2010 - 0009

FOLLOW-ON

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 MK48

HEAVYWEIGHT TORPEDO

Certified to be a true copy:

Phil Wheeler
International Agreements Negotiator
Navy International Programs Office

TABLE OF CONTENTS

TABLE OF CONTENTS 2
INTRODUCTION 3
SECTION I 5
DEFINITIONS 5
SECTION II 14
OBJECTIVES 14
SECTION III 16
SCOPE OF WORK 16
SECTION IV 18
MANAGEMENT 18
SECTION V 23
FINANCIAL PROVISIONS 23
SECTION VI 27
CONTRACTING PROVISIONS 27
SECTION VII 30
PROJECT EQUIPMENT 30
SECTION VIII 33
DISCLOSURE AND USE OF PROJECT INFORMATION 33
SECTION IX 42
CONTROLLED UNCLASSIFIED INFORMATION 42
SECTION X 44
VISITS TO ESTABLISHMENTS 44
SECTION XI 45
SECURITY 45
SECTION XII 48
THIRD PARTY SALES AND TRANSFERS 48
SECTION XIII 50
LIABILITY AND CLAIMS 50
SECTION XIV 51
PARTICIPATION OF ADDITIONAL NATIONS 51
SECTION XV 52
CUSTOMS DUTIES, TAXES, AND SIMILAR CHARGES 52
SECTION XVI 53
SETTLEMENT OF DISPUTES 53
SECTION XVII 54
AMENDMENT, TERMINATION, ENTRY INTO EFFECT, AND DURATION ... 54
ANNEX A 57
PROJECT MANAGMENT ORGANIZATION DIAGRAM 57
ANNEX B 58
COOPERATIVE PROJECT PERSONNEL 58
ANNEX C 63
PLANNED PROCUREMENT (ORDER) QUANTITIES AND ESTIMATED FUNDING SCHEDULE MK48 HEAVYWEIGHT TORPEDO UPGRADE KITS 63
ANNEX D 65
PROJECT OVERVIEW 65

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 December 1, 1995 (the Chapeau Agreement), as may be amended, will apply to this Memorandum of Understanding (MOU);

Having a common interest in defense;

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;

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, which entered into effect May 2, 2005, to facilitate defense cooperation activities;

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

Having a mutual need for the development, production, and support of the MK48 Heavyweight Torpedo to satisfy common operational requirements;

Having independently and jointly conducted studies, research, exploratory development, and testing of the applications of various technologies to the MK48 Heavyweight Torpedo;

Recognizing the successful work the Participants carried out under 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 Engineering and Manufacturing Development, Production, and Support of the MK48 Advanced Capability/Common Broadband Advanced Sonar System Heavyweight Torpedo, which entered into effect March 31, 2003 (original MK48 MOU); and

Recognizing the benefits of continued cooperation for development, production, and support of the MK48 Heavyweight Torpedo;

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 (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. Improvements and new functions include software builds that overcome obsolescence and improve maintainability, sustainability and reliability.
Capability Development Document	The Capability Development Document (CDD) identifies operational performance attributes of the proposed system.
Classification Guide (CG)	A document which lists the security classification of each document either provided or created, system, subsystem, and component.
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.
Computer Data Base	A collection of data recorded

	in a form capable of being processed by a computer. This definition does not include Software.
Computer Program	A set of instructions, rules, or routines recorded in a form that is capable of causing a computer to perform a specific operation or series of operations.
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, or terminate Contracts.
Contracting Officer	A person representing a Contracting Agency of a Participant who has the authority to enter into, administer, or terminate Contracts.
Contractor	Any entity awarded a Contract by a Participant's Contracting Agency.

Contractor Support Personnel	Persons specifically identified as providing administrative, managerial, scientific, or technical support services to a Participant under a support Contract.
Controlled Unclassified Information	Unclassified information to which access or distribution limitations have been applied in accordance with applicable national laws or regulations. It could include information which has been declassified, but remains controlled.
Cooperative Project Personnel	Australian DoD military members or civilian employees assigned to the MK48 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 authority designated by national authorities to be responsible for the coordination and implementation of national industrial security aspects of this Project.
Financial Costs	Project costs met with monetary contributions.

Financial Cost Ceiling	The maximum amount of Financial Costs which may be dedicated to the Project without the prior written approval of the Participants.
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 Participants to fulfill the objectives of the Project.
Host Participant	The Participant whose nation serves as the location of the Joint Project Office.
Intellectual Property	In accordance with the World Trade Organization Agreement on Trade-related Aspects of Intellectual Property Rights of April 15, 1994, all copyright and related rights, all rights in relation to inventions (including Patent rights), all rights in registered and unregistered trademarks (including service marks), registered and unregistered designs, undisclosed Information (including trade secrets and know-how), layout designs of integrated circuits, geographical indications, and any other rights resulting from creative 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 and carry out the scope of work of this MOU.
Joint Test and Evaluation Master	A document to be developed by

