

STATEMENT OF WORK

BOMB, FIRE, MK 77 MOD 5 ASSEMBLY
(WITH DRY FUEL GELLING MIX)

FOR THE

NAVAL AIR WARFARE CENTER
WEAPONS DIVISION
PT. MUGU, CA
478100E

Prepared by:

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CHANGE RECORD

<u>Description of Change</u>	<u>SOW Paragraphs</u>	<u>Date</u>
SOW Baseline	All	22 January 2002
Format Change	Title Page	15 November 2003

1.0 PURPOSE AND SCOPE

1.1 Purpose. This statement of work (SOW) defines the effort required for the fabrication, test, inspection, and delivery of the MK 77 Mod 5 Fire Bomb (NSN 1325-01-286-3586). For the purpose of this SOW, the "Contracting Officer" or "Contracting Office" is the U.S. Army, Code HQ OSC, AMSFS-CCA-M, Rock Island, IL 61299-6000. The Designated Technical Activity (DTA) for the MK 77 is the U.S. Navy, Naval Air Warfare Center, Weapons Division (Code 478100E), Pt. Mugu, CA 93042-5049. The government procuring activity consists of the contracting office, the DTA, and/or their designated representatives. Any or all subcontracted parties subject to the provisions of this document shall hereafter be referred to as the "Contractor".

1.2 Scope. This SOW is applicable to FY 2002 production procurement. It covers the Contractor's tasks and data requirements to support test, inspection, and production of the fire bomb to satisfy the requirements of the U.S. Navy Automated Data List (ADL) 923AS652, Top Assembly Drawing 923AS652 and sub tier drawings. The Contractor is responsible for the flow down of all applicable requirements to sub tier suppliers and for documentation of their compliance to these requirements.

2.0 APPLICABLE DOCUMENTS

2.1 Order of Precedence. In the performance of this contract, the Contractor shall comply with the following documents. In the event of conflict between the following documents and any other compliance document, the order of precedence shall be as follows:

- 1) Solicitation, Offer and Award issued by the Contracting Officer
- 2) The requirements of this SOW and Section J attachments

2.2 Compliance Documents. The following documents form a part of this SOW:

- 1) Automated Data List (ADL)
- 2) Drawings and Specifications
- 3) Quality Assurance Provisions (QAPs)

2.3 Specifications and Standards. The list of military, industry, and other government standards and specifications that are applicable to satisfy the requirements of this SOW and the Contract issued by the Contracting Officer is contained in ADL 923AS652. The ADL is a comprehensive list of documents specified in the Drawings, Specifications, Contract Data Requirements List (CDRL), Acceptance Inspection Equipment (AIE) Requirements and QAPs.

3.0 REQUIREMENTS

3.1 General Requirements.

3.1.1 General. The Contractor shall perform the tasks identified herein and shall provide access to facilities and data to the Contracting Officer and Navy personnel as necessary to monitor and evaluate conformance to requirements specified herein. The Contractor shall provide manpower, material, equipment, facilities and expertise to satisfy all the requirements of this SOW.

3.1.2 Contract Management. The Contracting Officer will be responsible for all contracting activities. No conversation, recommendation, or direction, whether given directly or implied by Government personnel that will affect the scope, schedule, or price of the tasks covered by this SOW shall be acted upon by the Contractor unless specifically directed in writing by the Contracting Officer. All technical or management meetings held during the performance of this contract, attended by Government and Contractor personnel, shall be subject to this condition. The Contractor agrees that no request for equitable adjustment or claim for altering the terms and conditions of the contract shall be submitted based on the results of said meeting unless the Contracting Officer has authorized that change to the contract in writing.

3.1.3 Meetings. At the Government's discretion, the parties shall convene, at a pre-determined location, to review and discuss: technical issues, quality issues, scheduled performance, problems areas, and recommended corrective actions. The Contractor shall be required to provide appropriate representation and documentation in support of the Government's agenda. The Government reserves the right to convene up to ten (10) meetings during the life of the basic contract, and up to six (6) additional meetings if an option provision is exercised.

3.1.4 Data Deliverables. The type of data required shall be "Regular" or "Reproducible" as described below. Required data and distribution are defined in the CDRL.

3.1.4.1 Regular: Data shall be black on white copies capable of producing legible copies, when re-produced on reproduction equipment.

