the coordination of activities relating to the Project, and will cooperate with the Contracting Officer in the areas of Contract procedures, Contract negotiation, evaluation of offers, and Contract award. The PM, in consultation with the Australian DoD DPM, will review statements of work and prospective contractual terms prior to and during the development of solicitations to ensure that they are in accordance with this MOU. In addition, the Contracting Officer will keep the PM and the Australian DPM advised of all financial arrangements with all Contractors.

6.3. The Contracting Officer will negotiate to obtain the rights to use and disclose Project Information required by Section VIII (Disclosure and Use of Project Information). The Contracting Officer will insert into prospective Contracts (and require its Contractors to insert in subcontracts) suitable provisions to satisfy the requirements of this MOU, including Section VIII (Disclosure and Use of Project Information), Section IX (Controlled Unclassified Information), Section XI (Security), Section XII (Third Party Sales and Transfers), and Section XVIII (Amendment, Termination, Entry into Effect, and Duration), including suitable provisions that ensure compliance with the Participants' respective export control laws and export control implementing regulations. During the Contracting process, the Contracting Officer will advise prospective Contractors of their responsibility to immediately notify the Contracting Agency, before Contract award, if they are subject to any license or arrangement that will restrict their freedom to disclose information or permit its use. The Contracting Officer will also advise prospective Contractors to employ their best efforts not to enter into any new agreement or

arrangement that will result in any such use or disclosure restrictions.

6.4. In the event the Contracting Officer is unable to secure adequate rights to use and disclose Project Information as required by Section VIII (Disclosure and Use of Project Information), or is notified by Contractors or potential Contractors of any restrictions on the disclosure and use of information, the matter will be referred to the SC for resolution, prior to Contract award, or promptly if such restrictions arise after contract award.

6.5. The transfer of export-controlled information furnished by one Participant will be authorized by the government of the furnishing Participant only to those Contractors of the other Participant who will limit the end use of the information received for the sole purpose of furthering the purposes authorized under this MOU. The Participants will establish legal arrangements with their Contractors to require that their Contractors do not retransfer or otherwise use export controlled information for any purpose other than the purposes authorized under this MOU. Such legal arrangements will also provide that the Contractor will not retransfer the export-controlled information to another Contractor without the government of the furnishing Participant's consent.

6.6. The Contracting Officer will immediately advise the PM of any cost growth, schedule change, or performance problems of any Contractor for which the Contracting Officer is responsible.

6.7. If the Participants mutually consent in writing, and consistent with Section II (Objectives), a Participant may contract for the unique national requirements of the other Participant.

6.8. The SC will consult regularly during the Development phase to determine whether to contractually continue with the production and support phases of the project. The goal of this consultation will be to determine mutual willingness to proceed with other contractual phases of the Project.

6.9. Whenever feasible and consistent with law, regulation, and policy, sources from both Participants will be permitted to bid for Project work on equal terms and conditions and subcontractors will be competitively selected. Both Participants will encourage industry and their respective research and development organizations to provide competitive opportunities to sources from the other Participant to participate in the work of the Project, provided that such

participation will not adversely impact the Project and will be consistent with high technical merit, reasonable cost, and the need to achieve the timely, economical, and efficient execution of the Project. No requirements will be imposed by any Participant for worksharing or other industrial compensation in connection with this MOU that is not in accordance with this MOU.

SECTION VII

PROJECT EQUIPMENT

7.1. Each Participant may provide Project Equipment identified as being necessary for executing the MOU to the other Participant without charge. Project Equipment will remain the property of the providing Participant. A list of all Project Equipment provided by one Participant to another Participant will be developed and maintained by the PM and approved by the SC in accordance with Section IV (Management (Organization and Responsibility)) prior to such transfers.

7.2. The receiving Participant will maintain any such Project Equipment in good order, repair, and operable condition and return the items in as good condition as received, normal wear and tear excepted, unless the providing Participant has authorized the Project Equipment to be expended or otherwise consumed in connection with the Project without reimbursement to the providing Participant. Such expenditure or consumption will be without reimbursement to the providing Participant. However, the receiving Participant will pay the cost to repair damaged Project Equipment that is not approved for expenditure or consumption.

7.3. If the Project Equipment is damaged beyond economic repair, the receiving Participant will return it to the providing Participant and pay the replacement value as computed pursuant to the providing Participant's national laws, regulations, and procedures. If the Project Equipment is lost while in the custody of the receiving Participant, the receiving Participant will issue a certificate of loss to the providing Participant and will pay the replacement value as computed pursuant to the providing Participant's national laws, regulations, and procedures.

7.4. Both Participants will inspect and inventory the Project Equipment upon receipt and upon return (unless the Project Equipment has been expended or consumed).

7.5. The providing Participant at its expense will deliver Project Equipment to the receiving Participant at a mutually determined location. Possession of the Project Equipment will pass from the providing Participant to the receiving Participant at the time of receipt of the Project Equipment at a mutually determined location. Any further transportation is the responsibility of the receiving Participant.

7.6. All Project Equipment that is transferred will be used by the receiving Participant only for the purposes of carrying out this MOU, unless otherwise consented to in writing by the providing Participant. The providing Participant will furnish the receiving Participant with such information as is necessary to enable the Project Equipment to be used. In addition, in accordance with Section XII (Third Party Sales and Transfers) Project Equipment will not be re-transferred to a Third Party without the prior written consent of the providing Participant.

7.7. Project Equipment transferred to one Participant under this MOU and not expended or consumed will be returned to the providing Participant prior to the termination or expiration of this MOU.

7.8. The Participants will make their best efforts to ensure the protection of Intellectual Property (IP) rights in Project Equipment.

7.9. Project Equipment that is jointly acquired is subject to the following provisions unless otherwise mutually determined by the Participants:

7.9.1. Jointly acquired Project Equipment will remain the property of both Participants in shares of the same ratio as shared financial contributions.

7.9.2. The Participants will maintain such jointly acquired Project Equipment in good order, repair and operable condition, normal wear and tear excepted, unless the Participants have mutually determined that it be expended or otherwise consumed in connection with the Project.

7.9.3. The responsible Participant will pay the cost to repair damage to jointly acquired Project Equipment that is not to be expended or otherwise consumed in accordance with Section 7.9.2. Where the jointly acquired Project Equipment is damaged beyond economic repair or is lost, the responsible Participant will pay the replacement value of that Project Equipment.

7.9.4. Jointly acquired Project Equipment will be used for the purposes of carrying out this MOU and will not be retransferred to a Third Party without the prior written consent of both Participants.

7.10. Any Project Equipment which is jointly acquired on behalf of both Participants for use under this MOU will be disposed of during this Project or when the Project ceases, as determined by the SC.

7.11. Disposal of jointly acquired Project Equipment may include a transfer of the interest of one Participant in such Project Equipment to the other Participant, or the sale of such equipment to a non-Third Party entity, or to a Third Party in accordance with Section XII (Third Party Sales and Transfers) of this MOU. The Participants will share the consideration from jointly acquired Project Equipment transferred or sold to a Third Party or non-Third Party entity in the same ratio as shared financial contributions.

SECTION VIII

DISCLOSURE AND USE OF PROJECT INFORMATION

8.1. General

Both Participants recognize that successful collaboration depends on full and prompt exchange of information necessary for carrying out this Project. The Participants intend to acquire sufficient Project Information and rights to use and disclose such information to enable the development, production, and support of the AN/BYG-1 Tactical Subsystem. The nature and amount of Project Information to be acquired will be consistent with the objectives stated in Section II (Objectives) and Section III (Scope of Work). Notwithstanding any other provision in this MOU, disclosure of Project Information will be in accordance with the Participants' respective national disclosure policies. The Participants will use their best efforts to maximize disclosure of Project Information under this MOU within their national disclosure policies. Transfer of such information to Contractors will be consistent with the Participants' respective export control laws and regulations.

Understanding that the provisions of Sections 8.4. and 8.5. will apply, the Participants also intend that the US DoD will use every endeavor to obtain the disclosure of and the right for the Australian DoD to use Contractor Foreground Information and Contractor Background Information necessary to use that Contractor Foreground Information for Defense Purposes. Where the U.S. DoD is unable or unlikely to be able to negotiate to obtain such rights, then, in accordance with Section 6.4., the U.S. DoD will notify the Australian DoD prior to Contract award and the Australian DoD will be afforded every opportunity to negotiate to obtain such rights.

8.2. Government Project Foreground Information

8.2.1. Disclosure: Government Project Foreground Information generated by a Participant's military or civilian employees will be disclosed without charge to both Participants.

8.2.2. Use: Each Participant may use all government Project Foreground Information without charge for Defense Purposes. The Participant generating government Project Foreground Information will also retain its rights of use thereto. Any sale or other transfer to a Third

Party, will be subject to the provisions of Section XII (Third Party Sales and Transfers) of this MOU.

8.3. Government Project Background Information

8.3.1. Disclosure: Each Participant, upon request, will disclose to the other Participant any relevant government Project Background Information generated by its military or civilian employees, provided that:

8.3.1.1. such government Project Background Information is necessary to or useful in the Project, with the Participant in possession of the information determining, after consultation with the other Participant, whether it is "necessary to" or "useful in" the Project;

8.3.1.2. provision of such government Project Background Information would not incur liability to holders of Intellectual Property rights; and

8.3.1.3. disclosure is consistent with national disclosure policies and regulations of the furnishing Participant; and

8.3.1.4. any disclosure or transfer of such government Project Background Information to Contractors is consistent with the Participants' respective export control laws and regulations.

8.3.2. Use: Government Project Background Information furnished by one Participant to the other may be used without charge by the other Participant for Project purposes only; however, the furnishing Participant will retain all its rights with respect to such government Project Background Information. Where the use of government Project Background Information is necessary to enable a Participant to use government Project Foreground Information for Defense Purposes, and subject to the disclosure provisions of paragraph 8.3.1., the other Participant will provide that

Participant with any government Project Background Information that is necessary for the other Participant to use the government Project Foreground Information for Defense Purposes.

8.4. Contractor Project Foreground Information

8.4.1. Disclosure: Contractor Project Foreground Information generated and delivered by Contractors will be disclosed without charge to both Participants.

8.4.2. Use: Each Participant may use without charge for its Defense Purposes all Contractor Project Foreground Information generated and delivered by Contractors of the other Participant. The Participant whose Contractors generate and deliver Contractor Project Foreground Information will also retain rights of use thereto in accordance with the applicable Contract(s). Any sale or other transfer to a Third Party of Contractor Project Foreground Information, will be subject to the provisions of Section XII (Third Party Sales and Transfers) of this MOU.