Plan (JTEMP)	the Project Manager (PM) to define joint test requirements, goals, and schedules to meet the national requirements of both Participants.
MK48 Heavyweight Torpedo	The term applied to the family of Heavyweight Torpedoes that includes the current Advanced Capability (ADCAP) Common Broadband Advanced Sonar System (CBASS) Heavyweight Torpedo.
MK48 Heavyweight Torpedo In-Service Support Plan	A plan that defines how the MK48 Heavyweight Torpedo in-service support will be achieved for the Participants. It achieves the aim of common support standards, procedures and weapon configuration.
Non-financial Costs	Project costs met with non-monetary contributions.
Parent Participant	The Participant that sends its Cooperative Project Personnel (CPP) to the JPO located in the nation of the other Participant.
Participant	A signatory to this MOU represented by its military and civilian personnel. Contractors and Contractor Support Personnel will not be representatives of a Participant under this MOU.
Patent	Grant by any Government or a regional office acting for more than one Government of the right to exclude others from making, using, importing, selling, or offering to sell an invention. The term refers to any and all patents including, but not limited to, 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.
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.
Project	The U.S. DoD-Australian DoD cooperative efforts to develop, produce, and support the MK48 Heavyweight Torpedo 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 jointly 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 Software, 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 in any field of technology, provided it is new, involves an inventive step, is capable of industrial application, and is formulated or made (conceived or "first actually reduced to practice") in the course of work performed under a Project. 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	A plan developed by the Project Manager that provides a description of the Project's management, risks, schedule, delivery requirements, and milestones.
Project Security Instruction (PSI)	A document which harmonizes, clarifies, and articulates the domestic security policies and practices of the Participants as they apply to the Project.
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 a release of export-controlled

	Information, is eligible to receive such Information.
Software	Computer programs, source code, source code listings, design details, algorithms, processes, flow charts, formulae, and related materials that would enable software to be reproduced, recreated, or recompiled. Software does not include Computer Data Bases or Software Documentation.
Software Documentation	Owner's manuals, user's manuals, installation instructions, operating instructions, and other similar items, regardless of storage medium, that explain the capabilities of the Software or provide instructions for using the Software.
Submarine Tactical Requirements Group (STRG)	A forum of senior fleet-experienced submarine officers responsible for defining and prioritizing Submarine Force tactical requirements, defining modernization requirements for future improvements, and establishing the target baseline for functionality and capability improvements.
Technical Insertions (TI)	The process that modernizes existing system hardware by replacing obsolete equipment, and improving 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.
Torpedo Modular Upgrade (TMU)	An integrated development,

production, and in service approach to improve overall effectiveness of the MK48 Heavyweight Torpedo inventory while addressing obsolescence issues and reducing total cost of ownership.

SECTION II

OBJECTIVES

2.1. The objectives of this Project are:

2.1.1. To identify and implement changes that will improve and maintain the military effectiveness, safety, and availability of the MK48 Heavyweight Torpedo for both Participants.

2.1.2. To complete the deliveries extant from the original MK48 MOU. Upon signature of this follow-on MK48 MOU by the Participants, this follow-on MK48 MOU will supersede the original MK48 MOU, with the exception of those defense articles and services obligated under the original MK48 MOU but not yet delivered. All cooperative MK48 torpedo development, production, and support activities initiated after both Participants sign this MOU will be conducted under this MOU. The Participants acknowledge that all of their rights in Project Information and equipment provided, generated, or produced under the original MK48 MOU will continue to apply in accordance with the provisions of that MOU.

2.1.3. To design, develop, and test through the Advanced Processing Build (APB) and Technical Insertions (TI) Processes, MK48 Heavyweight Torpedo upgrades meeting the requirements of the Participants.

2.1.4. To produce MK48 Heavyweight Torpedo upgrade kits, TI upgrades, APB software upgrades, maintenance, and production enhancements and install, test and certify them in torpedoes provided by the Participants.

2.1.5. To provide in-service support of the Participants' MK48 Heavyweight Torpedoes including obsolescence management and the upgrading of the Participants' maintenance, development, analysis, and training infrastructures.

2.1.6. To maintain a common configuration between United States Navy (USN) and Royal Australian Navy (RAN) MK48 torpedoes.

2.1.7. To provide management of the processes during the development, production, and support phases to control all aspects of risk, cost, and schedule of MK48 Heavyweight Torpedoes.

2.1.8. To accommodate and support, to the maximum extent possible, any future Australian DoD and U.S. DoD requirements for logistics/resupply, support, configuration control, operation, training, training facilities, heavyweight torpedo research and development, future upgrades, and mutual use of facilities for the MK48 Heavyweight Torpedo.

2.1.9. To provide a path for other related cooperative development initiatives between the Participants. These initiatives may involve MK48 variants, targets, and the MK54 torpedo.

SECTION III

SCOPE OF WORK

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

3.1.1. Development of MK48 Heavyweight Torpedo hardware modifications and Software to satisfy the CDD to meet the shared and unique requirements of the Participants to the maximum extent possible. It will include hardware modifications and upgrades that will enable the torpedo to operate with future generation Software and technology enhancements. Hardware modifications via the TI process will also control obsolescence and improve processing to support Software enhancements.

3.1.2. Completion of deliveries of defense articles and services extant from the original MK48 MOU.

3.1.3. Project management of MK48 Heavyweight Torpedo development, production, and support including program planning, scheduling, Contracting, financial management, and risk management.

3.1.4. Implementation of a MK48 Heavyweight Torpedo obsolescence and sustainability management program for the weapon and shore support, including the Participants' maintenance, development, analysis, and training infrastructures.

3.1.5. Testing of MK48 Heavyweight Torpedo upgrades at the component, subsystem, and system level including, as appropriate, extensive testing at indigenous weapons analysis facilities. Following upgrade installation, and as appropriate, extensive in-water testing may be conducted at U.S. DoD and Australian DoD ranges and littoral environments. Testing will be performed in accordance with the JTEMP and Annex D (Project Overview).