3.1.4.2 Reproducible: May be hard copy capable of producing legible copies when re-produced on reproduction equipment, or electronic copy in government compatible format (Microsoft Office 97, Adobe Acrobat 3.0 or higher versions) on a 3.5 diskette or compact disc.

3.1.4.3 For drawings, submit original Autocad Rev. 13 or higher, plus a view file of .C4 (CALC Group 4) format.

3.2 Detailed Requirements.

3.2.1 Quality System Plan (QSP)/Inspection Test Plan (ITP). The QSP/ITP shall be IAW the contract quality system requirements and the QAPs. The QSP shall document the contractor's implementation of a quality system IAW ANSI/ASQC-9002-1994 as supplemented by the QAPs, and the QSP/ITP shall be prepared IAW the format specified in the QAPs. The QSP/ITP shall be submitted IAW the DID specified in the CDRL.

3.2.2 Statistical Process Control (SPC) Program Plan. A SPC program shall be implemented IAW with contract requirements and the QAPs. The plan(s) shall be submitted IAW the DID specified in the CDRL.

3.2.3 Acceptance Inspection Equipment (AIE) including Standard Measuring Instruments (SMI).

- 1) AIE design documentation shall include operating instructions and sufficient design information to permit evaluation of the proposed equipment's ability to test or measure the required characteristics with accuracy and repeatability. The designs must include sufficient summary data to correlate each drawing (and revision thereof) with the applicable product, drawing, revision number and characteristics inspected. All documentation (AIE designs, SMI and operating instructions) shall require approval prior to the commencement of the First Article Test. The Contracting Office will either approve or disapprove the Contractor's AIE documentation within (30 calendar days for Purchase Orders, and 45 calendar days for contracts) of receipt thereof. When approved, such designs shall become Government property.
- 2) All documentation (AIE designs, SMI and operating instructions) for those inspection characteristics classified as "Minor" shall be submitted IAW the CDRL and AIE Requirements. Disposition of "Minor" AIE designs, SMI, and operating instructions will be provided by the QAR.
- 3) All documentation (AIE designs, SMI and operating instructions) for those inspection characteristics classified as "Critical" or "Major" shall be submitted IAW the CDRL and AIE Requirements. Disposition of "Critical" and "Major" AIE designs, SMI, and operating instructions will be provided by the Contracting Office.
- 4) Measuring devices (contractor in-process work gages, fixtures etc.), when used for gathering Statistical Process Control (SPC) data, when SPC is the means of product acceptance, require Government approval and shall be submitted IAW the AIE Requirements.
- 5) The Contractor is responsible for the proper storage, handling, and use of all AIE. Non-conforming production items which are passed by damaged or misused AIE will not be accepted by the Government and does not relieve the Contractor of the responsibility to meet all drawing/specification requirements of the contract.
- 6) The Contractor shall provide all AIE necessary to assure conformance of components and end items to contract requirements. All AIE are subject to approval by the Contracting Office.
- 7) The Contractor shall be responsible for any delays resulting from late presentation of AIE or AIE design documentation for Contracting Office approval, and any delays resulting from the presentation of inadequate or defective AIE or AIE design documentation.
- 8) The Contractor is not authorized to change approved AIE without approval of the government procuring activity. The Contractor shall be responsible for costs and schedule delays associated with Contractor initiated changes, which have not been approved by the Contracting Office, including costs incurred by the Government.

3.2.4 First Article Test (FAT). Unless otherwise specified in the contract or purchase order, the first article sample shall be inspected and tested in accordance with the examination and test requirements as specified herein. Unless otherwise specified in the contract or purchase order, the examinations and tests shall be performed by the contractor under the observation of the

QAR. The first article inspection results will then be verified by the government procuring activity for conformance to contract or purchase order requirements.

3.2.4.1 First Article Sample: Prior to the start of regular production, the contractor shall manufacture and submit a first article sample using the methods and processes proposed for quantity production. The first article sample shall conform to all requirements specified by the contract or purchase order (e.g., the ADL, all drawings and related specifications and standards). The first article sample shall consist of:

- 1) One (1) completed assembly (filled)
- 2) Two (2) completed assemblies (empty). Empty assemblies will be pressure tested and filled during government first article verification.
- 3) Three (3) sets of components.

3.2.4.1.1 Additional First Article Samples: Additional first article samples may be required by the Contracting Officer as the results of a first article sample failing to meet the contract requirements. Additional first article samples required as a result of first article failure shall be supplied by the contractor at his own expense.

