

ANNEX B

C21

**MULTI-CALIBRE SNIPER
WEAPON SYSTEM**

STATEMENT OF WORK



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1. **Scope**

1.1. **Objective**

The objective of this Statement of Work (SOW) is to describe the tasks and deliverables required of the Contractor by Canada in order to deliver and support the Multi-Calibre Sniper Weapon (MCSW) System as part of the Sniper Systems Project (SSP).

1.2. **Background**

The Multi Calibre Sniper Weapon (MCSW) is a sniper rifle platform that will allow the use of various calibres to meet operations and training needs. The system allows the user to swap between calibres while maintaining the same fit, form and functions provided by the common frame and accessories. The bulk of the MCSW is to be provided through this contract, while some of the components/accessories will be purchased through other contracts and be provided to the Contractor as Government Furnished Equipment (GFE) for design completion of the MCSW System. Figure 1 depicts the MCSW System Equipment Breakdown Chart.

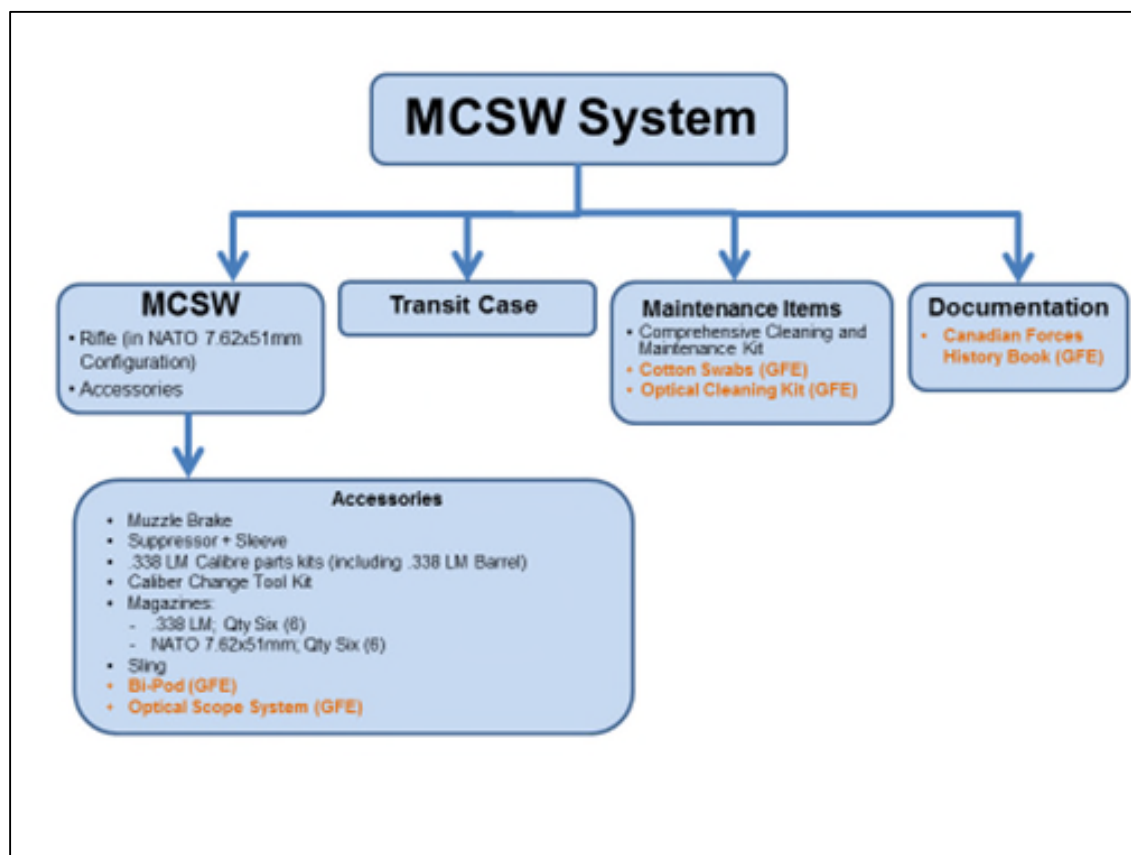


Figure 1: MCSW System Equipment Breakdown Chart

1.3. **Acronyms**

ANSI	American National Standards Institute
CAS	Chemical Abstract Service
CDRL	Contract Data Requirements List
CFTO	Canadian Forces Technical Order
CM	Configuration Management
CPB	Canadian Product Baseline
DID	Data Item Description
EIA	Electronic Industries Alliance
EBS	Equipment Breakdown Structure
EEA	Equipment Environmental Assessment
GFE	Government Furnished Equipment
HAZMAT	Hazardous Material
IAW	In Accordance With
ILS	Integrated Logistics Support
ISO	International Standards Organization
LS	Logistic Support
MSDS	Material Safety Data Sheet
NATO	North Atlantic Treaty Organization
NSN	NATO Stock Number
OEM	Original Equipment Manufacturer
PM	Project Management
PMS	Project Master Schedule
PPB	Provisioning Parts Breakdown
PRM	Project Review Meeting
QA	Quality Assurance
QAR	Quality Assurance Representative
QC	Quality Control
QCI	Quality Control Inspection
RCEME	Royal Canadian Electrical and Mechanical Engineers
RSPL	Recommended Spare Parts List
MCSW	Multi-Calibre Sniper Weapon

SAT	System Acceptance Testing
SE	System Engineering
SOW	Statement of Work
SSP	Sniper Systems Project
SPTD	Supplementary Provisioning Technical Data
STTE	Special Tools and Test Equipment
TA	Technical Authority
TDP	Technical Data Package
VCI	Vapour Corrosion Inhibitor

1.4. Definitions

“**Optical Scope System**” is defined as the complete rifle mounted optical sighting system consisting of soft storage bag, operator tools, kill flash honeycomb filter (aka anti reflection device), sunshade, scope and scope rings.

“**Rifle**” is defined as the C21 Multi-Caliber rifle equipped with all STANAG rails, but not including the Magazine, Sling, Suppressor or Muzzle Brake.

