

SUPPLEMENT NUMBER SIX

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TO THE  
MEMORANDUM OF UNDERSTANDING  
ON A  
COOPERATIVE PROGRAM

FOR A  
MEDIUM MULTIPLE LAUNCH ROCKET SYSTEM

dated 14 July 1979

BETWEEN

THE SECRETARY OF STATE FOR DEFENCE OF THE UNITED KINGDOM OF GREAT BRITAIN AND  
NORTHERN IRELAND

AND

THE DEPARTMENT OF DEFENSE  
OF THE UNITED STATES OF AMERICA

FOR THE

DEVELOPMENT PROJECT  
OF THE  
FUTURE FIRE CONTROL SYSTEM (FFCS)

FOR MULTIPLE LAUNCH ROCKET SYSTEM (MLRS) LAUNCHER UPGRADES

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## INTRODUCTION

The Secretary of State for Defence of the United Kingdom of Great Britain and Northern Ireland (UK) and the Department of Defense (DoD) of the United States of America (U.S.), hereinafter jointly referred to as the "Participants":

Recognizing the Memorandum Of Understanding (MOU) dated 14 July 1979 between the Governments of France (FR), Germany (GE), the UK and the U.S., known as the "Basic MOU", and the MOU thereto dated 12 July 1982 between the Governments of Italy (IT), FR, GE, the UK, and the U.S., known as the 'Italian Supplement' to the Basic MOU, concerning Italy's participation in the program, apply to the Multiple Launch Rocket System (MLRS) program;

Recognizing the Agreement Concerning Defence Cooperation Arrangements of 27 May 1993 between the Government of the U.S. and the Government of the UK will apply to this Memorandum of Understanding;

Recognizing the Governments of the Participants have entered into the U.S./UK Memorandum of Understanding relating to the Principles Governing Cooperation in Research and Development, Production, Procurement and Logistic Support of Defence Equipment of 13 December 1994 or any successor thereto;

Recognizing the applicability to this MOU of the Agreement between the Parties to the North Atlantic Treaty regarding Status of their Forces, done in London, UK on 19 June 1951;

Having a common interest in defense;

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

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

Having the common goal to find the most cost-effective way of maintaining and improving the combat effectiveness of the MLRS M270 launchers;

Having a mutual need for the capability to fire the Guided MLRS (GMLRS) rocket and other munitions planned for use with MLRS launchers to satisfy common operational requirements;

have now decided to enter into a common Development for an MLRS Future Fire Control System (FFCS) and have accordingly reached the following understandings:

**SECTION I**  
**DEFINITIONS**

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

ADS	An alternate (electric) drive system for MLRS and High Mobility Artillery Rocket Systems (HIMARS) launchers, planned to replace existing hydraulic drive systems.
Best Value	A term used in the process to select the most cost effective offer for timely delivery of a product which meets its performance requirements by evaluating and comparing other factors in addition to cost or price.
Classified Information	Official information that requires protection in the interests of national security and is so designated by the application of a security classification marking. This information may be in oral, visual, magnetic or documentary form or in the form of equipment or technology.
Contract	Any mutually binding legal relationship under national laws, which obligates a Contractor to furnish supplies or services, and obligates one or both of the Participants to pay for them.
Contracting Agency	The entity within the government organization of a Participant, which 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.
Controlled Unclassified Information	Unclassified information to which access or distribution limitations have been applied in accordance with applicable national laws or regulations. Whether the information is provided or generated under this MOU Supplement, the information will be marked to identify its "in confidence" nature. It could include information, which has been declassified, but remains controlled.

Cooperative Project Personnel (CPP)	Military members or civilian employees of a Participant assigned to the PMO who perform managerial, engineering, technical, administrative, contracting, logistics, financial, planning or other functions in furtherance of the Project.
Defense Purposes	Manufacture or other use in any part of the world by or for the armed forces of either Participant.
Designated Security Authority (DSA)	The security office approved by national authorities to be responsible for the security aspects of this Supplement.
Financial Costs	Project costs met with monetary contributions.
Financial Cost Ceiling	The maximum amount of Financial Costs, may be changed only upon written approval of the Participants.
Financial Cost Minimum	The minimum amount of Financial Costs, may be changed only upon written approval of the Participants.
Financial Cost Target	The accepted planning figure of the total Financial Cost of this Project.
FFCS	Future Fire Control System for current and future Platforms. Will be capable of firing all present and planned MFOM.
GFE	Government Furnished Equipment
IFCS	Improved Fire Control System
Information	Any information, regardless of form or type, including, but not limited to, that of a scientific, technical, business, or financial nature, and also including 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 copyright, Patent, or other legal protection.
MFOM	MLRS Family Of Munitions
MLRS	Medium caliber Field Artillery Multiple Launch Rocket System