8.5. Contractor Project Background Information

8.5.1. Disclosure: Any relevant Contractor Project Background Information (including information subject to Intellectual Property rights) generated and delivered by Contractors will be made available to the other Participant provided the following provisions are met:

8.5.1.1. such Contractor Project Background Information is necessary to or useful in the Project, with the Participant in possession of the information determining, after consultation with the other Participant, whether it is "necessary to" or "useful in" the Project;

8.5.1.2. such Contractor Project Background Information may be made available without incurring liability to holders of Intellectual Property rights; and

8.5.1.3. disclosure is consistent with national disclosure policies and regulations of the furnishing Participant; and

8.5.1.4. any disclosure or transfer of such Contractor Project Background Information to Contractors is consistent with the Participants' respective export control laws and regulations.

8.5.2. Use: Contractor Project Background Information furnished by one Participant's Contractors and disclosed to the other Participant may be used without charge by the other Participant for Project purposes only, and may be subject to further restrictions by holders of Intellectual Property rights; however, the furnishing Participant will retain all its benefits with respect to such Contractor Project Background Information. Where the use of Contractor Project Background Information is necessary to enable a Participant to use Contractor Project Foreground Information for Defense Purposes, and subject to the provisions of paragraph 8.5.1., the other Participant will provide that Participant with any Contractor Project Background Information that is necessary for the other Participant to use the Contractor Project Foreground Information for Defense Purposes.

8.6. Alternative Uses of Project Information

8.6.1. The prior written consent of each Participant will be required for the use of Project Foreground Information for purposes other than those provided for in this MOU.

8.6.2. Any Project Background Information provided by one Participant will be used by the other Participant only for the purposes set forth in this MOU, unless otherwise consented to in writing by the providing Participant.

8.7. Project Information Subject to Intellectual Property Rights

8.7.1. Before a Participant transfers any Project Information subject to IP rights to a Contractor, the Participant will ensure that its

Contractor has entered into all necessary and appropriate arrangements (such as non disclosure agreements) directly with the Contractor or other entity that owns the Project Information or otherwise holds IP rights in that Project Information.

8.7.2 All Project Information subject to Intellectual Property rights will be identified and marked by the providing Participant and it will be handled as if it was Controlled Unclassified Information, or in accordance with its classification, by the receiving Participant.

8.8. Patents

8.8.1. Where a Participant owns title to a Project Invention, or has the right to receive title to a Project Invention, that Participant will consult with the other Participant regarding the filing of a Patent application for such Project Invention. The Participant which has or receives title to such Project Invention will, in other countries, file, cause to be filed, or provide the other Participant with the opportunity to file on behalf of the Participant holding title, or its Contractors, as appropriate, Patent applications covering that Project Invention. If a Participant having filed or caused to be filed a Patent application decides to stop prosecution of the application, that Participant will notify the other Participant of that decision in writing and permit the other Participant to continue the prosecution. If a Participant holding a Patent stops paying maintenance fees or taking other administrative actions required during the term of the Patent, that Participant will notify the other Participant and permit the other Participant to continue with payment of the maintenance fees or other administrative actions.

8.8.2. The other Participant will be promptly furnished with copies of Patent applications filed and Patents granted with regard to Project Inventions.

8.8.3. The other Participant will acquire a non-exclusive, irrevocable, royalty-free license to

practice or have practiced, by or on behalf of the Participant, throughout the world for Defense Purposes, any Project Invention.

8.8.4. Each Participant will promptly notify the other Participant in writing of any Patent infringement claims made in its territory arising in the course of work performed under the Project. Insofar as possible, the other Participant will provide information available to it that may assist in defending the claim. Each Participant will be responsible for handling all Patent infringement claims made in its territory, and will consult with the other Participant during the handling, and prior to any settlement, of such claims. The Participants will share the costs of resolving Patent infringement claims in the same ratio as that of their shared financial contributions. The Participants will, in accordance with their national laws and practices, give their authorization and consent for all use and manufacture in the course of work performed under the Project of any invention covered by a Patent issued by their respective countries.

8.8.5. Patent applications to be filed under this MOU which contain Classified Information will be protected and safeguarded in accordance with the requirements contained in the Agreement between the U.S. and Australia regarding Interchange of Patent Rights and Technical Information for Defense Purposes: Filing of Classified Patent Applications, dated 2 October 1961.

SECTION IX

CONTROLLED UNCLASSIFIED INFORMATION

9.1. Except as otherwise provided in this MOU or as authorized in writing by the originating Participant, Controlled Unclassified Information provided or generated pursuant to this MOU will be controlled as follows:

9.1.1. Such information will be used only for the purposes authorized for use of Project Information as specified in Section VIII (Disclosure and Use of Project Information).

9.1.2. Access to such information will be limited to personnel whose access is necessary for the permitted use under subparagraph 9.1.1., and will be subject to the provisions of Section XII (Third Party Sales and Transfers).

9.1.3. Each Participant will take the necessary and appropriate lawful steps, which may include national classification, available to it to keep such information free from further disclosure (including requests under any legislative provisions), except as provided in subparagraph 9.1.2., unless the originating Participant consents to such disclosure in writing. In the event of unauthorized disclosure, or if it becomes probable that the information may have to be further disclosed under any legislative provision, immediate written notification will be given to the originating Participant.

9.2. To assist in providing the appropriate controls, the originating Participant will ensure that Controlled Unclassified Information is appropriately marked. The Participants will decide, in advance and in writing, on the markings to be placed on the Controlled Unclassified Information. The appropriate markings will be defined in the Project Security Instruction.

9.3. Controlled Unclassified Information provided or generated pursuant to this MOU will be handled in a manner that ensures control as provided for in paragraph 9.1.

9.4. Prior to authorizing the release of Controlled Unclassified Information to Contractors, the Participants will ensure the Contractors are legally bound to control such information in accordance with the provisions of this Section.

SECTION X

VISITS TO ESTABLISHMENTS

10.1. Each Participant will permit visits to its government establishments, agencies and laboratories, and Contractor industrial facilities by employees of the other Participant or by employees of the other Participant's Contractor(s), provided that the visit is authorized by both Participants in writing and the employees have any necessary and appropriate security clearances and a need-to-know.

10.2. All visiting personnel will be required to comply with security regulations of the host Participant. Any information disclosed or made available to visitors will be treated as if supplied to the Participant sponsoring the visiting personnel, and will be subject to the provisions of this MOU.

10.3. Requests for visits by personnel of one Participant to a facility of the other Participant will be coordinated through official channels, and will conform with the established visit procedures of the host country. Requests for visits will bear the name of the Project.

10.4. Lists of personnel of each Participant required to visit, on a continuing basis, facilities of the other Participant will be submitted through official channels in accordance with recurring international visit procedures.

SECTION XI

SECURITY

11.1. All Classified Information provided or generated pursuant to this MOU will be stored, handled, transmitted, and safeguarded in accordance with the Agreement Between the Government of Australia and the Government of the United States of America Concerning Security Measures For the Protection of Classified Information, of November 7, 2002.

11.2. Classified Information will be transferred only through official government-to-government channels or through channels approved by the DSAs of the Participants. Such Classified Information will bear the level of classification, denote the country of origin, the provisions of release, and the fact that the information relates to this MOU.

11.3. Each Participant will take the necessary and appropriate lawful steps available to it to ensure that Classified Information provided or generated pursuant to this MOU is protected from further disclosure, except as permitted by paragraph 11.8., unless the other Participant consents to such disclosure. Accordingly, each Participant will ensure that:

11.3.1. The recipient will not release the Classified Information to any government, national, organization, or other entity of a Third Party except as permitted under the procedures set forth in Section XII (Third Party Sales and Transfers).

11.3.2. The recipient will not use the Classified Information for other than the purposes provided for in this MOU.

11.3.3. The recipient will comply with any distribution and access restrictions on Classified Information that is provided under this MOU.

11.4. The Participants will investigate all cases in which it is known or where there are grounds for suspecting that Classified Information provided or generated pursuant to this MOU has been lost or disclosed to unauthorized persons. Each Participant also will promptly and fully inform the other Participant in writing of the details of any such occurrences, and of the final results of the investigation and of the corrective action taken to preclude recurrences.

11.5. The PM will prepare a Project Security Instruction and a Classification Guide for the Project. The Project Security Instruction and the Classification Guide will describe the methods by which Project Information and material will be classified, marked, used, transmitted, and safeguarded. The Instruction and Guide will be developed by the PM within three months after this MOU enters into effect. They will be reviewed and forwarded to the Participants' DSAs for approval and will be applicable to all government and Contractor personnel participating in the Project. The Classification Guide will be subject to regular review and revision with the aim of downgrading the classification whenever this is appropriate. The Project Security Instruction and the Classification Guide will be approved by the appropriate DSA prior to the transfer of any Classified Information or Controlled Unclassified Information.

11.6. The DSA of the Participant in which a classified Contract is awarded will assume responsibility for administering within its territory security measures for the protection of the Classified Information, in accordance with its laws and regulations. Prior to the release to a Contractor, prospective Contractor, or subcontractor of any Classified Information received under this MOU, the DSAs will:

11.6.1. Ensure that such Contractor, prospective Contractor or subcontractor and their facility(ies) have the capability to protect the Classified Information adequately.

11.6.2. Grant a security clearance to the facility(ies), if appropriate.

11.6.3. Grant a security clearance for all personnel whose duties require access to Classified Information, if appropriate.

11.6.4. Ensure that all persons having access to the Classified Information are informed of their responsibilities to protect the Classified Information in accordance with national security laws and regulations, and provisions of this MOU.

11.6.5. Carry out periodic security inspections of cleared facilities to ensure that the Classified Information is properly protected.

11.6.6. Ensure that access to the Classified Information is limited to those persons who have a need-to-know for purposes of the MOU.

11.7. Contractors, prospective Contractors, or subcontractors which are determined by DSAs to be under financial, administrative, policy or management control of nationals or entities of a Third Party, may participate in a Contract or subcontract requiring access to Classified Information provided or generated pursuant to this MOU only when enforceable measures are in effect to ensure that nationals or other entities of a Third Party will not have access to Classified Information. If enforceable measures are not in effect to preclude access by nationals or other entities of a Third Party, the other Participant will be consulted for approval prior to permitting such access.

11.8. For any facility wherein Classified Information is to be used, the responsible Participant or Contractor will approve the appointment of a person or persons to exercise effectively the responsibilities for safeguarding at such facility the information or material pertaining to this MOU. These officials will be responsible for limiting access to Classified Information involved in this MOU to those persons who have been properly approved for access and have a need-to-know.

11.9. Each Participant will ensure that access to the Classified Information is limited to those persons who possess requisite security clearances and have a specific need for access to the Classified Information in order to participate in the Project.