3.1.6. Preparation of detailed specifications, requirements, and other information to enable the Participants to maintain hardware and

Software configuration management and to track performance improvements against known threats. Hardware and Software configuration management will be performed in accordance with the configuration management plan and software management plan.

3.1.7. Production, delivery, and installation, as necessary, of hardware and Software to upgrade USN and RAN MK48 Heavyweight Torpedoes. Production will be performed in accordance with Annex C (Planned Procurement (Order) Quantities and Estimated Funding Schedule) and Annex D (Project Overview).

3.1.8. Supporting logistics and sparing requirements including obsolescence and sustainability management, as well as sharing of indigenous maintenance capabilities.

3.1.9. Sharing Project Information relating to the development, production, and support of the MK48 Heavyweight Torpedo and its employment, including fusing and insensitive munitions (IM) studies.

3.1.10. Sharing of MK54 Torpedo information as it relates to jointly developed MK48 Heavyweight Torpedo hardware and Software, or in order to discuss potential cooperation regarding the MK54 torpedo.

3.1.11. Sharing of MK48 Mod 7AT Torpedo information as it relates to jointly developed MK48 Heavyweight Torpedo hardware and Software, or in order to discuss potential cooperation regarding the MK48 Mod 7AT Torpedo.

SECTION IV

MANAGEMENT

4.1. This Project will be directed and administered on behalf of the Participants by an organization consisting of an Executive Steering Committee (ESC), and a Joint Project Office (JPO) headed by a Project Manager (PM). The ESC 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 ESC will consist of a representative appointed by each Participant. The ESC will meet semi-annually with additional meetings held at the request of either representative. Each meeting of the ESC will be chaired by the representative of the Participant hosting the meeting. Decisions of the ESC relating to joint Project requirements will be made unanimously. In the event that the ESC is unable to reach a timely decision on an issue, each ESC representative will refer the issue to its higher authority for resolution. In the meantime, the approved Project Management Plan (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 ESC 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 Australian Deputy Project Manager.

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

4.3.6. Approving amendments to Annexes A, C, and D of this MOU consistent with Section XVII (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 (PSI) 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 and consulting on 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 presented by the PM.

4.3.13. Reviewing and approving the FMPD, the PMP, the configuration management plan, and the Software management plan, including any changes to them, and reviewing and providing inputs to the JTEMP and CDD.

4.3.14. 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 4.6.19. of this Section or raised by a Participant's ESC representative in accordance with subparagraph 8.1.3.2. of Section

VIII (Disclosure and Use of Project Information) of this MOU.

4.3.15. Monitoring and consulting on the completion of deliveries of defense articles and services obligated under the original MK48 MOU but not yet delivered.

4.3.16. 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 intent is for the JPO to be co-located with the Undersea Weapons Program Office to manage the Project. 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. In accordance with Annex A (Project Management Organization Diagram), the Australian DoD will appoint a Deputy Project Manager (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.

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 ESC (including any proposed changes), implementing, and maintaining the PMP.

4.6.4. Developing, submitting for approval by the ESC (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. In consultation with the Australian DPM, referring issues to the ESC that cannot be resolved within the JPO.

4.6.7. Developing and recommending amendments to this MOU and its Annexes to the ESC.

4.6.8. Developing and implementing ESC-approved 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 and implementing ESC-approved 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 to the ESC a PSI and Classification Guide (CG) for the Project.

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

4.6.12. Providing a semi-annual status report to the ESC.

4.6.13. Developing, approving, and executing the configuration management plan.

4.6.14. Developing, approving, and executing the Software management plan.

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

4.6.16. Developing and forwarding to the ESC a JTEMP, and managing its implementation upon approval.

4.6.17. Appointing a Project security officer.

4.6.18. Developing and submitting to the ESC for approval the FMPD, implementing and maintaining the FMPD, and developing and submitting to the ESC for approval any required changes to the approved FMPD.

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

4.6.20. In coordination with the Australian DPM, working with the appropriate Australian DoD and U.S. DoD agencies to plan for and prepare the appropriate export licenses, authorizations, 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, In Service Support Working Group (ISSWG), Test and Evaluation Working Group (T&EWG), and other working groups that help define the requirements and direction of future improvements to the MK48 Heavyweight Torpedo. Annex D (Project Overview) provides greater detail on the role the APB Process plays in the evolution of the MK48 Heavyweight Torpedo as defined in this MOU. One of the objectives of these working groups is to reflect equitably the Participants' operational, support, 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 $407.262 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.

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 fulfill all of the 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 ESC and will set forth a new estimate of the Financial Cost Ceiling of the Project together with supporting documentation. The ESC 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, and costs of claims, and will receive an equitable share of the results of the Project. The Participants will share as Financial Costs JPO administrative and associated support services costs. The Participants will share as Non-financial Costs Contract award, Contract administration, office space, security services, information technology services, communications services, and supplies, the values of which have been mutually determined by the Participants.

5.3. The shared Financial Cost Ceilings and non-financial Costs for the Project will be as follows:

U.S. DoD Financial	$346.173 million TY U.S.
Australian DoD Financial	$ 61.089 million TY U.S.
Total Financial Shared	$407.262 million TY U.S.

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

U.S. DoD Non-financial	$29.174 million TY U.S.
Australian Non-financial	$10.000 million TY U.S.
Total Non-Financial Shared	$39.174 million TY U.S.

5.4. In addition to the shared costs of JPO administration and contractor support services costs included in paragraphs 5.2. and 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, allowances, and travel 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, allowances, and travel 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 Party's government.