“**MCSW**” is defined as the Rifle and all its accessories that are required to fire the weapon: All Magazines, Suppressor, Muzzle Brake, Sling, Bi-pod and Optical Scope System as illustrated in Figure 1.

“**MCSW System**” is defined as the complete C21 weapon system consisting of the MCSW, Transit Case, Maintenance Items and Documentation as illustrated in Figure 1.

2. **Applicable Documents**

The following documents form part of this specification to the extent specified and are supportive of the specification when referenced; all other document references are to be considered supplemental information only. In the event of a conflict between the documents referenced and the contents of the specification, then the contents of the specification must take precedence.

ANSI/EIA-649B: National Consensus Standard for Configuration Management; and

ISO 9000: Family of Quality Management Standards.

3. **General Requirements**

3.1. **Overview**

The Contractor must establish, implement and maintain the following capabilities:

- a. A Project Management (PM) capability that encompasses the MCSW System processes in accordance with (IAW) the work requirements of section 4 of this SOW;
- b. A Systems Engineering capability that encompasses the MCSW technical effort IAW the work requirements of section 5 of this SOW;
- c. An Integrated Logistic Support (ILS) capability IAW the work requirements of section 6 of this SOW;
- d. A Configuration Management (CM) capability IAW the work requirements of section 7 of this SOW; and
- e. A Quality Assurance (QA) capability IAW the work requirements of section 8 of this SOW.

3.2. **Contractor Responsibilities**

The Contractor must be responsible for meeting all the requirements as identified in the SOW.

3.3. **Canadian Product Baseline (CPB)**

3.3.1. Standard engineering practices must be followed to establish a CPB that will be used for the manufacture and delivery of MCSW Systems.

3.3.2. The CPB must consist of a MCSW System that has completed and passed System Acceptance Test (SAT) and meets all mandatory requirements.

3.4. **Production**

3.4.1. The Contractor must develop and establish a production line at its production facilities in order to manufacture the MCSW IAW Annex C, the Mandatory Technical Requirements.

3.4.2. The MCSW must be delivered with the Transit Case, Maintenance Items, Documentation, spares, tooling, training and technical data as detailed in this SOW.

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3.5. **Government Furnished Equipment (GFE)**

Canada will provide the following items, as identified in Figure 1, to complete development of the Transit Case molded insert:

- a. One Optical Scope System;
- b. One Bi-Pod;
- c. One Canadian Forces History Book;
- d. One bag of Cotton Swabs; and
- e. One Optical Cleaning Kit.

4. **Project Management**

4.1. **General**

The Contractor must conduct PM activities IAW industry best practices.