11.10. Information or material provided or generated pursuant to this MOU may be classified as high as SECRET. The existence of this MOU is Unclassified and the contents are Unclassified.

11.11. In order to facilitate the exchange of Classified Information (which can be transmitted electronically) necessary for the execution of the Project, Australian Cooperative Project Personnel (CPP) may be permitted to install, maintain, and use Australian classified information systems (even if they are stand-alone links) in the JPO. Installation, maintenance, and use of this equipment, including loading and storage of any required cryptologic materials, will comply with both U.S. DoD and Australian DoD laws, regulations, and policies. No equipment will be installed, maintained or used without the appropriate permissions having been obtained from the DSA's of both

Participants. All information to be transmitted via this Australian classified information system will be cleared and approved prior to transmission by a JPO representative designated in writing by either the PM or the Project Security Officer.

SECTION XII

THIRD PARTY SALES AND TRANSFERS

12.1. The U.S. DoD will not sell, transfer title to, disclose, or transfer possession of Project Foreground Information or jointly acquired Project Equipment or any item produced either wholly or in part from Project Foreground Information to any Third Party without prior consultation with the other Participant through the Steering Committee. Furthermore, the U.S. DoD will not permit any such sale, disclosure, or transfer by others, including by the owner of the item, without prior consultation with the other Participant. The U.S. DoD recognizes that sales, disclosures, or other transfers described in this paragraph will only be made if the government of the intended recipient consents in writing that it will:

12.1.1. Not retransfer, or permit the further retransfer of, any equipment or information provided; and

12.1.2. Use, or permit the use of, the equipment or information provided only for the purposes for which such equipment or information is furnished.

12.2. The Australian DoD will not sell, transfer title to, disclose, or transfer possession of Project Foreground Information, jointly acquired Project Equipment, or any item produced either wholly or in part from Project Foreground Information to any Third Party without the prior written consent of the U.S. Government. Furthermore, the Australian DoD will not permit any such sales, disclosure, or transfer by others, including the owner of the item, without the prior written consent of the U.S. Government. The Australian DoD recognizes that sales, disclosures, and other transfers described in this paragraph will not be authorized by the U.S. Government unless the government of the intended recipient consents in writing that it will:

12.2.1. Not retransfer, or permit the further retransfer of, any equipment or information provided; and

12.2.2. Use, or permit the use of, the equipment or information provided only for the purposes for which such equipment or information is furnished.

12.3. A Participant will not sell, transfer title to, disclose, or transfer possession of Project Equipment or

Project Background Information provided by the other Participant to any Third Party without the prior written consent of the government of the Participant which provided such equipment or information. The providing Participant's government will be solely responsible for authorizing such transfers and, as applicable, specifying the method and provisions for implementing such transfers.

12.4. Sales and other transfers of equipment developed or Project Foreground Information generated under this MOU may attract a levy (as determined by the U.S. DoD after consultation between the Participants) to be shared between the Participants. Prior to any such sale or other transfer in which a levy will be imposed, the amounts of such levy will be mutually determined by both Participants consistent with the laws and regulations of each Participant. Either Participant may reduce or waive the assessment of its share of the levy.

SECTION XIII

LIABILITY AND CLAIMS

13.1. Claims arising under this MOU will be dealt with under paragraph 1 of the Chapeau Agreement. Any costs to be shared under paragraph 1 b)ii of that Agreement will be shared as follows:

13.1.1. Where one Participant alone is responsible for the injury, death or damage, the costs will be the sole responsibility of that Participant;

13.1.2. Where the Participants are jointly responsible for injury, death or damage, or it is not possible to attribute responsibility for the injury, death or damage, the costs will be shared in accordance with the ratio of the Participants' shared financial contributions.

13.2. The Contracting Participant will not indemnify Contractors against liability for claims by any other persons.

13.3. Any costs as a result of claims arising under any Contract awarded pursuant to section VI (Contractual Arrangements) will be shared in accordance with the ratio of the Participants' shared financial contributions, or as mutually determined by the Participants.

SECTION XIV

PARTICIPATION OF ADDITIONAL NATIONS

14.1. It is recognized that other national defense organizations may wish to join the Project.

14.2. Mutual written consent of the Participants will be required to conduct discussions with potential additional Participants. The Participants will discuss the arrangements under which another participant might join, including the furnishing of releasable Project Information for evaluation prior to joining. If the disclosure of Project Information is necessary to conduct discussions, such disclosure will be in accordance with Section VIII (Disclosure and Use of Project Information), Section IX (Controlled Unclassified Information) and Section XII (Third Party Sales and Transfers).

14.3. The Participants will jointly formulate the provisions under which additional participants might join. The addition of new participants to the Project will require amendment of this MOU by the Participants.

SECTION XV

CUSTOMS DUTIES, TAXES, AND SIMILAR CHARGES

15.1. Customs duties, import and export taxes, and similar charges will be administered in accordance with each Participant's respective laws and regulations. Insofar as existing national laws and regulations permit, the Participants will endeavor to ensure that such readily identifiable duties, taxes and similar charges, as well as quantitative or other restrictions on imports and exports, are not imposed in connection with work carried out under this Project.

15.2. Each Participant will use its best efforts to ensure that customs duties, import and export taxes, and similar charges are administered in a manner favorable to the efficient and economical conduct of the work. If any such duties, taxes, or similar charges are levied, the Participant in whose country they are levied will bear such costs.

SECTION XVI

SETTLEMENT OF DISPUTES

16.1. Disputes between the Participants arising under or relating to this MOU will be resolved only by consultation between the Participants and will not be referred to a national court, an international tribunal, or to any other person or entity for settlement.

SECTION XVII

LANGUAGE

17.1. The working language for the Project will be the English language.

17.2. All data and information generated under this MOU and its implementing Contracts and provided by one Participant to the other Participant will be furnished in the English language.

SECTION XVIII

AMENDMENT, TERMINATION, ENTRY INTO EFFECT, AND DURATION

18.1. All activities of the Participants under this MOU will be carried out in accordance with their national laws and regulations, including their respective export control laws and regulations. The responsibilities of the Participants will be subject to the availability of funds for such purposes.

18.2. In the event of a conflict between a Section of this MOU and any Annex to this MOU, the Section will control.

18.3. Except as otherwise provided, this MOU may be amended by the mutual written consent of the Participants. Annexes A, C and D of this MOU may be amended by the written approval of the SC.

18.4. This MOU may be terminated at any time upon the written consent of the Participants. In the event both Participants consent to terminate this MOU, the Participants will consult prior to the date of termination to ensure termination on the most economical and equitable provisions.

18.5. Either Participant may terminate this MOU upon 90 days written notification to the other Participant. Such notice will be the subject of immediate consultation by the SC to decide upon the appropriate course of action. In the event of such termination, the following rules apply:

18.5.1. The terminating Participant will continue participation, financial or otherwise, up to the effective date of termination.

18.5.2. Except as to Contracts awarded on behalf of both Participants, each Participant will be responsible for its own Project-related costs associated with termination of the Project. For Contracts awarded on behalf of both Participants, the terminating Participant will pay all Contract modification or termination costs that would not otherwise have been incurred but for the decision to terminate; in no event, however, will a terminating Participant's total financial contribution, including Contract termination costs, exceed that Participant's total Financial Cost share as established in Section V (Financial

Arrangements). Any part of a Participant's financial contribution made available to the other Participant, but not expended, will be returned to the providing Participant.

18.5.3. All Project Information and benefits therein received under the provisions of this MOU prior to the termination will be retained by the Participants, subject to the provisions of this MOU.

18.6. The respective benefits and responsibilities of the Participants regarding Section VII (Project Equipment), Section VIII (Disclosure and Use of Project Information), Section IX (Controlled Unclassified Information), Section XI (Security), Section XII (Third Party Sales and Transfers), Section XIII (Liability and Claims), and Section XVIII (Amendment, Termination, Entry into Effect, and Duration) will continue notwithstanding termination or expiration of this MOU.

18.7. This MOU, which consists of 18 Sections and four Annexes, will come into effect upon signature by both Participants and will remain in effect for five years. It may be extended by written consent of the Participants.

The foregoing represents the understandings reached between the Department of Defense of the United States of America and the Department of Defence of Australia.

Signed, in duplicate, in the English language by authorized representatives.

FOR THE DEPARTMENT OF DEFENSE OF THE UNITED STATES OF AMERICA	FOR THE DEPARTMENT OF DEFENCE OF AUSTRALIA
Signature	Signature
John D. Butler, RDML, USN	TREVOR B. RUTING RADM RAN
Name	Name
Program Executive Officer Submarines	HEAD, MARITIME SYSTEMS DIVISION
Title	Title
5 November 2004	18 NOVEMBER 2004
Date	Date
Washington, DC, USA	CANBERRA ACT AUSTRALIA
Location	Location

ANNEX A

PROJECT MANAGMENT ORGANIZATION DIAGRAM

STEERING COMMITTEE
(U.S. Representative, Australian Representative)