Non-financial Costs	Project costs met with non-monetary contributions.
Parent Participant	The Participant, which sends its CPP to, the PMO located in the nation of the other Participant.
Patent	Legal protection of the right to exclude others from making, using, or selling 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.
Platform	M270, M270A1, HIMARS and Light Mobile Artillery Weapon System (Rocket) (LIMAWS(R))
PMP	Project Management Plan
Program Security Instruction	A formal, comprehensive document that details the mandatory security standards and procedures to be followed for handling and controlling information and Project Equipment. It also provides guidelines and authority for the security classification of Information and Project Equipment. This document is to be used by the Participants and Contractors for determining what Information and Project Equipment is classified, and its level of classification.
Project	The development of a MLRS Future Fire Control System and ADS under this Supplement.
Project Foreground Information	Information generated in the performance of the Project.
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 Information	Any Information provided to, generated in, or used in this Project.
Project Invention	Any invention or discovery 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 Purposes.**

The use by or for a Participant under the project and use for any future operation, study, evaluation, assessment, research, design, development, manufacture, improvement, modification, maintenance, repair, post design services, and disposal, either as part of a future collaborative project or individually.

**Third Party**

A government other than the government of a Participant and any person or other entity whose government is not the government of a Participant.

## SECTION II

### OBJECTIVES

2.1. The signature of this MOU Supplement by both Participants will authorize the implementation of the development phase of the collaborative effort. The Participants' future phase intentions are to produce and support the FFCS and ADS for use on Platforms.

2.2. Previous to this MOU Supplement, the U.S. DoD has developed and produced M270A1 launchers, including the IFCS. The U.S. DoD will retain configuration control of the IFCS. In addition, the U.S. DoD has developed and will begin to produce the HIMARS launcher, which also utilizes the IFCS. The FFCS will be developed by making changes and updates to the IFCS design. Upon successful completion of development, the Participants intend to produce the FFCS and incorporate it, and an ADS into Platforms. The over all objectives of the international collaboration, of which this Project is intended to be the development phase, are:

- 2.2.1. To develop, produce, and support an FFCS and an ADS to meet the U.S. DoD/UK MOD harmonized requirement for improving the MLRS fire control system, and reducing operations and support cost for upgraded Platforms that meet the Participants' mutually determined requirement (Annex A).
- 2.2.2. To minimize development and production time and costs for both Participants.
- 2.2.3. To achieve interoperability of Platforms and to reduce costs by maintaining a common configuration of the FFCS and ADS to the maximum extent possible.

2.3. The provisions of this MOU Supplement apply to the development phase. Participants' participation in each phase subsequent to the development phase will require an amendment to this MOU Supplement.

## SECTION III

### SCOPE OF WORK

3.1. The Participants intend that the overall work to be performed under this international collaboration will include:

- 3.1.1. Design, development, production, and in-service support of an FFCS and an ADS to meet the U.S. DoD/UK MOD harmonized requirement for improving the existing MLRS fire control system and launcher drive systems. The U.S. DoD Improved Fire Control System (IFCS) will be used as a baseline for the FFCS design.
- 3.1.2. Conduct tests and evaluations at various U.S. and/or UK test facilities.
- 3.1.3. Development of a plan for cost-effective logistic support in each country.
- 3.1.4. Production and delivery of FFCS and ADS systems to reflect the requirements of the Participants.
- 3.1.5. Setting in place procedures for and performance of in-service through life support for the an FFCS and ADS.