4.2. **Project Master Schedule**

4.2.1. The Contractor must deliver a Project Master Schedule (PMS) IAW Annex B Appendix 1 Contract Data Requirements List (CDRL) 001 and Annex B Appendix 2 Data Item Description (DID) PM-001.

4.2.2. All deliverables under the contract must be scheduled IAW Annex B Appendix 3 C21 MCSW Statement of Work Process Flow.

4.3. **Meetings**

4.3.1. Kick-Off Meeting:

- a. The Contractor must schedule and chair a kick-off meeting no later than 20 working days following contract award;
- b. The kick-off meeting must be conducted at the Contractor's facilities;
- c. The Contractor must prepare and submit a Meeting Agenda IAW CDRL 002 and DID PM-002 for the kick-off meeting; and
- d. The Contractor must prepare and submit Meeting Minutes IAW CDRL 003 and DID PM-003 for the kick-off meeting.

4.3.2. Project Review Meetings:

- a. The Contractor must schedule and chair monthly Project Review Meetings (PRM), up to 12 PRMs for the duration of the Contract, with the first meeting occurring 40 working days following contract award;
- b. The PRMs will be conducted via teleconference;
- c. Canada reserves the right to choose to hold one or more face-to-face PRMs at the Contractor's facility at no extra cost to Canada. Canada will provide a one-month notice to the Contractor prior to a face-to-face PRM;
- d. The Contractor must prepare and submit a Meeting Agenda IAW CDRL 002 and DID PM-002 for each PRM; and
- e. The Contractor must prepare and submit Meeting Minutes IAW CDRL 003 and DID PM-003 for each PRM.

5. **Systems Engineering Requirements**

5.1. **Introduction**

This section describes the requirements for systems engineering work that the Contractor must carry out under this Contract.

5.2. **Identification and Markings**

5.2.1. Rifle and Barrels Serial Numbers:

- a. The Contractor must stamp or laser engrave a unique serial number on the Rifle receiver;
- b. The Contractor must stamp or laser engrave the Rifle serial number on both calibre Barrels; and
- c. The serial number format must be YYMCXXXXX where “YY” is the year of manufacture, “MC” is the MCSW designation assigned by Canada and “XXXXX” is the unique serial number of the Rifle starting at 00001 and ending at 00229.

5.2.2. Suppressor Serial Number:

Canada will accept the Suppressor serial number assigned by the Contractor/OEM.

5.2.3. Bolt Serial Number:

The Contractor must stamp or laser engrave a serial number on the bolt handle that matches the last 3 digits of its corresponding Rifle serial number.

5.2.4. Rifle and Calibre Designation:

- a. The Contractor must stamp or laser engrave the Rifle designation “C21 Multi-Calibre” on the chassis;
- b. The chassis must be marked IAW Figure 2 to identify the MCSW as a Canadian Armed Forces weapon;



Figure 2: Distinctive Canadian Armed Forces Markings.

- c. The Contractor must stamp or laser engrave “C21 7.62mm” on the barrel for 7.62mm calibre configuration;
- d. The Contractor must stamp or laser engrave “C21 .338 LM” on the barrel for .338 Lapua Magnum configuration;
- e. The Contractor must stamp “7.62mm” on the bolt head for 7.62mm calibre and “.338 LM” on the bolt head for .338 Lapua Magnum;
- f. The Contractor must stamp or laser engrave “7.62mm” on the magazine for 7.62mm calibre configuration; and
- g. The Contractor must stamp or laser engrave “.338 LM” on the magazine for .338 Lapua Magnum configuration.

5.2.5. Proof Mark:

The Contractor must stamp or laser engrave a proof mark on all pressure bearing components, ie. bolt head(s), barrels, barrel extensions, receiver.

5.2.6. Identification and Marking Presentation:

- a. The Contractor must propose to Canada the location of all identification and markings IAW CDRL 004 and DID SE-001; and
- b. Canada must approve the location of all identifications and markings prior to the commencement of production.

5.3. **Packaging and Labelling**

The Contractor must ship and deliver the MCSW System under five part numbers consisting of the following:

- a. Part Number 1: Consists of the Rifle;
- b. Part Number 2: Consists of the Suppressor;
- c. Part Number 3: Consists of the .338 LM Magazines;
- d. Part Number 4: Consists of the 7.62 x 51mm Magazines; and
- e. Part Number 5: Consists of the remainder of the MCSW System.