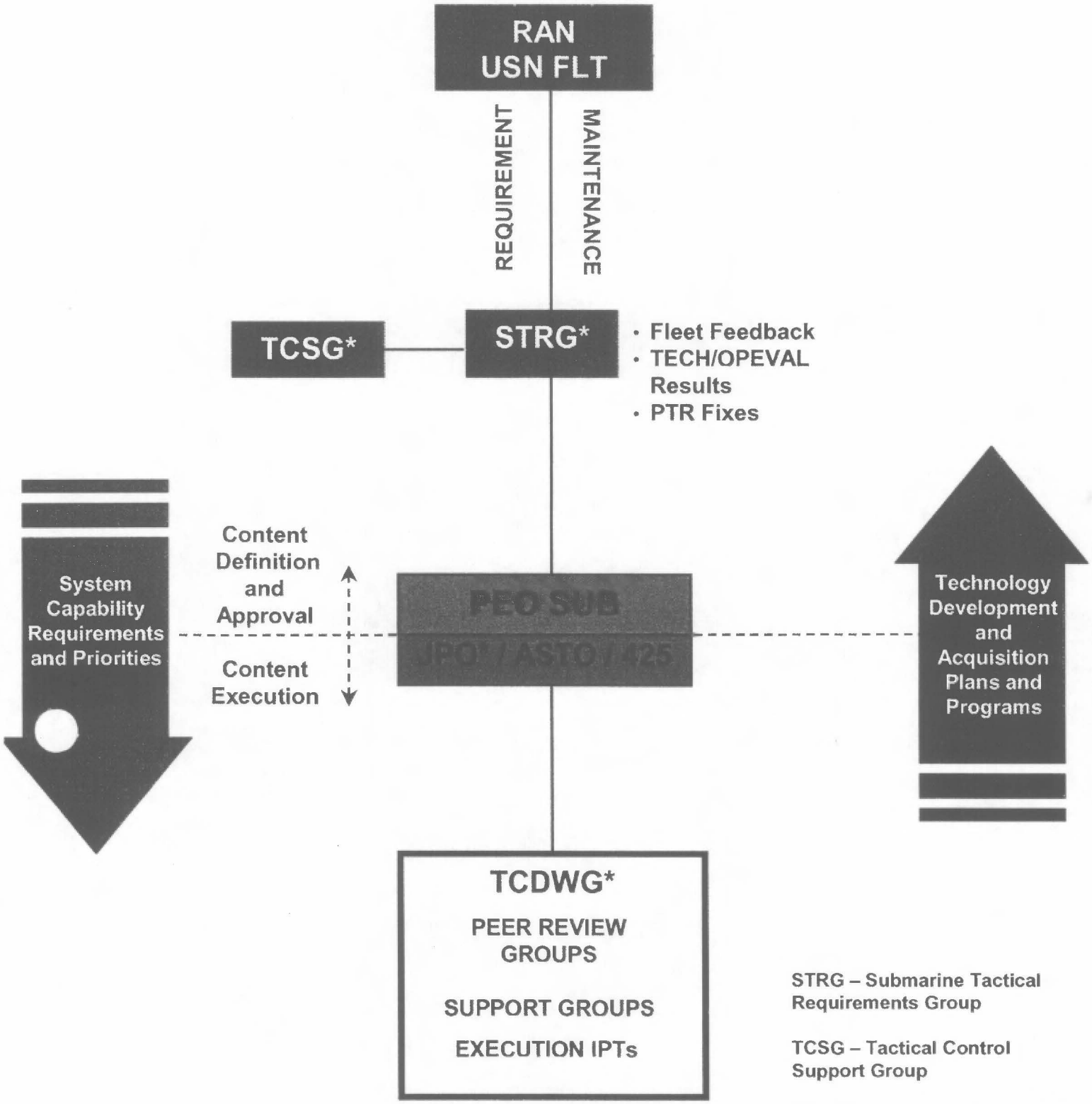
JOINT PROJECT OFFICE
(U.S. Project Manager)

(Australian Deputy Project Manager)

(U.S. Assistant Project Manager)

WORKING GROUPS
(Financial, Logistics, Systems Engineering, etc.)

REQUIREMENTS AND PLANNING



STRG – Submarine Tactical Requirements Group

TCSG – Tactical Control Support Group

TCDWG – Tactical Control Development Working Group

* US and CoA Membership

ANNEX B

COOPERATIVE PROJECT PERSONNEL

1.0. Purpose and Scope.

1.1. This Annex establishes the provisions, which will govern the conduct of AN/BYG-1 Cooperative Project Personnel. The Australian DoD will assign military members or civilian employees to the AN/BYG-1 Program Office, to U.S. DoD field activities, or to U.S. Contractor activities in accordance with Section IV (Management (Organization and Responsibility)), Annex A (Project Management Organization Diagram) and this Annex. The U.S. DoD will assign military members or civilian employees to Australian DoD field activities or to Australian Contractor facilities in accordance with Section IV (Management (Organization and Responsibility)), Annex A (Project Management Organization Diagram), and this Annex. AN/BYG-1 Cooperative Project Personnel will be able to perform all the responsibilities for the positions assigned to them under this MOU. Commencement of assignments will be subject to any requirements that may be imposed by the host Participant or its government regarding acceptance of AN/BYG-1 Cooperative Project Personnel, such as, but not limited to, visas and visit request documentation. The U.S. DoD and Australian DoD SC representatives will determine the length of tour for the positions at the time of initial assignment.

1.2. AN/BYG-1 Cooperative Project Personnel will be assigned to the AN/BYG-1 Program Office or U.S. DoD or Australian DoD field or Contractor activities for Project work and will report to their designated supervisor within those organizations regarding that work. The AN/BYG-1 Project Manager will be responsible for the creation of a document describing the duties of each AN/BYG-1 Cooperative Project Personnel position. AN/BYG-1 Cooperative Project Personnel will not act as liaison officers for the parent Participant. However, they may act from time to time on behalf of their SC representative if the latter so authorizes in writing.

1.3. AN/BYG-1 Cooperative Project Personnel will not be assigned to command or other positions that would require them to exercise responsibilities that are reserved by law or regulation to an officer or employee of the host Participant's government.

2.0. Security.

2.1. The U.S. DoD and Australian DoD SC representatives will establish the maximum level of security clearance required to permit AN/BYG-1 Cooperative Project Personnel to have access to Classified Information and facilities in which Classified Information is used in accordance with the Program Security Instruction (PSI) and Classification Guide (CG). Access to Classified Information and facilities in which Classified Information is used will be consistent with, and limited by, Section II (Objectives) and Section III (Scope of Work) of this MOU and the corresponding provisions of this Annex, and will be kept to the minimum required to accomplish the work assignments.

2.2. The parent Participant will file visit requests for the AN/BYG-1 Cooperative Project Personnel through prescribed channels in compliance with the host Participant's procedures. As part of the visit request procedures, the parent Participant will cause security assurances to be filed, through their respective embassies, specifying the security clearances for the AN/BYG-1 Cooperative Project Personnel being assigned.

2.3. The Participants will use their best efforts to ensure that both Australian DoD and U.S. DoD personnel assigned to the AN/BYG-1 Program Office, or field or Contractor activities are aware of, and comply with, applicable laws and regulations pertaining to Controlled Unclassified Information and Classified Information as well as the requirements of Section IX (Controlled Unclassified Information), Section X (Visits to Establishments), Section XI (Security), and paragraph 18.7 of Section XVIII (Amendment, Withdrawal, Termination, Entry into Effect, and Duration) of this MOU and the corresponding provisions of this Annex, and the PSI and CG. Prior to commencing assigned duties, AN/BYG-1 Cooperative Project Personnel will, if required by the host Participant's government laws, regulations, policies, or procedures, sign a certification concerning the conditions and responsibilities of AN/BYG-1 Cooperative Project Personnel.

2.4. AN/BYG-1 Cooperative Project Personnel will at all times be required to comply with the security and export control laws, regulations and procedures of the host Participant's government. Any violation of security procedures by AN/BYG-1 Cooperative Project Personnel during their assignment will be reported to the parent Participant for appropriate action. AN/BYG-1 Cooperative Project Personnel committing significant violations of security or export control laws, regulations, or procedures during their assignments will be withdrawn from the Project with a view

toward appropriate administrative or disciplinary action by their parent Participant.

2.5. All Classified Information made available to AN/BYG-1 Cooperative Project Personnel will be considered as Classified Information furnished to the Australian DoD or U.S. DoD and will be subject to all of the provisions and safeguards provided for in Section XI (Security) of this MOU, this Annex, and the PSI and the CG.

2.6. AN/BYG-1 Cooperative Project Personnel will not have personal custody of Classified Information or Controlled Unclassified Information, unless approved by the host Participant and as authorized by the parent Participant. They will be granted access to such Information in accordance with Section IX (Controlled Unclassified Information) and Section XI (Security) of this MOU and the provisions of the PSI during normal duty hours at their assigned facility when access is necessary to perform Project work.

2.7. AN/BYG-1 Cooperative Project Personnel will not serve as a conduit between the U.S. DoD and Australian DoD for requests for and/or transmission of Classified Information or Controlled Unclassified Information unless specifically authorized by the PSI.

3.0. Technical and Administrative Matters.

3.1. Consistent with host Participant's government laws and regulations, AN/BYG-1 Cooperative Project Personnel will be subject to the same restrictions, conditions, and privileges as host Participant personnel of comparable rank and in comparable assignments. Further, to the extent authorized by the host Participant's government laws and regulations, AN/BYG-1 Cooperative Project Personnel and their authorized dependents will be accorded:

3.1.1. Exemption from any host Participant tax upon income received from the parent Participant.

3.1.2. Exemption from any host Participant's government customs and import duties or similar charges levied on items entering the country for their official or personal use, including their baggage, household effects, and private motor vehicles.

3.2. Upon or shortly after arrival, AN/BYG-1 Cooperative Project Personnel will be provided briefings arranged by the AN/BYG-1 Program Office or host Participant field or

Contractor activities about applicable laws, orders, regulations, and customs and the need to comply with them. AN/BYG-1 Cooperative Project Personnel will also be provided briefings arranged by the AN/BYG-1 Program Office or host Participant field or Contractor activities regarding applicable entitlements, privileges, and responsibilities such as:

3.2.1. Any medical and dental care that may be provided to AN/BYG-1 Cooperative Project Personnel and their dependents at the host Participant's medical facilities, subject to applicable laws and regulations, including reimbursement requirements.

3.2.2 Purchasing and patronage privileges at military commissaries, exchanges, theaters and clubs for AN/BYG-1 Cooperative Project Personnel and their dependents, subject to applicable laws and regulations.

3.2.3. The host Participant will provide, if available, housing and messing facilities for AN/BYG-1 Cooperative Project Personnel and their dependents on the same basis and priority as for its own personnel. AN/BYG-1 Cooperative Project Personnel will pay messing and housing charges to the same extent as host Participant personnel. At locations where facilities are not provided by the host Participant or facilities are not available for its own personnel, the parent Participant will make suitable arrangements for its AN/BYG-1 Cooperative Project Personnel.

3.2.4. Responsibility of AN/BYG-1 Cooperative Project Personnel and those dependents accompanying them to obtain motor vehicle liability insurance coverage in accordance with laws and regulations applicable in the area where they are residing. In case of claims involving the use of private motor vehicles by AN/BYG-1 Cooperative Project Personnel and their dependents, the recourse will be against such insurance.

3.3. The AN/BYG-1 Program Manager, through the AN/BYG-1 Program Office and host Participant field or Contractor activities, will establish standard operating procedures for AN/BYG-1 Cooperative Project Personnel in the following areas:

3.3.1. Working hours, including holiday schedules.

3.3.2. Leave authorization, consistent to the extent possible with the military or civilian personnel regulations and practices of both Participants.

3.3.3. Dress regulations, consistent to the extent possible with the military or civilian personnel regulations and practices of both Participants.

3.3.4. Performance evaluations, recognizing that such evaluations will be rendered in accordance with the parent Participant's military or civilian personnel regulations and practices.

3.4. AN/BYG-1 Cooperative Project Personnel committing an offense under the laws of the government of either Participant may be withdrawn from this Project with a view toward further administrative or disciplinary action by the parent Participant. Disciplinary action, however, will not be taken by the host Participant against AN/BYG-1 Cooperative Project Personnel, nor will AN/BYG-1 Cooperative Project Personnel exercise disciplinary authority over host Participant personnel. In accordance with the host Participant's government laws, regulations, and procedures, the host Participant will assist the parent Participant in carrying out investigations of offenses involving AN/BYG-1 Cooperative Project Personnel.