3.2.4.1.2 Delivery of First Article Sample: Upon completion of the first article verification (by the government procuring activity) the contractor shall deliver the first article sample to the DTA.

3.2.4.2 Materials, Design and Construction: Materials, design and construction shall be in accordance with the requirements as defined by the contract or purchase order. The contractor shall demonstrate by means of certification that only materials and components conforming to the contract or purchase order requirements have been used. Certification statements shall completely identify the material or component, indicate the specification or drawing (revisions and dates) applicable, the grade or type to which the material or components were tested, the number tested and quantitative requirements and results obtained during tests. The required data may be from the specific quantity of material or components used in the contract or from the manufacturing lot from which the material or components originated.

3.2.4.3 First Article Inspections and Tests: Prior to the submission of the first article sample for verification by the cognizant government procuring activity, the contractor shall inspect and test the first article sample to assure that it conforms to all the requirements of the contract or purchase order. The contractor performed first article tests and inspections shall be witnessed by the QAR, as directed by the contracting office. The first article sample shall conform to all drawing requirements and accompanied by inspection results as well as certified test reports required by contract or purchase order. Each sample shall be subjected by the contractor to all examinations and tests required by the contract or purchase order. The contractor shall prepare and provide documentation with the first article sample identifying all inspections and tests performed and their results. This documentation along with first article sample will be verified by the cognizant government procuring activity to determine compliance to contract or purchase order requirements.

3.2.4.4 Government First Article Verification: First article verification shall consist of first article test and inspections performed or witnessed by the government procuring activity at the contractor's facility. During the government procuring activity first article verification, the contractor's gauges and other measuring and test devices necessary to assure that supplies conform to the contract or purchase order requirements will also be reviewed. The government procuring activity reserves the right to perform any of the inspections set forth in the contract or purchase order requirements as necessary to assure supplies conform to these requirements. This shall include but not be limited to the use of government operated inspection laboratories. The contractor's measuring and test equipment shall be made available for use by the government representatives to determine conformance to contract or purchase order requirements. In addition, contractor's personnel shall be made available for operation of such devices and for verification of their accuracy.

3.2.4.4 The government first article verification shall consist of:

- 1) Reinspection of all critical and major dimensional inspection characteristics, and selected other dimensional characteristics.
- 2) Visual inspection, liquid penetrant inspection, radiograph inspection, mechanical (e.g., shear) testing, and metallographic inspection as required per drawings and specifications. Certifications and test results will be reviewed if these inspections are performed by supplier.
- 3) Center of gravity determination.
- 4) Pressure Leak Test.
- 5) Fill Operation.

3.2.4.5 Acceptance of First Article Sample: If the first article sample passes the criteria established in the examinations and tests and verification, it will be approved. If the first article sample fails any of the specified examinations and tests, the results will be evaluated by the government procuring activity. These results, together with the government engineering analysis of the first article sample, shall form the basis for corrective action by the contractor. Depending upon the degree of corrective action deemed necessary by the government, first article approval may be:

- 1) granted, in which case the contractor shall have first made the changes required by the government prior to the start of regular production.
- 2) withheld, and new sample shall be submitted for approval in place of the failed first article sample. The sample shall be subjected to the examinations and tests in which the failures occurred and any other examinations and tests of the first article inspection as required by the Contracting Officer.
- 3) withheld, and a new first article sample shall be submitted for approval.

In all cases the contractor shall comply with the required changes which are within the scope of the contract requirements to the satisfaction of the government for future production.

3.2.4.5.1 Until the first article sample is approved, further production shall be at the risk of the contractor. The government will not proceed with test and inspection of the production lots until first article approval is granted.

3.2.4.6 Reinstitution of Tests: Acceptance of first article sample shall not relieve the contractor from meeting all contract requirements throughout the life of the contract or purchase order. When evidence shows failure to continue to meet the first article inspection requirements specified herein, the government reserves the right to require tightened inspection on a lot basis, consisting of the reinstatement of such portions of the first article inspection needed to verify the effectiveness of any corrective action.

3.2.4.7 Supplemental First Article Inspection or Test: An additional first article sample or portion thereof may be required by the Contracting Officer in writing when:

- 1) a major change is made to the technical data package.
- 2) whenever there is lapse in production for period in excess of ninety (90) days.
- 3) whenever a change occurs in the manufacturing process, material used, drawings, specification, source of supply, process location or inspection processes being performed.