5.3.1. Part Number 1 – Rifle:

- a. The Rifle must be heat sealed in a transparent Vapor Corrosion Inhibitor (VCI) bag that has been burped to remove all excess air;
- b. The sealed Rifle must be placed in an individual Rifle box with bubble wrapping surrounding it to prevent movement during shipment and handling;

- c. The Rifle box must be sealed with Tamper Evident packaging tape;
- d. The exterior end of the Rifle box must have a label applied with the following information:
 - i. Bar coded NATO Stock Number (NSN) (Code 3 of 9);
 - ii. Description;
 - iii. Part Number;
 - iv. Quantity;
 - v. Pack Date;
 - vi. Contract Number;
 - vii. Bar coded Serial Number (Code 3 of 9);
 - viii. The cardboard boxes housing the Rifle must be consolidated into standard tri-wall shipping containers; and
 - ix. Each tri-wall container must contain a packing list of serial numbers for all Rifles in the tri-wall container.

5.3.2. Part Number 1 – Bolts:

- a. The bolt(s) must be heat sealed in a VCI bag that has been burped to remove all excess air from the bag;
- b. Bolts must be packaged in a shipping box, with a maximum weight of 11 kg, lined with bubble wrap;
- c. The interior of the box must have a packing slip on the top that lists the bar coded serial numbers contained in the shipping box;
- d. Bolts must be shipped separately from the Rifles;
- e. The shipping box must contain a label that links the contents in the box to the specific Rifle shipment with corresponding serial numbers to facilitate identification at the depot; and
- f. The label applied to each Rifle bolt must have the following information:
 - i. Description;
 - ii. Part Number;
 - iii. Quantity;
 - iv. Pack Date;
 - v. Contract Number; and
 - vi. Bar coded Serial Number (Code 3 of 9).

5.3.3. Part Number 2 – Suppressors:

- a. The suppressor(s) must be heat sealed in a VCI bag that has been burped to remove all excess air from the bag;

- b. Suppressors must be packaged in a shipping box, with a maximum weight of 11kg, lined with bubble wrap;
- c. The interior of the box must have a packing slip on the top that lists the bar coded serial numbers contained in the shipping box;
- d. Suppressors must be shipped separately from the Rifles;
- e. The shipping box must contain a label that links the contents in the box to the specific Rifle shipment with corresponding serial numbers to facilitate identification at the depot; and
- f. The label applied to each suppressor must have the following information:
 - i. Description;
 - ii. Part Number;
 - iii. Quantity;
 - iv. Pack Date;
 - v. Contract Number; and
 - vi. Bar coded Serial Number (Code 3 of 9).

5.3.4. Part Number 3 – .338 LM Magazines:

- a. The .338 LM Magazines must be heat sealed in a VCI bag that has been burped to remove all excess air from the bag;
- b. .338 LM Magazines must be packaged in a shipping box, with a maximum weight of 11kg, lined with bubble wrap;
- c. The interior of the box must have a packing slip on the top that lists the bar coded serial numbers contained in the shipping box;
- d. .338 LM Magazines must be shipped separately from the Rifles. The shipping box must contain a label that links the contents in the box to the specific Rifle shipment with corresponding serial numbers to facilitate identification at the depot; and
- e. The label applied to each .338 LM Magazine must have the following information:
 - i. Description;
 - ii. Part Number;
 - iii. Quantity;
 - iv. Pack Date;
 - v. Contract Number; and
 - vi. Bar coded Serial Number (Code 3 of 9).

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5.3.5. Part Number 4 – 7.62 X 51mm Magazines:

- a. The 7.62 x 51mm Magazines must be heat sealed in a VCI bag that has been burped to remove all excess air from the bag;
- b. 7.62 x 51mm Magazines must be packaged in a shipping box, with a maximum weight of 11kg, lined with bubble wrap;
- c. The interior of the box must have a packing slip on the top that lists the bar coded serial numbers contained in the shipping box;
- d. 7.62 x 51mm Magazines must be shipped separately from the Rifles. The shipping box must contain a label that links the contents in the box to the specific Rifle shipment with corresponding serial numbers to facilitate identification at the depot;
- e. The label applied to each 7.62 x 51mm Magazine must have the following information:
 - i. Description;
 - ii. Part Number;
 - iii. Quantity;
 - iv. Pack Date;
 - v. Contract Number; and
 - vi. Bar coded Serial Number (Code 3 of 9).