3.5. During their assignment, AN/BYG-1 Cooperative Project Personnel will not be placed in the following duty status or environments unless it is consented to by the Parent Participant:

3.5.1. Areas of political sensitivity where their presence may jeopardize the interests of either the host Participant or parent Participant, or where, in the normal course of their duty, they may become involved in activities which may embarrass either Participant.

3.5.2. Deployments in non-direct hostility situations, such as UN peacekeeping or multi-national operations, or third countries.

3.5.3. Duty assignments in which direct hostilities are likely. Should the AN/BYG-1 Program Office or the field or Contractor activity of either Participant to which AN/BYG-1 Cooperative Project Personnel are assigned become involved in hostilities unexpectedly, AN/BYG-1 Cooperative Project Personnel assigned there will not be

involved in the hostilities. Any such AN/BYG-1 Cooperative Project Personnel approved by the Parent Participant for involvement in hostilities will be given specific guidance as to the conditions under which the assignment will be carried out by the appropriate authorities of the host Participant and parent Participant.

ANNEX C

PLANNED PROCUREMENT (ORDER) QUANTITIES AND ESTIMATED FUNDING SCHEDULE
AN/BYG-1 UPGRADES

Table Annex-1: ESTIMATED PROCUREMENT QUANTITIES
Note: S = Shipset, TI = Tech Insert

	CY05	CY06	CY07	CY08	CY09	Total
USN	6 TI	5 TI	6 TI	9 TI	5 TI	31 TI
RAN	4 S	5 TI				4 S 5 TI

ESTIMATED SCHEDULE FOR DELIVERY TO AUSTRALIA*

	CY05	CY06	CY07	CY08	CY09	Total
S/TI	4	1	7	2	0	14

- Includes five (5) shipsets procured under Foreign Military Sales Case AT-P-LBR.

ESTIMATED SHARED FINANCIAL CONTRIBUTION SCHEDULE - DEVELOPMENT PHASE

	CY05	CY06	CY07	CY08	CY09	Total
USN	15.068	19.126	20.022	21.865	17.130	93.211
RAN	1.821	3.352	3.444	3.801	4.031	16.449

ESTIMATED UNIQUE FINANCIAL CONTRIBUTION SCHEDULE - DEVELOPMENT PHASE

	CY05	CY06	CY07	CY08	CY09	Total
USN	35.868	21.502	31.444	30.925	22.916	142.655
RAN	6.287	3.649	2.598	0	0	12.534

ESTIMATED SHARED FINANCIAL CONTRIBUTION SCHEDULE - PRODUCTION PHASE

	CY05	CY06	CY07	CY08	CY09	Total
USN	.218	.181	.184	.187	.142	.912
RAN	.031	.032	.032	.033	.033	.161

ESTIMATED UNIQUE FINANCIAL CONTRIBUTION SCHEDULE - PRODUCTION PHASE

	CY05	CY06	CY07	CY08	CY09	Total
USN	181.400	125.550	99.750	109.825	75.675	592.200
RAN	12.740	2.407	2.084	0	0	17.231

ESTIMATED SHARED FINANCIAL CONTRIBUTION SCHEDULE - SUPPORT PHASE

	CY05	CY06	CY07	CY08	CY09	Total
USN	.923	3.455	4.895	5.446	5.103	19.822
RAN	.031	.527	.858	.881	1.201	3.498

ESTIMATED UNIQUE FINANCIAL CONTRIBUTION SCHEDULE - SUPPORT PHASE

	CY05	CY06	CY07	CY08	CY09	Total
USN	6.131	1.957	.699	1.184	.695	10.666
RAN	8.198	4.477	2.893	2.026	1.703	19.297

** Reference for shared contributions and RAN unique contributions is RAN SEA 1439 Master Cost Model.

ANNEX D

PROJECT OVERVIEW

1.0. BACKGROUND

1.1 This MOU is built upon a long-term initiative to periodically modernize the AN/BYG-1 under a U.S. DoD/Australian DoD partnership. This project is essential to further strengthen the ability of both Participants to meet current and future undersea and surface threats. The Australian DoD has previously initiated a procurement activity to establish the AN/BYG-1 baseline on the COLLINS Class Submarines. This procurement involves the establishment of infrastructure to support the initial and future evolution of the system. This procurement activity initiated by the Australian DoD will be continued and supported under this MOU. The USN has a well-established process for improving, maintaining, and upgrading submarine combat control systems, including the AN/BYG-1 and associated support and training infrastructures. This MOU will bring the Australian DoD into this process, including the consideration of Australian and U.S. DoD operational and capability requirements, decision making, and resource allocation to support the Project.

2.0. PROJECT SUMMARY DESCRIPTION

2.1. The U.S. DoD and the Australian DoD will join in a partnership for the cooperative development, production, and through-life support of the AN/BYG-1. The project will consist of three concurrent phases over a five-year period: Development; Production; and Support. The initial baseline establishment, spiral development and modernization of the AN/BYG-1 will result in a combat control system with enhanced surveillance, command and control, target detection and localization, and target acquisition capabilities. The co-operative partnership will maximize the mutual benefits of interoperability and the synergy of equipment production and logistics support.

3.0. DEVELOPMENT PHASE

3.1. During Development, U.S. DoD and Australian DoD personnel will jointly develop AN/BYG-1 upgrades primarily through the Advanced Processing Build (APB) Process and specific planned Technical Insertions (TI)and other recognized temporary installation processes. Development or testing efforts in support of the Project which may take place outside

of the APB Process or associated working groups identified in this MOU will be strictly conducted so as to not modify or interfere with agreed to configuration baselines, or agreed to ongoing APB efforts, and will be considered unique efforts under this MOU and funded and managed by the respective Participant accordingly.

3.2. The goal of the APB Process is to produce hardware independent software builds that create or improve functionality and incorporate them into naval combat systems. To ensure that the most capable functionality is transitioned, the APB Process is open to all members of industry who can provide the appropriate technology. The APB Process introduces software enhancements via a four-step evolutionary process designed to promote a balance between innovation and utility while rapidly maturing and transitioning science and technology into operationally useful systems. The process is designed to provide annual capability deliveries while ensuring operator input is incorporated throughout the entire development and test cycle.

3.3. The goal of TIs is to modernize existing system hardware and replace obsolete equipment while providing more processing power to accommodate the greater demands brought about by software changes through the APB Process.

3.4. The Development Phase will include the development required to make approved software from the APB Process acceptable for shipboard use. This includes integrating accepted changes brought about by both the APB Process and TIs into the configurations needed to meet the unique requirements of equipment space on the different submarines classes.

4.0. PRODUCTION PHASE

4.1. The Production Phase will consist of procuring and installing the AN/BYG-1 Tactical Subsystem on six COLLINS Class Submarines as well as all the remaining submarines in the USN submarine fleet not yet configured in order to attain AN/BYG-1 core commonality among both Participants' submarine classes. Timing of the production and installation of APB upgrades and TI upgrades will be in accordance with the Participants' unique requirements. The Production Phase will also include installation of software upgrades developed through the yearly APB Process and procurement and installation of hardware from scheduled TIs planned to occur every two years.

5.0. SUPPORT PHASE

5.1. The Joint Project Office will accommodate both Australian DoD and U.S. DoD supply and support plans, schedules and budgets - full life cycle management, logistic support and budget planning to the fullest extent possible.

5.2. The Support phase will begin upon MOU signature with the procurement for the Australian DoD of the required support, training, spares, and other materials to support the transition of the current Combat Control System to the AN/BYG-1 Tactical Subsystem. This will include the provision, support and future upgrades of shore based training and integration facilities to facilitate the development by both Participants of candidate products for consideration in the APB process, and to deliver training necessary for the operation of the AN/BYG-1 Tactical System. This MOU provides for the reciprocal use of the Participants' training facilities. This support phase effort is required to begin immediately in order to support the Australian DoD Replacement Combat System (RCS) Project SEA 1439 schedule where installation of the first AN/BYG-1 Tactical Subsystem in the first COLLINS Class Submarine is scheduled to be completed by June 2006. Certain efforts included in the Support Phase derive from RAN-unique requirements. The financial costs of these, and similar unique efforts on the part of both Participants in all phases are estimated in Annex C (Planned Procurement (Order) Quantities and Estimated Funding Schedule). The U.S. DoD and Australian DoD will jointly perform configuration management services, parts management, safety management, logistics support analysis, updates of technical data, training, manpower development, and computing during this phase.

AMENDMENT ONE TO THE

MEMORANDUM OF UNDERSTANDING

BETWEEN

THE DEPARTMENT OF DEFENSE

OF THE UNITED STATES OF AMERICA

AND

THE DEPARTMENT OF DEFENCE

OF AUSTRALIA

FOR THE

COOPERATIVE DEVELOPMENT, PRODUCTION, AND SUPPORT OF THE COMBAT CONTROL SYSTEM AN/BYG-1 TACTICAL SUBSYSTEM

INTRODUCTION

The Department of Defense of the United States of America (U.S. DoD) and the Department of Defence of Australia (Australian DoD), hereinafter referred to as the "Participants":

Considering the Memorandum of Understanding between the Department of Defense of the United States of America and the Department of Defence of Australia for the Cooperative Development, Production, and Support of the Combat Control System AN/BYG-1 Tactical Subsystem, which entered into effect November 18, 2004 (AN/BYG-1 MOU);

Recognizing the Exchange of Notes Constituting an Agreement between the Government of the United States of America and the Government of Australia Concerning Certain Mutual Defence Commitments done at Sydney on December 1, 1995 (the Chapeau Agreement), as may be amended, applies to the AN/BYG-1 MOU and will apply to this Amendment;

Having a common interest in defense;

Recognizing the intent of the Statement of Principles for Enhanced Cooperation between the United States Navy and the Royal Australian Navy in matters relating to Submarines dated May 2, 2005 to facilitate defense cooperation activities;

Having a mutual need for the continuing development, production, and support of the AN/BYG-1 Tactical and Weapon Control System;

Recognizing the impact of the Submarine Warfare Federated Tactical System on AN/BYG-1;

Having realized significant benefits from the AN/BYG-1 MOU;

Have reached the following understandings:

SECTION I
PURPOSE

The purpose of this Amendment is to extend the duration of the AN/BYG-1 MOU, revise export control provisions, provide additional funding, and revise Project management responsibilities.