When one of conditions above occur, the government procuring activity shall be notified, in writing. Written approval from the government procuring activity shall be required prior to the implementation of any of the aforementioned scenarios. Costs of the first article inspection resulting from conditions above shall be borne by the contractor.

3.2.4.8 Quality Systems Review: A quality systems review, concurrent with the first article test and inspection, shall be conducted to evaluate the contractor's processes and procedures inherent to the quality of items to be delivered under this contract, and for conformance to specifications and contract or purchase order requirements. The review shall be conducted by government representatives designated by the Contracting Officer.

3.2.4.9 Certifications: The contractor's certifications shall be reviewed for conformance to drawings, specification and contract or purchase order requirements.

3.2.4.10 Process Controls: The process controls and procedures of the contractor's inspection system will be reviewed for conformance to specifications and contract or purchase order requirements.

3.2.5 Lot Acceptance Test and Inspection (LAT). Lot acceptance testing shall be conducted by the contractor under the observation of the QAR. Lot acceptance testing shall be conducted in accordance with the inspection and test requirements of the QAPs and the approved ITP.

3.2.5.1 Lot Acceptance will be conducted on a lot size no greater than one week's production, but not less than one day's productions.

3.2.5.2 Should a failure occur during lot acceptance, the contractor shall immediately notify, via the QAR, the contracting office, prior to any rework and reinspection or test.

3.2.6 Acceptance Test Reports. At the conclusion of FAT and LAT, the contractor shall prepare test reports IAW the DID specified in the CDRL. The Quality Assurance Representative (QAR) will provide disposition on the LAT report.

3.2.7 Failure Analysis and Corrective Action Reporting (FACAR). All failures occurring during FAT or LAT shall be reported IAW the DID specified in the CDRL. Disposition of the failure analysis and implemented corrective action will be provided by the Contracting Office.

3.2.8 Engineering Change Proposals (ECPs). All ECPs (Class I and Class II) shall be submitted IAW the DID specified in the CDRL.

3.2.8.1 Class II ECP Authority: The Contracting Office shall have Class II approval authority. Class II ECPs shall be approved or disapproved within 30 calendar days of receipt by the Contracting Office.

3.2.9 Deviations. All deviations (major and minor) shall be submitted IAW the DID specified in the CDRL.

3.2.9.1 Minor Deviation Authority: The Contracting Office shall have Minor Deviation approval authority. Minor deviations shall be approved or disapproved within 30 calendar days of receipt by the Contracting Office.

3.2.10 Notice of Revision (NOR). The Contractor shall prepare a NOR for each drawing, associated list, or other referenced document which requires revision and submit said NOR with the ECP. The NOR shall be submitted IAW the DID specified in the CDRL.

3.2.11 Packaging, Marking, Storage, and Shipment. See applicable ADL for packaging, marking, storage, and shipping requirements.

3.2.12 Ammunition Data Card. Contractor shall prepare Ammunition Data Cards in accordance with MIL-STD-1168 and CDRL requirements (and deliver them with each deliverable lot.) Data cards shall be submitted IAW the DID specified in the CDRL. Data cards shall be prepared using a Government furnished computer program (contact SOSMA-PRQ for program and user's guide. Point of contact is provided in the CDRL Address List). Submissions to SOSMA-PRQ consist of sample data cards (ref: MIL-STD-1168, para. 4.1.4) and monthly submissions of data disks (see User's Guide).

3.2.13 Production Progress and Delivery Reports. Production Progress and Delivery Report (DD Form 375) shall be prepared with instructions listed thereon.

3.2.14 Ozone Depleting Substances Chemical (ODC) and Ozone Depleting Substances (ODS). Documents containing ozone depleting chemicals (ODC) and ozone depleting substances (ODS) are shown in the following table. Some of the following documents may not appear in the ADL due to the fact that they are sub-tier documents. These documents are still applicable and have been reviewed for use of ODC/ODS, with suggested replacements. The suitability of the selected replacements must be verified by the contractor in terms of product performance requirements and compatibility with manufacturing processes. Under no circumstance shall the suggested replacements be used if they violate local, state, or federal laws and regulations.

DRAWING	LEVEL 1	LEVEL 2	TIER	ODC	APPLICATION	SUGGESTED REPLACEMENT

3.2.14.1 If table above contains no entries, a review of the technical data package indicates no ODC/ODS are required for delivery of this commodity.