3.2. The development phase, implemented by this MOU Supplement, will include the following specific tasks:

- 3.2.1. Joint evaluation of data previously developed by the Participants including that developed under the U.S. DoD IFCS program for possible implementation into the Project.
- 3.2.2. Joint preparation of the procurement documents including the statement of work and specifications.
- 3.2.3. DoD award on behalf of the Participants of a contract to the MLRS Prime Contractor, LMMFC, for the development of FFCS and ADS.
- 3.2.4. Development of FFCS and ADS hardware and software and related documentation to be delivered under the Project.
- 3.2.5. Upgrade and test of an M270 launcher with FFCS and ADS to validate the design.
- 3.2.6. Development of a plan for cost-effective logistic support.

- 3.2.7. Obtaining proposals for the production phase of FFCS and ADS hardware and software for U.S. DoD and UK MOD Platforms.
- 3.2.8. Coordination of separate U.S. DoD and UK MOD evaluations of the proposals in 3.2.7 regarding U.S. DoD and UK MOD Platforms in order to assess the feasibility of cooperative production and support through follow-on arrangements between the Participants.
- 3.2.9. A Project Plan summarizing the scope of work to be carried out during the development phase is attached at Annex B.

3.3. The Participants intend that the production phase of the international collaboration will include the following specific tasks:

- 3.3.1. Revision of Annex B (Project Plan).
- 3.3.2. Award of one or more Contracts for production and installation of FFCS and ADS.
- 3.3.3. Production and delivery of FFCS and ADS units, installation kits, diagnostic/maintenance equipment, training systems, spares/components, and supporting documentation to meet Participant requirements. These items will be procured from the MLRS Prime Contractor and items for the UK MOD will, where possible, be purchased under the same contract as a U.S. DoD procurement of common or similar items in order to benefit jointly from economies of scale.
- 3.3.4. Monitoring of production and quality control.
- 3.3.5. Installation of FFCS and ADS units in Platforms will be directed by the relevant Participant.
- 3.3.6. Testing of FFCS and ADS production units and system check-out on national Platforms.
- 3.3.7. Finalizing the plans for cost-effective in-service logistic support.

3.4. The Participants intend that the support phase of the international collaboration will include the following specific tasks:

- 3.4.1. Revision of Annex B (Project Plan).

- 3.4.2. The FFCS design package, including the interface control documents, will be maintained and updated as required under an engineering services contract jointly funded. The U.S. DoD will award the engineering services contract.
- 3.4.3. Investigate cost effective approaches to establish joint in-service support for the Platforms and maintain MFOM interoperability between the Participants.

## SECTION IV

### MANAGEMENT

4.1. This Project will be directed and administered on behalf of the Participants by an organization consisting of a Steering Committee (SC), and the U.S. DoD Precision Fires Rocket and Missile Systems (PFRMS) Program Management Office (PMO), or successor in case of reorganization, headed by a Project Manager (PM). The SC will have overall authority over the PM PFRMS, in accordance with this MOU Supplement. The PM PFRMS will have primary responsibility for effective implementation, efficient management, and direction of the Project in accordance with this MOU Supplement. The PM PFRMS will closely coordinate with the UK PM Future Artillery Weapon Systems (FAWS), or successor in case of reorganization. Decisions on the joint project impacting performance, cost, and schedule will be unanimous between the U.S. DoD and UK MOD PMs, with any disagreements referred to the SC.

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

4.3. The SC will be responsible for:

- 4.3.1. Exercising executive-level oversight of the Project.
- 4.3.2. Reviewing progress in meeting system requirements as specified in Annex A (System Requirements) of this MOU Supplement.
- 4.3.3. Reviewing the technical progress of the Project against Annex B (Project Plan).
- 4.3.4. Reviewing the financial status of the Project to ensure compliance with the provisions of Section V (Financial Provisions) and Annex C (Financial Matters) of this MOU Supplement.
- 4.3.5. Resolving issues brought forth by the PMs
- 4.3.6. Reviewing and forwarding to the Participants for approval

recommended amendments to this MOU Supplement in accordance with Section XIX (Amendment, Termination, Entry Into Effect, and Duration).