SECTION II
AMENDMENT

The AN/BYG-1 MOU is amended as follows:

1. Replace the current title page with the following title page.

"MEMORANDUM OF UNDERSTANDING

BETWEEN

THE DEPARTMENT OF DEFENSE

OF THE UNITED STATES OF AMERICA

AND

THE DEPARTMENT OF DEFENCE

OF AUSTRALIA

FOR THE

COOPERATIVE DEVELOPMENT, PRODUCTION, AND SUPPORT OF THE

AN/BYG-1 TACTICAL AND WEAPON CONTROL SYSTEM"

2. Revise Section I (Definitions) by adding the following definitions either as new definitions or as replacements for the existing definition of the same name:

"Advanced Processing Build Process(APB Process)	The APB Process is the cyclic process by which capability improvements are conceived, developed, tested, and produced. The purpose of the APB Process is to produce hardware-independent software builds to create or improve functionality for transition to naval combat systems programs. There is both an advanced development and production component to the

	overall APB Process.
PEO-IWS 5 (Program Executive Officer - Integrated Warfare Systems)	The United States Department of the Navy (USN) organization that manages the technology improvements from the various sources as they transit through the APB Process until they transition to production.
Principal Systems Engineering Integrated Product Team (PSE IPT)	The team that coordinates the APB and modernization process.
Production	In addition to producing hardware, production is the process by which the APB baseline transitions from a temporary configuration to a formally engineered and tested system that is certified within the naval environment and supported with a logistics package.
Production Enhancements	Those selected engineering changes that are incorporated to the software baselines during production.
Project	The U.S. DoD-Australian DoD cooperative engineering and manufacturing project to develop, produce, and support the AN/BYG-1 Tactical and Weapon Control System as described in this MOU, as amended.
Project Management Plan	A plan developed by the Project Manager that provides a description of the Project's management, risks, schedule, delivery requirements, and milestones.
Project Test and Evaluation Master Plan (PTEMP)	The documents developed to delineate Project test requirements, goals, and schedules to meet the national requirements of both

	Participants.
Prospective Contractor	Any entity that seeks to enter into a Contract to be awarded by a Participant's Contracting Agency and that, in the case of a solicitation involving the release of export-controlled information, is eligible to receive such information.
Submarine Warfare Federated Tactical System (SWFTS)	Coalition of the submarine combat systems program offices, including PEO-IWS 5, to coordinate upgrades and facilitate common technical standards and principles across systems. In addition to AN/BYG-1, SWFTS includes systems such as sonar, electronic support measures, imaging, navigation, and communications."

Revise Section I (Definitions) by deleting the following definition:

"Tactical Control Development Working Group (TCDWG)	The TCDWG is responsible for the overall coordination of the Tactical Control APB Process."

3. Revise Section II (Objectives) by deleting paragraphs 2.1.1. through 2.1.6. and replacing them with the following:

"2.1.1. To identify and implement changes that will improve and maintain the military effectiveness, safety, and availability of the AN/BYG-1 Tactical and Weapon Control System for both Participants.

2.1.2. To design, develop, and test through the Advanced Processing Build (APB) and Technical Insertions (TI) Processes AN/BYG-1 Tactical and Weapon Control system upgrades meeting the requirements of the Participants.

2.1.3. To produce AN/BYG-1 Tactical and Weapon Control System TI upgrades, APB software upgrades, and production enhancements and install, test, and certify them in the AN/BYG-1 Tactical and Weapon Control Systems on the Participants' submarines.

2.1.4. To provide in-service support of the Participants' AN/BYG-1 Tactical and Weapon Control Systems including maintenance builds, obsolescence management, and the upgrading of the Participants' maintenance, development, analysis, and training infrastructures.

2.1.5. To provide program and engineering management of the processes during the development, production, and support phases to control all aspects of risk, cost, and schedule of AN/BYG-1 Tactical and Weapon Control Systems.

2.1.6. To maintain configuration management between the U.S. DoD and the Australian DoD AN/BYG-1 Tactical and Weapon Control Systems through Australian DoD participation in the APB and Production process.

2.1.7. To accommodate and support, to the maximum extent possible, any future Australian DoD and/or U.S. DoD requirements for logistics/resupply, support, configuration control, operation, training, training facilities, combat systems research and development, future upgrades, and mutual use of facilities for the AN/BYG-1 Tactical and Weapons Control System.

2.1.8. To maximize commonality of product and process and limit unique effort in developing, producing and supporting the AN/BYG-1 Tactical and Weapons Control System."

4. Revise Section III (Scope of Work) by deleting paragraphs 3.1.1. through 3.1.7. of Section III (Scope of Work) of the MOU and replacing them with the following:

"3.1.1. Development of AN/BYG-1 Tactical and Weapons Control System upgrades through the APB, TI, and Production processes to provide improved combat system effectiveness in an increasingly difficult submarine threat environment. The APB process provides new or improved capability

based on advanced development. Hardware modifications via the TI process will control obsolescence and improve processing to support software enhancements.

3.1.2. Project management of AN/BYG-1 Tactical and Weapons Control System development, production, and support including program planning, scheduling, Contracting, financial management, and risk management.

3.1.3. Engineering management including requirements definition and management, system design and architecture, configuration management, integration and test, safety, and certification.

3.1.4. Testing of the hardware and software upgrades at the component, subsystem, and system level. Following an APB software upgrade or TI installation, as appropriate, extensive at-sea testing may be conducted at both U.S. DoD and Australian DoD ranges and littoral environments. Testing will be performed in accordance with each Participant's test and evaluation plans and Annex D (Project Overview). Plans and testing will be coordinated and results shared between Participants to the maximum extent possible.

3.1.5. Production and installation, as necessary, of hardware modifications through TIs to upgrade U.S. DoD and Australian DoD submarines to the latest AN/BYG-1 Tactical and Weapon Control System. This includes unique Australian maintenance improvements to AN/BYG-1 targeting capability provided by the COLLINS Towed Array Processor (CTAP).

3.1.6. Development, establishment, modification, and maintenance of the development, analysis, and training support infrastructures of both Participants.

3.1.7. Supporting logistics and sparing requirements and performance of obsolescence and sustainability management.

3.1.8. Sharing Project Information relating to the development, production, and support of the AN/BYG-1 Tactical and Weapon Control System and related support and training infrastructures. This includes technical information and data on

systems that interface to AN/BYG-1 and provide critical data in support of Tactical and Weapons Control functionality."

5. Revise Section IV (Management (Organization and Responsibility)) as follows:

(a) Delete paragraph 4.1. and replace it with the following:

"4.1. This Project will be directed and administered on behalf of the Participants by an organization consisting of an Executive Steering Committee (SC), and a Joint Project Office (JPO) headed by a Project Manager (PM). The SC will have overall authority over the PM, in accordance with this MOU. The PM will have primary responsibility for effective implementation, efficient management, and direction of the Project in accordance with this MOU. The Principal Systems Engineering Integrated Product Team (PSE IPT) supports the SC and PM by providing coordination of the APB Process."

(b) Delete paragraph 4.3.2. and replace it with the following:

"4.3.2. Reviewing progress in meeting system requirements and overall progress of the Project as specified in the PMP and Annex D (Project Overview).

(c) Delete paragraph 4.3.12. and replace it with the following:

"4.3.12. Reviewing and approving the semi-annual status report presented by the PM at the SC meeting."

(d) Delete paragraph 4.3.13. and replace it with the following:

"4.3.13. Reviewing and approving the FMPD and the PMP (including any changes), and reviewing and endorsing the Participants' Project Test and Evaluation Master Plans (PTEMPs) (including any changes)."

(e) Add the following new paragraphs:

"4.3.15. Employing its best efforts to resolve, in

consultation with the export control authorities of the Participant concerned, any export control issues raised by the PM in accordance with subparagraph 4.6.20. of this Section or raised by a Participant's SC representative in accordance with subparagraph 8.1.1.3. of Section VIII (Disclosure and Use of Project Information) of this MOU.

4.3.16. Reviewing and providing guidance with respect to AN/BYG-1 architecture or functionality changes referred by the JPO."

(f) Delete paragraphs 4.4. and 4.5. and replace them with the following:

"4.4. The intent is for the JPO to be collocated with the AN/BYG-1 Program Office. The Department of the Navy within the U.S. DoD will appoint the PM who, as head of the JPO, will be responsible for implementing this MOU and for day-to-day management of the Project.

4.5. The Participants will each provide national representation to the JPO to manage the Project, including appropriate JPO support to PEO-IWS 5 APB related activities. In accordance with Annex A (Project Management Organization Diagram), the Australian DoD will appoint a DPM and the U.S. DoD will appoint a PM and an Assistant PM (APM). The DPM will report to the PM heading the JPO and the APM will report to the DPM."

(g) Delete paragraphs 4.6.10. through 4.6.12. and replace with the following:

"4.6.10. Developing and forwarding the PTEMPs to the SC for review and endorsement (including any proposed changes), and implementing the PTEMPs.

4.6.11. Developing, approving, and executing the engineering management plan.

4.6.12. Assessing information and recommendations provided by the PSE IPT and presenting to the SC for guidance proposed changes to architecture or functionality of AN/BYG-1 Tactical and Weapons Control System that would have the effect of increasing a

Participant's unique contribution to maintain the functionality or effectiveness of its system.

(h) Add the following new paragraph:

"4.6.20. Monitoring export control arrangements required to implement this MOU and, if applicable, referring immediately to the SC any export control issues that could adversely affect the implementation of this MOU."

(i) Delete the first sentence of paragraph 4.8. and replace it with the following:

"4.8. Representatives from both the U.S. DoD and Australian DOD will participate in the STRG, Tactical Control Support Group (TCSG), peer review working groups, support groups, in-process teams, the PEO-IWS 5 APB Process, and other working groups that help define the requirements and direction of future improvements to the AN/BYG-1 Tactical and Weapons Control System."

(j) Insert a new paragraph 4.9.:

"4.9. The Principal Systems Engineering Integrated Product Team (IPT) is responsible to PEO SUB to coordinate activities related to the APB and modernization process to ensure alignment across the enterprise. The PSE IPT is comprised of chief engineers from participating program offices, PEO-IWS 5, and SWFTS. The AN/BYG-1 chief engineer and the PM represent the interests of the JPO. The PSE IPT reviews requirements, system improvements and changes, functional allocation, and architecture, and provides coordination during the development and test process. The PSE IPT operates on a basis of consensus decision making to coordinate the APB and modernization process. The PSE IPT will consider all variants of BYG-1 and, as a key objective, will limit unique changes to the configurations of both Participants."