5.3.6. Part Number 5 – Remainder of MCSW:

- a. All remaining components must be packaged in the Transit Case that will serve as the shipping container for these items;
- b. Items must be placed in the Transit Case in such a manner to ensure that they cannot be damaged during shipment;
- c. The Transit Case must be labelled; and
- d. The label applied to each Transit Case must have the following information:
 - i. Bar coded NSN (Code 3 of 9);
 - ii. Description;
 - iii. Part Number;
 - iv. Quantity;
 - v. Pack Date; and
 - vi. Contract Number.

- 5.3.7. **Palletization:**
- a. Transit Cases must be palletized with 12 to a pallet (2 rows of 6);
 - b. Pallet contents must be shrink wrapped;
 - c. The top of the pallet must have a cardboard cover to shed water and protect pallet contents; and
 - d. The pallet contents must be secured with steel strapping with edge protectors to prevent movement during transport.

5.4. **Technical Data Package (TDP)**

- 5.4.1. The Contractor must provide a TDP IAW CDRL 005 and DID SE-002.
- 5.4.2. The TDP must contain sufficient detail to permit Canada to catalogue and procure the MCSW including all accessories and spareable components.

5.5. **Equipment Environmental Assessment (EEA)**

- 5.5.1. The Contractor must prepare and submit an EEA IAW CDRL 006 and DID SE-003.
- 5.5.2. The EEA must be comprised of Material Safety Data Sheets (MSDS) that are less than three years old for all hazardous material (HAZMAT).
- 5.5.3. The MSDS must disclose the chemical ingredient information along with its Chemical Abstract Service (CAS) number and % composition by weight.

5.6. **System Acceptance Testing (SAT)**

- 5.6.1. The Contractor must perform SAT at their facility IAW Appendix 4 of Annex B.
- 5.6.2. The purpose of SAT is to confirm that the MCSW Systems being delivered fully meet the requirements of the contract.
- 5.6.3. All SAT activities should be witnessed by Canada.
- 5.6.4. The Contractor must provide a SAT Report IAW CDRL 007 and DID SE-004.
- 5.6.5. The Contractor must investigate, at no cost to Canada, all failures and deficiencies during SAT.

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- 5.6.6. The Contractor must provide a Failure Investigation report IAW CDRL 008 and DID SE-005 on the findings of the investigation, with possible recommendations and solutions.
- 5.6.7. All recommendations and solutions proposed by the Contractor must be accepted by Canada. In the event the recommended solutions proposed by the Contractor are not accepted by Canada the contract will be terminated.
- 5.6.8. On successful completion of SAT and on acceptance of the SAT Report the Contractor will receive authorization to deliver the firm contract quantities of MCSW Systems to Canada.

6. **Integrated Logistics Support (ILS)**

6.1. **General**

6.1.1. This section describes the requirements for ILS work that the Contractor must carry out under this Contract.

6.1.2. ILS related CDRLs must not be delivered until the SAT Report (CDRL 007) has been approved by Canada.

6.2. **Technical Publications**

6.2.1. Operators Manual Information:

The Contractor must supply the information IAW with CDRL 009 and DID LS-001 required for Canada to develop a bilingual operator's manual in a Canadian Forces Technical Order (CFTO) format.

6.2.2. Maintenance Manual Information:

The Contractor must supply the information IAW with CDRL 010 and DID LS-002 required for Canada to develop a bilingual maintenance manual in a CFTO format.

6.2.3. Data Summary Information:

The Contractor must supply the information IAW with CDRL 011 and DID LS-003 required for Canada to develop a data summary publication in a CFTO format.

6.2.4. Mechanical Diagram Information:

The Contractor must supply the information IAW with CDRL 012 and DID LS-004 required for Canada to develop a mechanical diagram publication in a CFTO format.

6.2.5. Illustrated Parts List Information:

The Contractor must supply the information IAW with CDRL 013 and DID LS-005 required for Canada to develop an illustrated parts list publication in a CFTO format.

6.2.6. Equipment Description Information:

The Contractor must supply the information IAW with CDRL 014 and DID LS-006 required for Canada to develop an equipment description publication in a CFTO format.

6.3. **Provisioning Parts Breakdown (PPB)**

The Contractor must deliver a PPB IAW CDRL 015 and DID LS-007.

6.4. **Supplementary Provisioning Technical Documentation (SPTD)**

The Contractor must provide SPTD IAW CDRL 016 and DID LS-008.