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 U.S. national accounting and audit requirements, will be detailed in an FMPD prepared by the PM and subject to the approval of the ESC.

5.7. The Participants recognize that, in performing Contracting responsibilities on behalf of the other Participant, it may become necessary for the Contracting Participant 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 responsible for Contracting for this Project in accordance with U.S. Contracting laws, regulations, and procedures. However, for specific Contracts the ESC 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 DPM, will review statements of work and prospective contractual terms prior to and during the development of solicitations to insure 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 the prime Contractor.

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 XVII (Amendment, Termination, Entry into Effect, and Duration) of this MOU, including the export control provisions in accordance with this MOU, in particular paragraphs 6.4. and 6.5. of this Section. 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. 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.

6.5. 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.

6.6. 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 Prospective Contractors of any restrictions on the disclosure and use of information, the matter will be referred to the ESC for resolution prior to Contract award.

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

6.8. 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.

6.9. The ESC will consult regularly during the development phase to determine whether to continue contractually 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.

6.10. 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 ESC 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. 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, the receiving Participant will return the Project Equipment to the providing Participant in as good condition as received, normal wear and tear excepted, or return the Project Equipment and pay the cost to restore it.

7.3. If the Project Equipment is damaged beyond economic repair, the receiving Participant will return it to the providing Participant (unless otherwise specified in writing by 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. The providing Participant 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. Any further transportation is the responsibility of the receiving Participant.

7.5. 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.

7.6. Project Equipment transferred to one Participant under this MOU will be returned to the providing Participant prior to the termination or expiration of this MOU.

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

7.7.1. Jointly acquired Project Equipment will remain the property of both Participants in shares of the same ratio as their shared financial contributions under this MOU.

7.7.2. 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.

7.7.3. 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 paragraph 7.7.2. of this MOU. 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.

7.7.4. 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.

7.8. 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 ESC.

7.9. 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 their shared Financial Costs under this MOU.

SECTION VIII

DISCLOSURE AND USE OF PROJECT INFORMATION

8.1. General

8.1.1. 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 MK48 Heavyweight Torpedo. 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.

8.1.2. Understanding that the provisions of Sections 8.4. and 8.5. will apply, the Participants also intend that the U.S. DoD will use its best efforts 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 obtain such rights, then, in accordance with paragraph 6.6., the U.S. DoD will notify the Australian DoD prior to Contract award and the Australian DoD will be afforded the opportunity to negotiate to obtain such rights.

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

8.1.3.1. Transfer of Project Information will be consistent with furnishing Participant's applicable export control laws and regulations.

8.1.3.2. Unless otherwise restricted by duly authorized officials of the furnishing Participant at the time of transfer to the other Participant,

all export-controlled Project 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 paragraphs 6.4. and 6.5. of Section VI (Contracting Provisions) of this MOU.

8.1.3.3. Export-controlled Project 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.

8.1.3.4. If a Participant finds it necessary to exercise a restriction on the retransfer of export-controlled Project Information as set out in subparagraph 8.1.3.2. of this Section, it will promptly inform the other Participant. If a restriction is then exercised and the affected Participant objects, that Participant's ESC representative will notify promptly the other Participant's ESC representative and they will immediately consult in order to discuss ways to resolve such issues or mitigate any adverse effects.

8.2. Government Project Foreground Information

8.2.1. Disclosure: All Government Project Foreground Information generated by a Participant's military or civilian employees (hereinafter referred to as "Government Project Foreground Information") will be disclosed promptly and without charge to both Participants.

8.2.2. Use: Each Participant may use or have used all Government Project Foreground Information without charge for Defense Purposes. The Participant generating Government Project Foreground Information will also retain all 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 promptly and without charge 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. Such Government Project Background Information may be made available only if the rights of holders of Intellectual Property rights are not infringed.

8.3.1.3. Disclosure of such Government Project Background Information is consistent with national disclosure policies and regulations of the furnishing Participant.

8.3.1.4. Any disclosure or transfer of such Government Project Background Information to Contractors is consistent with the furnishing

Participant's export control laws and regulations.

8.3.2. Use: Government Project Background Information furnished by one Participant to the requesting Participant may be used without charge by or for the requesting Participant for Project purposes. However, subject to Intellectual Property rights held by entities other than the Participants, such Government Project Background Information may be used for Defense Purposes by the requesting Participant, without charge, when such Information is necessary for the use of Project Foreground Information. The furnishing Participant, in consultation with the other Participant, will determine whether the Government Project Background Information is necessary for the use of Project Foreground Information. The furnishing Participant will retain all its rights with respect to such Government Project Background Information.

8.4. Contractor Project Foreground Information

8.4.1. Disclosure: Contractor Project Foreground Information generated and delivered by Contractors (hereinafter referred to as "Contractor Project Foreground Information") will be disclosed promptly and without charge to both Participants.

8.4.2. Use: Each Participant may use or have used 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 all its 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: A Contracting Participant will make available to the other Participant promptly and without charge all Contractor Project Background

Information generated by Contractors that is delivered under Contracts awarded in accordance with this MOU. Any other Project Background Information that is generated by Contractors and that is in the possession of one Participant will be made available promptly and without charge to the other Participant, upon its request, provided the following conditions 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 only if the rights of holders of Intellectual Property rights are not infringed.

8.5.1.3. Disclosure of such Contractor Project Background Information is consistent with national disclosure policies and regulations of the furnishing Participant.

8.5.1.4. Any disclosure or transfer of such Contractor Project Background Information to Contractors is consistent with the furnishing Participant's export control laws and regulations.