6. Revise Section V (Financial Provisions) as follows:

(a) Delete paragraph 5.1. and replace it with the following:

"5.1. The Participants estimate that the performance of the shared responsibilities under this MOU will not cost more than a Financial Cost Ceiling of $560.127 million Then Year (TY) U.S. dollars. A Financial Cost Ceiling may be changed only upon the written consent of the Participants. The U.S. dollar will be the reference currency for the Project, and the Project fiscal years will be based on the U.S. fiscal year."

(b) Delete paragraph 5.3. and replace it with the following:

"5.3. The shared Financial Cost Ceilings and non-financial contributions for the Project are as follows:

U.S. DoD Financial	$476.108 million TY U.S.
Australian DoD Financial	$84.019 million TY U.S.
Total Financial Shared	$560.127 million TY U.S.

(The ratio of shared financial contributions is 85:15, U.S. DoD:Australian DoD)

U.S. DoD Non-financial	$16.460 million TY U.S.
Australian Non-financial	$8.360 million TY U.S.
Total Non-Financial Shared	$24.820 million TY U.S."

7. Revise Section VI (Contracting Provisions) as follows:

(a) Delete the second sentence of paragraph 6.3. and replace it with the following:

"The Contracting Officer will insert into prospective Contracts (and require its Contractors to insert in subcontracts) provisions to satisfy the requirements of this MOU, including Section VIII (Disclosure and Use of Project Information), Section IX (Controlled Unclassified Information), Section XI (Security), Section XII (Third Party Sales and Transfers), and Section XVIII (Amendment, Termination, Entry into Effect, and Duration) of this MOU, including the export control provisions in accordance with this MOU, in particular paragraph 6.5. of this Section."

(b) Delete paragraph 6.5. and replace it with the following:

"6.5. Each Participant will legally bind its Contractors to a requirement that the Contractor will not retransfer or otherwise use export-controlled information furnished by the other Participant for any purpose other than the purposes authorized under this MOU. The Contractor will also be legally bound not to retransfer the export-controlled information to another Contractor or subcontractor unless that Contractor or subcontractor has been legally bound to limit use of the information to the purposes authorized under this MOU. Export-controlled information furnished by one Participant under this MOU may only be retransferred by the other Participant to its Contractors if the legal arrangements required by this paragraph have been established. Each Participant will legally bind its Prospective Contractors to a requirement that the Prospective Contractor will not retransfer or otherwise use export-controlled information furnished by the other Participant for any purpose other than responding to a solicitation issued in furtherance of the purposes authorized under this MOU. Prospective Contractors will not be authorized use for any other purpose if they are not awarded a Contract. The Prospective Contractors will also be legally bound not to retransfer the export-controlled information to a prospective subcontractor unless that prospective subcontractor has been legally bound to limit use of the export-controlled information for the purpose of responding to the solicitation. Export-controlled information furnished by one Participant under this MOU may only be retransferred by the other Participant to its Prospective Contractors if the legal arrangements required by this paragraph have been established. Upon request by the furnishing Participant, the receiving Participant will identify its Prospective Contractors and prospective subcontractors receiving such export-controlled information."

8. Revise Section VIII (Disclosure and Use of Project Information) as follows:

(a) Add the following paragraphs at the end of the second paragraph of 8.1.:

"8.1.1. The following export control provisions will apply to the transfer of Project Information:

8.1.1.1. Unless otherwise restricted by duly authorized officials of the furnishing Participant at the time of transfer to the other Participant, all export-controlled information furnished by one Participant to the other Participant may be retransferred to the other Participant's Contractors, subcontractors, Prospective Contractors, and prospective subcontractors, subject to the requirements of paragraph 6.5. of Section VI (Contracting Provisions) of this MOU.

8.1.1.2. Export-controlled information may be furnished by Contractors, subcontractors, Prospective Contractors, and prospective subcontractors of one Participant's nation to the Contractors, subcontractors, Prospective Contractors, and prospective subcontractors of the other Participant's nation pursuant to this MOU, subject to the conditions established in licenses or other approvals issued by the Government of the former Participant in accordance with its applicable export control laws and regulations.

8.1.1.3. If a Participant finds it necessary to exercise a restriction on the retransfer of export-controlled information as set out in subparagraph 8.1.1.1. of this Section, it will promptly inform the other Participant. If a restriction is then exercised and the affected Participant objects, that Participant's SC representative will notify promptly the other Participant's SC representative and they will immediately consult in order to discuss ways to resolve such issues or mitigate any adverse effects."

(b) In paragraph 8.7.1., delete the phrase "Contractor or other entity" and add in its place the following: "Contractor, Participant, or other entity".

9. Revise Section IX (Controlled Unclassified Information) by deleting paragraph 9.2. and replacing it with the following:

"9.2. To assist in providing the appropriate controls, the originating Participant will ensure that Controlled Unclassified Information is appropriately marked to ensure its "in confidence" nature. The Participants' export-controlled information will be marked in

accordance with the applicable Participant's export control markings as documented in the security Classification Guide. The Participants will also decide, in advance and in writing, on the markings to be placed on any other types of Controlled Unclassified Information and describe such markings in the PSI."

10. Revise Section XI (Security) by deleting paragraph 11.5. and replacing it with the following:

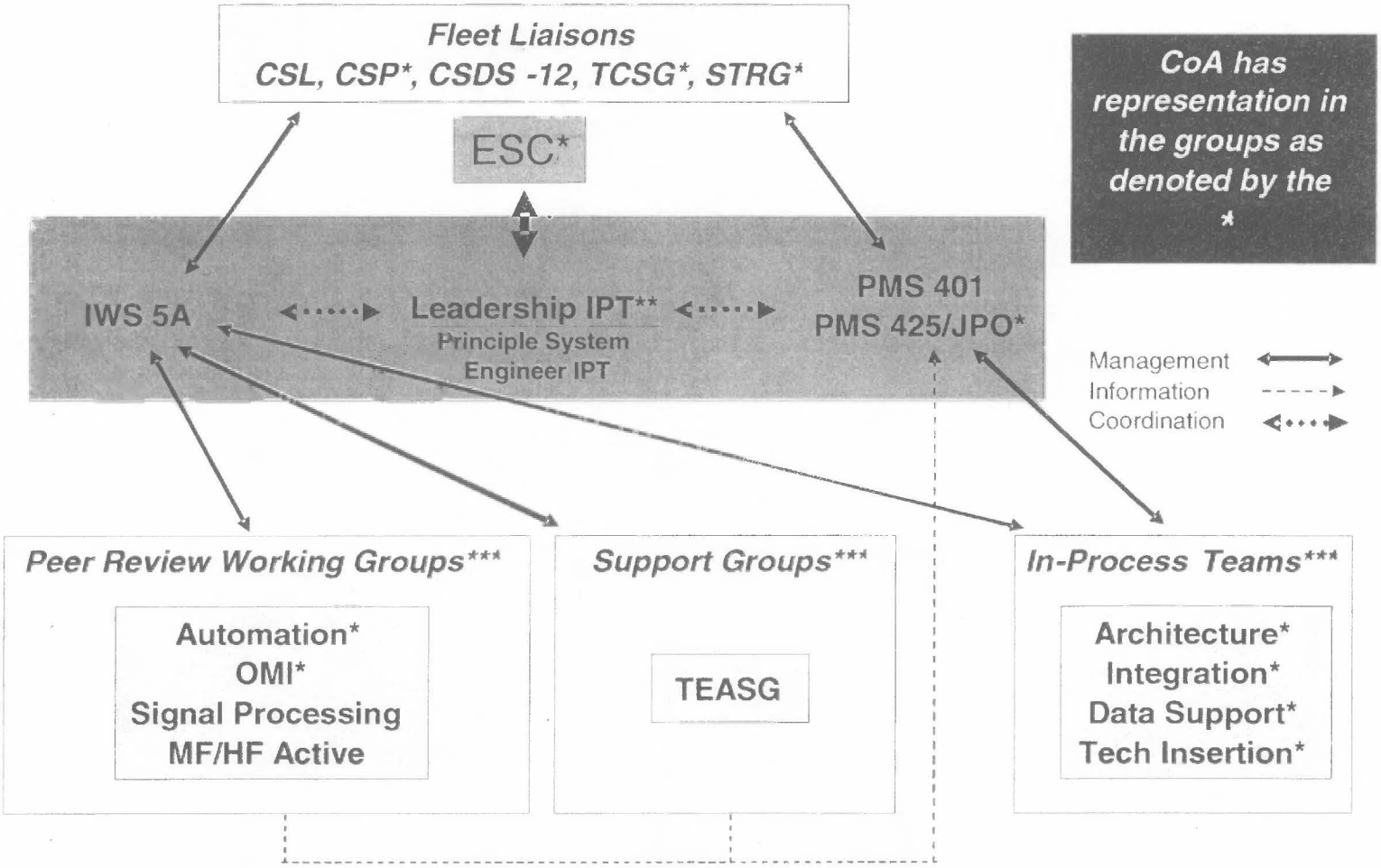
"11.5. The PM will prepare a Project Security Instruction (PSI) and a Classification Guide (CG) for the Project. The PSI and the CG will describe the methods by which Project Information will be classified, marked, used, transmitted, and safeguarded, and will require that markings for all export-controlled Classified Information will include the applicable export control markings identified in the PSI in accordance with paragraph 9.2. of Section IX (Controlled Unclassified Information) of this MOU. The PSI and CG will be developed by the PM within three months after this MOU enters into effect and modified as necessary at the time any amendment to the MOU is signed. They will be reviewed and forwarded to the Participants' DSAs for approval and will be applicable to all Government and Contractor personnel participating in the Project. The CG will be subject to regular review and revision with the aim of downgrading the classification whenever this is appropriate. The PSI and the CG will be approved by the appropriate DSA prior to the transfer of any Classified Information or Controlled Unclassified Information."

11. Revise Section XVIII (Amendment, Entry into Effect, and Duration) by deleting paragraph 18.7. and replacing it with the following:

"18.7. This MOU, which consists of 18 Sections and four Annexes, will come into effect upon signature by both Participants and will remain in effect for fifteen (15) years. It may be extended by written consent of the Participants."