6.5. **Spares Acquisition**

6.5.1. The Contractor must submit a Recommended Spare Parts List (RSPL) IAW CDRL 017 and DID LS-009. This list must include the replacement barrels for each calibre required to sustain the operation of MCSW according to the specifications over the lifetime of the System (20 years).

6.5.2. Provisioning of spares will be negotiated and funded under separate work requests using the DND 626 form for task authorization.

6.6. **Special Tools And Test Equipment (STTE)**

6.6.1. Provisioning of STTE and STTE associated spares will be negotiated and funded under separate work requests using the DND 626 form for task authorization.

6.7. **Training**

6.7.1. Operator Training Package:

- a. The Contractor must develop and submit an Operator Training Package IAW CDRL 018 and DID LS-010;
- b. The Contractor must conduct one Operator Training Course IAW CDRL 020 and DID LS-012 for 10 students; and
- c. The Operator Training Course must be held in Gagetown, NB, Canada.

6.7.2. Maintenance Training Package:

- a. The Contractor must develop and submit a Maintenance Training Package IAW CDRL 019 and DID LS-011;
- b. The Contractor must conduct one Maintenance Training Course IAW CDRL 021 and DID LS-013 for 10 students; and
- c. The Maintenance Training Course must be held in Borden, ON, Canada.

6.7.3. Equipment For Operator And Maintenance Training:

- a. Canada will provide the required MCSW systems that have been delivered by this contract to support training; and

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- b. The Contractor must provide all other materiel to support training including copies of all approved training materials (one per student), required STTE and spare parts.

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7. Configuration Management

7.1. General

The Contractor must implement and maintain a CM Program complying with the requirements of ANSI/EIA-649B, National Consensus Standard for Configuration Management.

7.2. Request For Deviation

The Contractor must prepare and deliver Request for Deviations IAW CDRL 022 and DID CM-001 when the Contractor determines, prior to manufacture of MCSW Systems, that it is not possible to satisfy the Technical Requirements.

7.3. Request For Waiver

The Contractor must prepare and deliver Request For Waivers IAW CDRL 023 and DID CM-002 when the Contractor determines, during and after manufacture of the MCSW Systems, that the item does not satisfy the Technical Requirements.

8. **Quality Assurance**

8.1. **General**

QA Terms and Definitions used herein are IAW International Standards Organization (ISO) 9000-2015.

8.2. **Quality Assurance Representative (QAR)**

8.2.1. The Contractor must provide the government QAR access to their Quality System within forty-eight (48) hours of receiving a visit request.

8.2.2. The Contractor must make available all the supporting documentation.

8.2.3. Government QAR reserves the right to request and witness Factory Quality Control (QC) Test (System and Sub-systems) during the complete production period of the MCSW. 10% of the total quantity of items that will be manufactured and delivered may be called by Government QAR. The QAR will select the MCSW System from the production being prepared for delivery.

8.2.4. The Contractor must provide corrective measures as requested by the Government QAR and Technical Authority (TA).

8.2.5. The Contractor must consider recommendations from government QAR and TA to address all corrective measures that might have an adverse effect upon the quality of the product. Once the corrective measures are completed and the results are acceptable to Canada, the MCSW System will be delivered through the normal process.

8.3. **Quality Control Process**

8.3.1. The Contractor must implement a QC process to assure and monitor the quality of the MCSW System.

8.3.2. Production Quality Conformance Inspection (QCI) must be conducted by the Contractor through a QC process to confirm that production items are built IAW the Technical Requirements of the Contract. Production QC tests confirm that the quality standard is being sustained throughout the Production. The product is inspected for conformance to the technical data.

8.4. **Confirmation Firing**

8.4.1. Every Rifle with the Suppressor installed must be fired to confirm that it meets the precision requirements of the contract by firing 5 x 5 groupings for each calibre, and achieving an Average Mean Radius of 1.2cm or less. Cartridges to be used are:

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- a. Federal Gold Medal Sierra MatchKing, 308 WIN, 175 grain Cartridge (GM308M2); other NATO 7.62x51mm cartridges are also acceptable; and
- b. Federal Gold Medal Sierra MatchKing, 338 Lapua Magnum, 250 grain Cartridge (GM338LM); other .338 Lapua Magnum x 250 grain cartridges are also acceptable.

8.4.2. Proof of the Rifle's precision must be held with each Rifle's QA documentation.