8.5.2. Use: All Contractor Project Background Information delivered by Contractors under Contracts awarded in accordance with this MOU may be used by or for the receiving Participant, without charge, for Project purposes, subject to any restrictions by holders of Intellectual Property rights other than the Participants. Any other Contractor Project Background Information furnished by one Participant's Contractors and disclosed to a requesting Participant may be used without charge by the requesting Participant for

Project purposes, subject to any restrictions by holders of Intellectual Property rights other than the Participants; also, when necessary for the use of Project Foreground Information, such other Contractor Project Background Information may be used by the requesting Participant for Defense purposes, subject to such fair and reasonable terms as may be necessary to be arranged with the Contractor. The furnishing Participant, in consultation with the requesting Participant, will determine whether such other Contractor Project Background Information is necessary for the use of Project Foreground Information. The furnishing Participant will retain all its rights with respect to Contractor Project Background Information.

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. All Project Information that is subject to disclosure and use restrictions with respect to Intellectual Property rights will be identified and marked, and it will be handled as Controlled Unclassified Information or as Classified Information, depending on its security classification.

8.7.2. Before a Participant transfers any Project Information subject to Intellectual Property 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 Intellectual Property rights in that Project Information.

8.8. Patents

8.8.1. Each Participant will include in all its Contracts for the Project a provision governing the disposition of rights in regard to Project Inventions and Patent rights relating thereto that either:

8.8.1.1. Provides that the Participant will hold title to all such Project Inventions together with the right to make Patent applications for the same, free of encumbrance from the Contractor concerned; or

8.8.1.2. Provides that the Contractor will hold title (or may elect to retain title) for such Project Inventions together with the right to make Patent applications for the same, while securing for the Participants a license for the Project Inventions, and any Patents thereto, on terms in compliance with the provisions of subparagraph 8.8.2. of this Section.

8.8.2. In the event that a Contractor owns title (or elects to retain title) to any Project Invention, the Contracting Participant will secure for the other Participant non-exclusive, irrevocable, royalty-free licenses under all Patents secured for that invention, to practice or have practiced the patented Project Invention throughout the world for Defense Purposes.

8.8.3. The provisions of subparagraphs 8.8.4. through 8.8.7. of this Section will apply in regard to Patent rights for all Project Inventions made by the Participants' military or civilian employees, including those within Government-owned facilities, and for all Project Inventions made by Contractors for which the Contracting Participant holds title or is entitled to acquire title.

8.8.4 When a Participant has or can secure the right

to file a Patent application with regard to a Project Invention, that Participant will consult with the other Participant regarding the filing of such Patent application. The Participant that 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, Patent applications covering that Project Invention. A Participant will immediately notify other Participant that a Patent application has been filed. If a Participant, having filed or caused to be filed a Patent application, abandons prosecution of the application or ceases maintaining the Patent granted or issued on the application, that Participant will notify the other Participant of that decision and permit the other Participant to continue the prosecution or maintain the Patent as the case may be. 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.

8.8.5. Each Participant will be furnished with copies of Patent applications filed and Patents granted with regard to Project Inventions.

8.8.6. Each Participant will grant to the other Participant a non-exclusive, irrevocable, royalty-free license under its Patents for Project Inventions, to practice or have practiced the Project Invention throughout the world for Defense Purposes.

8.8.7. Patent applications to be filed under this MOU which contain Classified Information will be protected and safeguarded in accordance with the requirements in the Exchange of Notes Constituting an Agreement between the United States and Australia Approving the Procedures for Reciprocal Filing of Classified Patent Applications, which entered into force October 2, 1961, which implements the Agreement between the Government of the United States of America

and the Government of the Commonwealth of Australia to Facilitate Interchange of Patent Rights and Technical Information for Defense Purposes, which entered into force January 24, 1958.

8.9. Each Participant will promptly notify the other Participant in writing of any Intellectual Property infringement claims brought against that Participant arising in the course of work performed under the Project on behalf of the other Participant. Insofar as possible, the other applicable Participant will provide Information available to it that may assist in defending such claims. Each Participant will be responsible for handling such Intellectual Property infringement claims brought against it, 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 such Intellectual Property infringement claims in proportion to their Financial Costs for that work specified in Section V (Financial Provisions) of this MOU.

8.10. The Participants will, as permitted by their national laws, regulations, 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 Patent, or as determined to be necessary for work under the Project, authorization and consent for non-commercial copyright, granted or otherwise provided by their respective countries.

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) of this MOU.

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) of this MOU.

9.1.3. Each Participant will take the necessary and 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 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 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 CG. 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 PSI.

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. of this Section.

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 Participant. 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 the United States of America and the Government of Australia Concerning Security Measures For the Protection of Classified Information, which entered into force 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. For the Australian DoD, the Defence Security Authority is the DSA. 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 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 this Section, 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) of this MOU.

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 PSI and a CG for the Project. The PSI and the CG will describe the methods by which Project Information and material 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 approved at the time of signature of this MOU. 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.

11.6. 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 that 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 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 Top Secret. The existence of this MOU is Unclassified and the contents are Unclassified.

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 Australian DoD. 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 Australian DoD. The U.S. DoD recognizes that it is important to the Australian DoD that U.S. DoD decisions on such potential sales, disclosures, or other transfers take into account the Australian DoD views on security matters. 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 Participant which provided such equipment or information. The providing Participant 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 to be shared between the Participants. Prior to any such sale or other transfer, the amounts of any levy and the procedures for assessing and distributing 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 Costs.