12. Revise Annex A ((Project Management Organization Diagram) by deleting the second page and adding the following new second page:

JPO Participation in the APB Process



** Initial and subsequent functionality and requirements coordination

*** Groups and Teams may stand up and down with APB focus

13. Revise Annex C (Planned Procurement (Order) Quantities and Estimated Funding Schedule) by deleting it and adding the following new Annex C:

"ANNEX C

PLANNED PROCUREMENT (ORDER) QUANTITIES AND ESTIMATED FUNDING SCHEDULE
AN/BYG-1 UPGRADES

Table Annex-1: ESTIMATED PROCUREMENT QUANTITIES

	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	TOTAL
USN	6S	6S	3S	11S	11S	11S	7S	14S	11S	7S	12S	11S	7S	14S	11S	142S
RAN		4S 3L				4S 3L			4S 3L				4S 3L			16S 12L

Note: S = Shipset, L = Lab set

ESTIMATED SHARED FINANCIAL CONTRIBUTION SCHEDULE - DEVELOPMENT PHASE (in million U.S. dollars ($M))

	FY05	FY06	FY07	FY08	FY09	TOTAL YR1-YR5
USN	15.878	15.378	16.491	19.342	24.472	91.561
RAN	2.802	2.714	2.910	3.413	4.319	16.158

	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	TOTAL YR6-YR15		TOTAL PROGRAM
USN	31.207	30.022	32.272	32.290	33.494	33.627	34.300	35.482	37.265	39.731	339.690		431.251
RAN	5.507	5.298	5.695	5.698	5.911	5.934	6.053	6.262	6.576	7.011	59.945		76.103

ESTIMATED UNIQUE FINANCIAL CONTRIBUTION SCHEDULE - DEVELOPMENT PHASE ($M)

	FY05	FY06	FY07	FY08	FY09	TOTAL YR1-YR5
USN	27.709	27.932	32.254	30.823	25.890	144.608
RAN	6.488	4.747	8.362	2.625	0.000	22.222

	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	TOTAL YR6-YR15		TOTAL PROGRAM
USN	22.989	24.213	20.060	21.148	20.923	21.977	22.458	22.359	21.594	20.047	217.768		362.376
RAN	14.968	4.292	5.208	7.802	8.245	4.646	5.637	8.446	8.926	11.013	79.183		101.405

ESTIMATED SHARED FINANCIAL CONTRIBUTION SCHEDULE - PRODUCTION PHASE ($M)

	FY05	FY06	FY07	FY08	FY09	TOTAL YR1-YR5
USN	0.078	0.099	0.108	0.110	0.111	.506
RAN	0.014	0.017	0.019	0.019	0.020	.089

	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	TOTAL YR6-YR15		TOTAL PROGRAM
USN	0.922	1.006	1.026	1.047	1.067	1.089	1.110	1.133	1.156	1.180	10.736		11.242
RAN	0.163	0.178	0.181	0.185	0.189	0.192	0.196	0.199	0.204	0.208	1.895		1.984

ESTIMATED UNIQUE FINANCIAL CONTRIBUTION SCHEDULE - PRODUCTION PHASE ($M)

	FY05	FY06	FY07	FY08	FY09	TOTAL YR1-YR5
USN	114.800	138.200	99.100	118.000	106.700	576.800
RAN	3.016	5.419	6.567	3.457	3.968	22.427

	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	TOTAL YR6-YR15		TOTAL PROGRAM
USN	109.986	85.341	81.886	69.886	116.875	132.798	119.334	124.133	131.785	142.729	1114.753		1691.553
RAN	7.955	0.000	0.000	25.261	7.050	6.250	0.000	8.289	0.866	0.000	55.671		78.098

ESTIMATED SHARED FINANCIAL CONTRIBUTION SCHEDULE - SUPPORT PHASE ($M)

	FY05	FY06	FY07	FY08	FY09	TOTAL YR1-YR5
USN	0.078	1.501	4.700	4.868	4.943	16.090
RAN	0.014	0.265	0.829	0.859	0.872	2.839

	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	TOTAL YR6-YR15		TOTAL PROGRAM
USN	1.593	1.627	1.661	1.696	1.731	1.768	1.805	1.843	1.881	1.920	17.525		33.615
RAN	0.281	0.287	0.293	0.299	0.306	0.312	0.318	0.325	0.332	0.340	3.093		5.932

ESTIMATED UNIQUE FINANCIAL CONTRIBUTION SCHEDULE - SUPPORT PHASE ($M)

	FY05	FY06	FY07	FY08	FY09	TOTAL YR1-YR5
USN	7.926	6.002	3.561	0.749	1.318	19.556
RAN	5.733	5.985	3.765	1.666	2.587	19.736

	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	TOTAL YR6-YR15		TOTAL PROGRAM
USN	4.341	4.657	4.643	4.658	5.591	5.713	5.826	6.099	6.559	7.236	55.323		74.879
RAN	4.578	4.124	4.096	5.222	3.631	2.791	3.387	5.061	3.846	2.922	39.658		59.394

"

14. Revise Annex D (Project Overview) by deleting it and replacing it with the following new Annex D:

ANNEX D

PROJECT OVERVIEW

1.0. BACKGROUND

1.1 This MOU is built upon a long-term initiative to periodically modernize the AN/BYG-1 under a U.S. DoD/Australian DoD partnership. This project is essential to further strengthen the ability of both Participants to meet current and future undersea and surface threats. The Australian DoD procured AN/BYG-1 baseline systems under the AN/BYG-1 MOU of November 2004 for the COLLINS Class Submarines. This procurement involved the establishment of infrastructure to support the initial and future evolution of the system. The USN, in partnership with the Australian DoD, has established a process for improving, maintaining, and upgrading submarine combat control systems, including the AN/BYG-1 and associated support and training infrastructures.

2.0. PROJECT SUMMARY DESCRIPTION

2.1. The U.S. DoD and the Australian DoD will continue a joint partnership for the cooperative development, production, and through-life support of the AN/BYG-1. The project will consist of three concurrent phases over a fifteen-year period: Development; Production; and Support. The initial baseline establishment, spiral development, and modernization of the AN/BYG-1 resulted in a combat control system with enhanced surveillance, command and control, target detection and localization, and target acquisition capabilities. The co-operative partnership will continue to maximize the mutual benefits of interoperability and the synergy of equipment production and logistics support.

3.0. DEVELOPMENT PHASE

3.1. During Development, U.S. DoD and Australian DoD personnel will jointly develop AN/BYG-1 upgrades through the Advanced Processing Build (APB) Process and specific planned Technical Insertions (TI), including engineering enhancements to software functionality during the production process and other recognized temporary installation processes. Development or testing efforts in support of the Project which may take

place outside of the APB and TI Process or associated working groups identified in this MOU will be strictly conducted so as to not modify or interfere with agreed to configuration baselines, or agreed to ongoing APB efforts, and will be considered unique efforts under this MOU and funded and managed by the respective Participant accordingly.

3.2. The goal of the APB Process (further described in the PMP) is to produce hardware independent software builds that create or improve functionality and incorporate them into naval combat systems. APB improvements provide new technology based on advanced development. To ensure that the most capable functionality is transitioned, the APB Process is open to all eligible members of both Participants' industries who can provide the appropriate technology. The APB Process introduces software enhancements via an evolutionary process designed to promote a balance between innovation and utility while rapidly maturing and transitioning science and technology into operationally useful systems.

3.3. The goal of TIs is to modernize existing system hardware and replace obsolete equipment while providing more processing power to accommodate the greater demands brought about by software changes through the APB Process. Development of the TI will include hardware and software changes that are based on engineering improvements to existing systems and technologies.

3.4. The Development Phase will follow a systems engineering process outlined in the PMP to transition products from the APB Process and Production Enhancements to be acceptable for shipboard use. This includes requirements verification, system level testing, certification, and integrating accepted changes brought about by both the APB Process and TIs into the configurations needed to meet the unique requirements of equipment space on the different submarines classes. Modification of software and hardware products into the necessary configuration to meet the unique requirements of a Participant will be a unique cost of that Participant.

3.5. As AN/BYG-1 is one of the larger systems of SWFTS, hardware selection and the development of AN/BYG-1 software in both the APB process and the production enhancements is closely coordinated among the program offices that comprise SWFTS. The goal of SWFTS and the APB process is to provide coordinated functionality upgrades across systems to maximize the resulting capability across systems. This SWFTS level approach of coordinated upgrades drives the requirement to share technical and interface information across programs. In order to

participate fully in the APB process as partners, each Participant will make its best efforts to provide appropriate interface data and technical data on the systems that interface with AN/BYG-1.

4.0. PRODUCTION PHASE

4.1. The Production phase will consist of procuring and installing hardware upgrades to the AN/BYG-1 Tactical and Weapon Control System on selected submarines and shore based infrastructure of both Participants. These upgrades are coordinated to attain and maintain AN/BYG-1 core commonality between the Participants to the maximum extent possible. To the maximum extent possible, timing of the production and installation of APB and production software upgrades and TI upgrades will consider and take into account the Participants' unique requirements. The Production phase will also include installation of software upgrades developed through the yearly APB process and procurement and installation of hardware from scheduled TIs planned to occur every two years.

5.0. SUPPORT PHASE

5.1. The Joint Project Office will accommodate both Australian DoD and U.S. DoD supply and support plans, schedules, and budgets - full life cycle management, logistic support, and budget planning to the fullest extent possible.

5.2. The Support phase will begin upon MOU signature with the procurement for the Australian DoD of the required support, training, and spares. This will include the provision, support, and future upgrades of shore-based training, testing, development, and integration facilities (including, but not limited to, Submarine Multi-Mission Team Trainer (SMMTT), Multipurpose Interactive Trainer (MIT) and ADCAP post-launch trainer, AN/BYG-1 software build environment) to facilitate the development, testing, and evaluation by both Participants of candidate products for consideration in the APB process, and to deliver training necessary for the operation of the AN/BYG-1 Tactical System. This MOU provides for the reciprocal use of the Participants' training facilities. Certain efforts included in the Support phase derive from the Participants' unique requirements. The financial costs of these unique efforts on the part of both Participants in all phases are estimated in Annex C (Planned Procurement (Order) Quantities and Estimated Funding Schedule). The U.S. DoD and Australian DoD will jointly perform configuration management services, parts

management, safety management, logistics support analysis, updates of technical data, and training during this phase.

SECTION III

AMENDMENT, TERMINATION, ENTRY INTO EFFECT, AND DURATION

This Amendment One to the AN/BYG-1 MOU will enter into effect upon signature by both Participants. This Amendment will remain in effect for the same period as the MOU that it amends. Unless specifically amended herein, all other provisions of the MOU remain unchanged.

The foregoing represents the understandings reached between the Department of Defense of the United States of America and the Department of Defence of Australia.

Signed, in duplicate, by authorized representatives of the Participants.

FOR THE DEPARTMENT OF DEFENSE OF THE UNITED STATES OF AMERICA	FOR THE DEPARTMENT OF DEFENCE OF AUSTRALIA
RADM USN	RADM RAN
Signature	Signature
WILLIAM HILARIDES	BOYD ROBINSON
Name	Name
PEO SUBMARINES	HEAD MARITIME SYSTEMS
Title	Title
10/7/09	28 OCT 09
Date	Date
WASHINGTON DC	CANBERRA ACT
Location	Location