- 4.3.7. Approving amendments to Annexes A, B, C, and D of this MOU Supplement consistent with Section XIX (Amendment, Termination, Entry Into Effect, and Duration).
- 4.3.8. 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 VIII (Project Equipment).
- 4.3.9. Approving plans for the disposal of jointly acquired Project Equipment under this MOU Supplement in accordance with Section VIII (Project Equipment).
- 4.3.10. Maintaining oversight of the security aspects of the Project, including reviewing and obtaining approval from the appropriate Designated Security Authority of a Project Security Instruction and a Classification Guide prior to the transfer of Classified Information or Controlled Unclassified Information.
- 4.3.11. Providing recommendations to the Participants for the addition of new Participants in accordance with Section XV (Participation of Additional Nations).
- 4.3.12. Monitoring Third Party sales and transfers authorized in accordance with Section XIII (Third Party Sales and Transfers).
- 4.3.13. Reviewing the semi-annual status report submitted by the PM PFRMS.

4.4. The PFRMS PMO, established in Redstone Arsenal, Alabama, will manage the Project. The U.S. Department of the Army will appoint the PM PFRMS, who, as head of the PMO, will be responsible for implementing this MOU Supplement and for day-to-day management of the Project.

4.5. Not later than 180 days of the effective date of this MOU Supplement, the UK Participant will provide Cooperative Project Personnel (CPPs) for duty within the PMO. Job descriptions for these CPP positions will be approved by the U.S. DoD and UK PMs. UK MOD staff for the PMO will actively participate in the FFCS Project Management Organization, which may include attendance at Contractors' locations for extended periods of temporary duty.

4.6. The PM PFRMS 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 Supplement.
- 4.6.2. Executing the approved Project Plan.
- 4.6.3. Developing and submitting any required changes to the approved Project Plan to the SC for approval.
- 4.6.4. Executing the financial aspects of the Project in accordance with Section V (Financial Provisions) and Annex C (Financial Matters) of this MOU Supplement.
- 4.6.5. Referring issues to the SC that cannot be resolved by the PM.
- 4.6.6. Developing and recommending amendments to this MOU Supplement and its Annexes to the SC.
- 4.6.7. Developing and implementing SC-approved plans to manage and control the transfer of Project Equipment provided by either Participant in accordance with Section VIII (Project Equipment).
- 4.6.8. Developing and implementing SC-approved plans for the disposal of jointly acquired Project Equipment under this MOU Supplement in accordance with Section VIII (Project Equipment).
- 4.6.9. Developing and forwarding to the SC a Project Security Instruction and a Classification Guide for the Project within three months after MOU Supplement signature, and implementing them upon final approval.
- 4.6.10. Forwarding recommendations to the SC for the addition of new Participants in accordance with Section XVI (Participation of Additional Nations).
- 4.6.11. Providing a semi-annual status report to the SC.
- 4.6.12. Exercising configuration management of this MOU Supplement.
- 4.6.13. Appointing a Project security officer.

## SECTION V

### FINANCIAL PROVISIONS

5.1. The Participants estimate the performance of the development responsibilities under this Supplement will not cost more than a Financial Cost Ceiling of \$26M 2003 U.S. dollars, and no less than a Financial Cost Minimum of \$16M 2003 U.S. dollars. The Financial Cost Target of the Project is \$20M. The Financial Costs will be funded solely by the U.K. MOD. Non-financial contributions to the Project are \$8.464M by the U.S. DoD and \$6.500M by the UK MOD. The U.S. dollar will be the reference currency for the Project, but the Project fiscal year will be the UK MOD fiscal year, 1 April to 31 March. The Financial Cost Ceiling and the Financial Cost Minimum will not be changed unless so directed in writing by the Participants. 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 Supplement MOU within the provisions of Annex C (Financial Matters). If at any time the PMs have reason to believe that the provisions of Annex C (Financial Matters) will be exceeded, they will promptly notify the SC. The SC will advise the PMs as to what action should be taken.

5.2. Each Participant will contribute its equitable share of the full Financial Costs 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. Both financial and non-financial contributions required to support Project efforts are more specifically detailed in Annex C (Financial Matters).

5.3. The UK MOD will fund the development of the FFCS to include procurement of hardware, and design changes to the IFCS to meet the Harmonized Requirements also the integration of the FFCS and, an ADS, onto an M270 launcher, and the testing to qualify the new launcher configuration. In addition the UK will contribute non-financial contributions as detailed in Annex C (Financial Matters) and in accordance with paragraphs 5.1 and 5.2 above. The U.S. DOD will contribute an M270 Launcher from stock for the development effort as well as other non-financial contributions as detailed in Annex C (Financial Matters) and in accordance with paragraphs 5.1 and 5.2 above. This arrangement recognizes the previous financial investment of the U.S. DOD in the development and qualification of the IFCS.