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 Costs, 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 customs duties, import and export 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

AMENDMENT, TERMINATION, ENTRY INTO EFFECT, AND DURATION

17.1. 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.

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

17.3. 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 ESC.

17.4. 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.

17.5. 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 ESC to decide upon the appropriate course of action. In the event of such termination, the following rules apply:

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

17.5.2. 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.

17.5.3. 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.

17.6. 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 XVII (Amendment, Termination, Entry into Effect, and Duration) will continue notwithstanding termination or expiration of this MOU.

17.7. This MOU, which consists of 17 Sections and four Annexes, will come into effect upon signature by both Participants and will remain in effect for ten 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
W HILARIDES, RADM USN	BOYD ROBINSON, RADM RAN
Name	Name
PROGRAM EXECUTIVE OFFICER SUBMARINES	HEAD MARITIME SYSTEMS
Title	Title
11/12/09	20 NOV 09
Date	Date
WASHINGTON NAVY YARD, DC	CANBERRA, ACT
Location	Location

ANNEX A

PROJECT MANAGMENT ORGANIZATION DIAGRAM

EXECUTIVE 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 AND FIELD ACTIVITIES
(Financial, Logistics, Systems Engineering, etc.)

ANNEX B

COOPERATIVE PROJECT PERSONNEL

1.0. Purpose and Scope.

1.1. This Annex establishes the provisions which will govern the conduct of MK48 Cooperative Project Personnel. The Australian DoD will assign military members or civilian employees to the MK48 Program Office or to U.S. DoD field activities in accordance with Section IV (Management), Annex A (Project Management Organization Diagram), and this Annex. The U.S. DoD may assign military members or civilian employees to Australian DoD field activities in accordance with Section IV (Management), Annex A (Project Management Organization Diagram), and this Annex. MK48 Cooperative Project Personnel will be able to perform all the responsibilities for the positions assigned to them under this MOU and the Project Management Plan (PMP). Commencement of assignments will be subject to any requirements that may be imposed by the Host Participant or its government regarding acceptance of MK48 Cooperative Project Personnel, such as, but not limited to, visas, and visit request documentation.

1.2. MK48 Cooperative Project Personnel will be assigned to the MK48 Program Office or U.S. DoD or Australian DoD field activities for Project work and will report to their designated supervisor within those organizations regarding that work. The U.S. Project Manager will be responsible for insuring accurate duty statements are contained in the Project Management Plan for Cooperative Project Personnel. Cooperative Project Personnel will be employed on a best-for-project purpose and not act as liaison officers for the Parent Participant. However, they may act from time to time on behalf of their ESC representative if the latter so authorizes in writing.

1.3. MK48 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 ESC representatives will establish the maximum level of security clearance required to permit MK48 Cooperative Project Personnel to have

access to Classified Information and facilities in which Classified Information is used in accordance with the Project 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 MK48 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 MK48 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 MK48 Program Office, or field 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 17.7. of Section XVII (Amendment, Withdrawal, Termination, Entry into Effect, and Duration) of this MOU and the corresponding provisions of this Annex, the PSI, and the CG. Prior to commencing assigned duties, MK48 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 MK48 Cooperative Project Personnel.

2.4. MK48 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 MK48 Cooperative Project Personnel during their assignment will be reported to the Parent Participant for appropriate action. MK48 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 the Parent Participant.

2.5. All Classified Information made available to MK48 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. MK48 Cooperative Project Personnel will be granted access and custody of Classified Information in accordance with Section XI (Security) of this MOU and the provisions of the PSI when access is necessary to perform Project work.

2.7. MK48 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 unless specifically authorized by the PSI.

3.0. Technical and Administrative Matters.

3.1. The tax treatment of income received by CPP from the Parent Participant will be determined by reference to the tax legislation of the Government of the Host Participant and the Government of the Parent Participant, subject to the terms of any double taxation agreement in force between the Government of the Host Participant and the Government of the Parent Participant.

3.2. Upon or shortly after arrival, MK48 Cooperative Project Personnel will be provided briefings arranged by the MK48 Program Office or Host Participant field or Contractor activities about applicable laws, orders, regulations, and customs and the need to comply with them. MK48 Cooperative Project Personnel will also be provided briefings arranged by the MK48 Program Office or Host Participant field or Contractor activities regarding applicable potential entitlements, privileges, and responsibilities such as:

3.2.1. Any medical and dental care that may be provided to MK48 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 MK48 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 MK48 Cooperative Project Personnel and their dependents

on the same basis and priority as for its own personnel. MK48 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 for its own personnel, the Parent Participant will make suitable arrangements for its MK48 Cooperative Project Personnel.

3.2.4. Responsibility of MK48 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 MK48 Cooperative Project Personnel and their dependents, the recourse will be against such insurance.

3.3. The MK48 Program Manager, through the MK48 Program Office and Host Participant field activities, will establish standard operating procedures for MK48 Cooperative Project Personnel in the following areas:

3.3.1. Working hours, including public 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. MK48 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 MK48 Cooperative Project Personnel, nor will MK48 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 MK48 Cooperative Project Personnel.

3.5. During their assignment, MK48 Cooperative Project Personnel will not be placed in the following duty status or environments unless mutually decided by the ESC:

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 MK48 Program Office or the field or Contractor activity of either Participant to which MK48 Cooperative Project Personnel are assigned become involved in hostilities unexpectedly, MK48 Cooperative Project Personnel assigned there will not be involved in the hostilities. Any such MK48 Cooperative Project Personnel approved by the ESC 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 MK48 HEAVYWEIGHT TORPEDO UPGRADE KITS

Table Annex-1: ESTIMATED PROCUREMENT QUANTITIES
Note: M = MK48 Heavyweight Torpedoes
TI = Technical Insertions (These TI quantities cover only a portion of available inventory and are based on projected funding.)

	FY10	**FY11**	**FY12**	**FY13**	**FY14**
USN	95 M	89 M	90 M	95 M	95 M
RAN	23 M	0	0	0	0

	FY15	**FY16**	**FY17**	**FY18**	**FY19**	**Total**
USN	95 M 95 TI	95 M 95 TI	95 M 95 TI	95 M 95 TI	95 M 95 TI	**939 M** **475 TI**
RAN	0 10 TI	0 12 TI	0 12 TI	0 12 TI	0 12 TI	**23 M** **58 TI**

ESTIMATED SHARED FINANCIAL CONTRIBUTION SCHEDULE - DEVELOPMENT PHASE

	FY10	**FY11**	**FY12**	**FY13**	**FY14**
USN	17.712	16.620	15.199	15.399	15.808
RAN	3.126	2.933	2.682	2.717	2.790

	FY15	**FY16**	**FY17**	**FY18**	**FY19**	**Total**
USN	16.178	16.507	16.842	17.183	17.482	**164.930**
RAN	2.855	2.913	2.972	3.032	3.085	**29.105**

ESTIMATED UNIQUE FINANCIAL CONTRIBUTION SCHEDULE - DEVELOPMENT PHASE

	FY10	**FY11**	**FY12**	**FY13**	**FY14**
USN	11.600	12.202	10.328	10.553	10.748
RAN	0.752	0.100	0.100	0.000	0.000

	FY15	**FY16**	**FY17**	**FY18**	**FY19**	**Total**
USN	10.953	11.166	11.384	11.605	11.891	**112.430**
RAN	0.000	0.000	0.000	0.000	0.000	**0.952**

ESTIMATED SHARED FINANCIAL CONTRIBUTION SCHEDULE - PRODUCTION PHASE

	FY10	FY11	FY12	FY13	FY14
USN	4.762	5.394	3.590	3.766	3.845
RAN	0.840	0.952	0.633	0.665	0.679

	FY15	FY16	FY17	FY18	FY19	Total
USN	3.927	4.010	4.095	4.182	4.222	**41.793**
RAN	0.693	0.708	0.723	0.738	0.744	**7.375**

ESTIMATED UNIQUE FINANCIAL CONTRIBUTION SCHEDULE - PRODUCTION PHASE

	FY10	FY11	FY12	FY13	FY14
USN	56.007	57.473	60.638	69.150	70.400
RAN	5.233	1.097	0.040	0.041	0.042

	FY15	FY16	FY17	FY18	FY19	Total
USN	71.624	73.051	74.506	75.990	77.564	**686.403**
RAN	0.043	0.044	0.045	0.046	0.048	**6.679**

ESTIMATED SHARED FINANCIAL CONTRIBUTION SCHEDULE - SUPPORT PHASE

	FY10	FY11	FY12	FY13	FY14
USN	13.610	13.354	13.416	13.367	13.641
RAN	2.402	2.357	2.367	2.359	2.407

	FY15	FY16	FY17	FY18	FY19	Total
USN	13.920	14.205	14.495	14.792	14.650	**139.450**
RAN	2.456	2.507	2.558	2.610	2.586	**24.609**

ESTIMATED UNIQUE FINANCIAL CONTRIBUTION SCHEDULE - SUPPORT PHASE

	FY10	FY11	FY12	FY13	FY14
USN	70.289	72.859	73.530	74.277	75.497
RAN	5.876	3.236	3.290	3.351	3.211

	FY15	FY16	FY17	FY18	FY19	Total
USN	76.673	78.199	79.755	81.342	83.481	**765.902**
RAN	4.788	3.333	6.332	3.460	5.043	41.921

ANNEX D

PROJECT OVERVIEW

BACKGROUND

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 Engineering and Manufacturing Development, Production, and Support of the MK48 Advanced Capability/Common Broadband Advanced Sonar System Heavyweight Torpedo entered into effect on March 31, 2003 (original MK48 MOU). The Joint Project under the original MK48 MOU consisted of three concurrent phases over a ten-year period: Engineering and Manufacturing Development (EMD), Production, and Support. The development of the MK48 Heavyweight Torpedo resulted in a broadband sonar capability for enhanced target acquisition.

This follow-on MK48 Heavyweight Torpedo MOU extends the successful partnership that began under the original MK48 MOU. Although the original MK48 MOU would not have expired until March 2013, clearer definition of what was identified as CBASS Phase 2 under the original MK48 MOU, namely the Torpedo Modular Upgrade (TMU) Program, necessitated this follow-on MK48 MOU. In addition, this follow-on MK48 MOU employs the Advanced Processing Build (APB) process for periodic software upgrades and hardware modifications for the MK48 Heavyweight Torpedo. This follow-on MK48 MOU extends the partnership between the U.S DoD and the Australian DoD for 10 years from the date of the signature of this MOU. The Participants will conduct an assessment of the project as required and present the findings to the ESC.