5.3.1. The PFRMS PMO will call up funds from the UK MOD in accordance with a Financial Management Procedures Document (FMPD), so it can discharge its payment to meet contractual requirements.

5.3.2. If the Participants decide to continue to future phases, the

Participants will use their best efforts to establish financial provisions in future arrangements based on the following principles:

- 5.3.2.1. The UK MOD will fund the procurement of FFCS and ADS units, installation kits, diagnostic/maintenance equipment, training systems, and spares/components to support the upgrade of existing UK MOD M270 launchers to the new launcher configuration.
- 5.3.2.2. FFCS and ADS units will be installed in the UK MOD M270 launchers. The UK MOD will fund and carry out the installation in the UK MOD on M270 launchers.
- 5.3.2.3. The costs of the engineering services to maintain and update the FFCS design will be shared by the Participants based upon their quantity of FFCS units procured versus the total quantity of FFCS (or IFCS) units procured.
  - 5.3.2.3.1. Each Third Party customer will be given the opportunity to receive the benefits of the cooperative engineering services. Should a Third Party choose to participate, they will fund a pro-rata share based on their FFCS (or IFCS) quantities versus the total quantity of FFCS (or IFCS) assets procured worldwide.
  - 5.3.2.3.2. Should a Participant or a Third Party choose not to participate, but subsequently decided that they needed the benefits of the cooperative engineering services, they will have to retroactively pay the annual pro-rata share.

5.4. Participation in the Project will also include financial and non-financial contributions for PFRMS PMO administration and associated support services including, but not limited to, PMO costs of travel incurred in support of Project efforts, PMO training costs, Contract award, Contract administration, office space, security services, information technology services, communications services, and supplies. Values have been mutually determined for PFRMS PMO administrative non-financial contributions, and are detailed in Annex C (Financial Matters).

5.5. In addition to the shared costs of PMO administration and associated support services costs described in paragraph 5.4, the cost of personnel in the PMO will be borne as follows:

- 5.5.1. The Host Participant will bear the costs of all pay and allowance of Host Participant personnel in the PMO.
- 5.5.2. The Parent Participant will bear the following Cooperative Project Personnel (CPP)-related costs:
  - 5.5.2.1. All pay and allowances of CPP assigned to the PMO.
  - 5.5.2.2. Transportation of CPP, CPP dependents, and their personal property to the PMO location prior to commencement of the CPP assignment in the PMO, and return transportation of the foregoing from the PMO location upon completion or termination of the CPP assignment.
  - 5.5.2.3. Compensation for loss of, or damage to, the personal property of CPP or CPP dependents, subject to the laws and regulations of the Parent Party's government.
  - 5.5.2.4. Preparation and shipment of remains and funeral expenses in the event of the death of CPP or CPP dependents.

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

- 5.6.1. Costs associated with national representation at meetings by non-PMO members.
- 5.6.2. Costs associated with any unique national requirements identified by a Participant.
- 5.6.3. Any other costs not expressly stated as shared costs or any costs that are outside the scope of this MOU Supplement.

5.7. The PMs will be responsible for establishing the detailed financial management procedures under which the FFCS Project will operate. These procedures, which must accord with the national accounting and audit requirements of the Participants, will be detailed in a FMPD prepared by the PMs and subject to the approval of the SC.

5.8. The Participants recognize that it may become necessary for one Participant, with the authority of the other Participant, to incur contractual or other responsibilities for the benefit of the other Participant prior to receipt of the other Participant's funds. In the event that one Participant incurs such responsibilities, the other Participant will make such funds available in such amounts and at such times as may be required by the Contract or other responsibility and will pay any damages and costs that may accrue from the performance of or cancellation of the Contract or other responsibility, where such performance or cancellation is

done following prior consultation with the other Participant, in advance of the time such payments, damages, or costs are due.

5.9. A Participant will promptly notify the other Participant if available funds are not adequate to fulfill its responsibilities under this MOU Supplement. 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. In the event that an understanding to continue on a modified basis cannot be reached, the provisions of paragraph 19.5 will apply.