PROJECT SUMMARY DESCRIPTION

In November 2006, the MK48 CBASS weapon was approved for Initial Operational Capability (IOC) by the United States Navy (USN). The MK48 CBASS weapon was approved for Initial Operational Release (IOR) by the Royal Australian Navy (RAN). Since it is essential to further strengthen the ability of both Participants to meet current and future undersea and surface threats, this follow-on MK48 MOU seeks to take advantage of this common weapon system, development, and support capabilities which have been developed and implemented by both nations under the original MK48 MOU. Both Participants desire to continue and expand the cooperative development, production, and support of the planned MK48

Heavyweight TMU Program improvements. The project will again consist of three concurrent phases over a 10-year period: Development, Production, and Support. The resultant planned configuration of the MK48 Heavyweight Torpedo will include development of MK48 Heavyweight Heavyweight Torpedo hardware modifications and Software for enhanced target acquisition to satisfy the Capabilities Development Document (CDD). It will also include the implementation of MK48 Heavyweight Torpedo obsolescence and sustainability management program for the weapon and shore support, including the Participants' maintenance, development, analysis, and training infrastructures.

Cooperative development, production, and support will involve Financial and Non-financial Costs from both the U.S. DoD and the Australian DoD to maximize the mutual benefits of interoperability and the synergy of equipment production and logistics support.

This MOU revises the scope, objectives, and financial structure of the original MK48 MOU due to clearer definition of the Torpedo Modular Upgrade (TMU) and budget changes that have occurred. The USN requirement for an improved MK48 Mod 6 torpedo was originally identified in the Operational Requirement Documents 482-87-98 of March 1998, entitled "Common Broadband Advanced Sonar System," and 310-87-93 of November 1993 entitled "Torpedo Propulsion Upgrade." The RAN requirement was identified in the Replacement Heavy Weight Torpedo (HWT) Detailed Operational Requirements (DOR) Version 4.0 effective December 22, 2002, which was the genesis of its Project SEA 1429, Replacement Heavyweight Torpedo Project. Both the U.S. DoD and the Australian DOD are committed to MK48 Heavyweight Torpedo improvements as part of the common requirements identified in the proposed joint CDD. The U.S. DoD plans to issue periodic software upgrades (Spirals), products of the APB process, and hardware upgrades (TIs) as outlined in the TMU Program. The Australian DOD plans to contribute to the TMU Process and provide technical expertise in developing the APBs and TIs so that both Participants benefit.

DEVELOPMENT

During the Development Phase, the U.S. DoD and Australian DOD personnel will jointly develop upgrades to the MK48 Heavyweight Torpedo through software spiral upgrades and Technical Insertions (TI) as governed by the TMU Program. The overarching objectives for the TMU Program are to ensure that the MK48 Torpedo maintains contemporary capability and supportability.

The specific software spiral upgrades will be products of the APB Process. The goal of the APB Process is to produce hardware-independent software builds that create or improve functionality and incorporate them into the MK48 Heavyweight Torpedo. APB improvements provide new technology based on advanced development. To ensure that the most capable functionality is transitioned, the APB Process is open to eligible industries of both Participants 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 capability deliveries while ensuring operator input is incorporated throughout the entire development and test cycle.

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 changes that are based on engineering improvements to existing systems and technologies.

During the development phase, appropriate software and hardware upgrades will be extensively tested on the Weapons Analysis Facility (WAF), located at the Naval Undersea Weapons Center (NUWC) in Newport, Rhode Island and on the Torpedo Analysis Facility (TAF), located at the Defence Science and Technology Organisation (DSTO) in Edinburgh, South Australia. The WAF and TAF share common hardware and software and are highly sophisticated "Hardware in the Loop" simulators. In-water testing may be conducted using weapons, instrumented weapon ranges, and weapon preparation facilities in both nations.

PRODUCTION

The Production Phase will consist of procuring and installing Hardware Technical Refreshes and TIs into the MK48 Torpedoes owned by both nations. Production will also include those weapons and hardware that were procured under the original MK48 MOU [deliveries]. Technical Refreshes include hardware upgrades driven by hardware obsolescence. The Technical Refreshes are implemented with the annual production contracts through the U.S. DoD and may or may not be retrofitted into previously existing weapon inventory. TIs are hardware upgrades designed to accommodate capability improvements which could be retrofitted into existing MK48 inventory. Timing of the production and installation of software spiral upgrades

and TI upgrades will be in accordance with the Participants' unique requirements. However, configuration management for weapons for both Participants will be strictly maintained. It is the objective of each nation to keep a common baseline to maximize the hardware and software commonality. Destructive in-water testing or expenditure of MK48 torpedoes from the operational inventories of the Participants may be conducted as part of the Project, and may be conducted by platforms of either Participant on ranges or in the waters of either Participant, in accordance with the laws, regulations, and policies of the Participants. In the event that the torpedo of a Participant is expended during these destructive test events, that torpedo can be replaced from the production assets of either Participant, at the discretion of the providing Participant and subject to mutually determined arrangements. The replacement of an expended torpedo will be considered to be a unique national requirement.

SUPPORT

The Support Phase will consist of jointly managing the supply and support, plans, schedules, and logistic budgets of both nations - full life cycle management and budget planning to the fullest extent possible. The joint In-Service Support Working Group (ISSWG) has established the methodology of logistics support using one common logistics system as documented in the CBASS In-Service Support Implementation Plan (CISSIP). The Support Phase will also schedule the implementation of Hardware Technical Refreshes and TIs into existing inventories and support and test equipment. The support infrastructure includes a fully operational and certified Torpedo Maintenance Facility in Australia (Guided Weapons Support - West) and three Intermediate Maintenance Activities (IMA) in the U.S. that comprise the MK48 IMA Network.