



**RETURN BIDS TO:
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**Bid Receiving - PWGSC / Réception des
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11 Laurier St. / 11, rue Laurier
Place du Portage, Phase III
Core 0B2 / Noyau 0B2
Gatineau
Québec
K1A 0S5
Bid Fax: (819) 997-9776

**REQUEST FOR PRICE AND
AVAILABILITY
DEMANDE DE PRIX ET DE
DISPONIBILITÉ**

This is not a bid solicitation but an inquiry for the purpose of obtaining price and availability information for the goods, services, and construction specified herein. The information requested herein is for budgeting and planning purposes only. Contracts will not be entered into on the basis of suppliers' responses.

Il ne s'agit pas d'une invitation à soumissionner mais d'une demande de renseignements sur les prix et la disponibilité des biens, services et construction spécifiés aux présentes. Les renseignements demandés aux présentes sont nécessaires uniquement à l'établissement du budget et à la planification. Les marchés ne seront pas attribués suite aux réponses des fournisseurs/entrepreneurs.

Comments - Commentaires

Title - Sujet LOI - CFSATE VMT & PTT	
Solicitation No. - N° de l'invitation W8475-16VMT2/B	Date 2016-03-03
Client Reference No. - N° de référence du client W8475-16VMT2	GETS Ref. No. - N° de réf. de SEAG PW-\$\$QF-106-25721
File No. - N° de dossier 106qf.W8475-16VMT2	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2016-04-19	
Time Zone Fuseau horaire Eastern Daylight Saving Time EDT	
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Mastantuono, Ricardo	Buyer Id - Id de l'acheteur 106qf
Telephone No. - N° de téléphone (819) 956-5771 ()	FAX No. - N° de FAX (819) 956-5650
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: Specified Herein Précisé dans les présentes	

Instructions: See Herein

Instructions: Voir aux présentes

Vendor/Firm Name and Address
Raison sociale et adresse du
fournisseur/de l'entrepreneur

Delivery Required - Livraison exigée See Herein	Delivery Offered - Livraison proposée
Vendor/Firm Name and Address Raison sociale et adresse du fournisseur/de l'entrepreneur	
Telephone No. - N° de téléphone Facsimile No. - N° de télécopieur	
Name and title of person authorized to sign on behalf of Vendor/Firm (type or print) Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)	
Signature	Date

Issuing Office - Bureau de distribution

Electronics, Simulators and Defence Systems Div.
/Division des systèmes électroniques et des systèmes de
simulation et de défense
11 Laurier St. / 11, rue Laurier
8C2, Place du Portage
Gatineau
Québec
K1A 0S5

1. General Info.

- 1.1.1 The work for which Canada is seeking Price and Availability (P&A) can be found in Annex "A" – Statement of Work for Canadian Advance Synthetic Environment (CASE) Phase 2 (Air Technician Apprentice Trainers) and its related Annexes (Annexes A to D).
- 1.1.2 Vendors are requested to send the information to the attention of the PWGSC Contracting Authority as follows: two (2) hard copies and one (1) soft copy.
- 1.1.3 All responses and inquiries shall be directed to:

Ricardo Mastantuono
PWGSC Contracting Authority
Defence and Major Projects Sector (DMPS)
11 Laurier Street, Place du Portage, Phase III, 8C2
GATINEAU, QC. Canada
K1A 0S5
Telephone: 819-956-5771
Facsimile: 819-956-5650
ricardo.mastantuono@tpsgc-pwgsc.gc.ca

All enquiries and other communication related to this P&A shall be directed exclusively to the PWGSC Contracting Authority – email is preferable – and must be received no later than five (5) calendar days before the P&A closing date. Enquiries received after that time may not be answered.

1.1.4 Industry Day

An Industry Day will be held at __TBD__ on 6 April 2016. The Industry Day will begin at __TBD__, in room number __TBD__. The scope of the requirement outlined in the P&A will be reviewed during the Industry Day and questions will be answered. It is recommended that respondents who intend to submit a response attend or send a representative.

Respondents are requested to communicate with the Contracting Authority before the Industry Day to confirm attendance. Respondents should provide, in writing, to the Contracting Authority, the name(s) of the person(s) who will be attending and a list of issues they wish to table no later than 24 March 2016 at 2:00pm EDT.

Any clarifications or changes to the P&A resulting from the Industry Day will be included as an amendment to the P&A. Bidders who do not attend will not be precluded from submitting a bid.

2. Current CASE (Phase 2) Project Schedule

- 2.1 The Case (Phase 2) project schedule is provided to inform respondents of the project timeline to ensure that the costs are based on a realistic forecast. The current schedule is as follows:

CASE (Phase 2) Project Schedule	
Activity	Planned Date
Letter of Interest/Pre-qualification of Bidders	September 2016
Project Approval (Implementation)	November 2016
Request for Proposals	April 2017
Contract Award	October 2017
Contract Completion	October 2020
Project Closeout	January 2021

3. Industrial and Technological Benefits (ITB)

3.1 DND's requirement is not eligible for the application of the ITB Policy including Value Proposition due to:

- the G SIN for this commodity is classified as FSC Group 69, Training Aids and Devices, sub-category N6920, Armament Training Devices, which is subject to all Commercial Trade Agreements; and
- DND confirmed that they do not wish to invoke a National Security Exception for this requirement.

4. Process to Request for Proposals

4.1. The CASE (Phase 2) Project may engage in the following activities:

- 4.1.1. Review P&A Responses;
- 4.1.2. Post a Letter of Interest on Canada Buy and Sell to engage in Industry discussions;
- 4.1.3. Post a Draft Request for Proposals (RFP);
- 4.1.4. Post a Request for Qualification; and/or
- 4.1.5. Post a RFP to Pre-Qualified Consortia.

4.2. Responding or not responding to this P&A shall not put any vendor in an advantageous or disadvantageous position regarding their participation in the solicitation process. All vendors will have an equal and fair opportunity to participate in the solicitation process.

4.3. In parallel with the information being released to Industry, the DND CASE (Phase 2) project team will be obtaining internal approvals and finalizing applicable documents and requirements. The expected process is expected to be completed within a one (1) year time frame.

5. Requested Responses to the P&A

5.1. Respondents to this P&A shall have a proven capability and expertise in the area of aircraft maintenance trainers and shall provide the following information/data in response to this P&A request:

- 5.1.1. A company profile with emphasis on aircraft maintenance trainers;
- 5.1.2. Experience in fielding aircraft maintenance training suites;
- 5.1.3. Feedback on the DND specifications -- areas of the Statement of Work (Annex A) and the Technical Specifications (Appendix 1 to Annex A), which could be deemed to be medium-to high risk technically and from a schedule perspective and why;
- 5.1.4. A projected timeline to perform the non-recurring engineering effort to design and build the required training suite and a projected timeline to produce the production quantities in order to develop a project schedule;
- 5.1.5. An estimated substantive costing data as detailed on the costing sheet (Annex B);
- 5.1.6. A list of customers with points of contact to whom the vendor has delivered similar training systems; and
- 5.1.7. A single point of contact for the participant to whom DND representatives can direct questions of a technical nature.

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- 5.2. Any discussions on the subject with project staff representing the Departmental of National Defence (DND) or Public Works and Government Services Canada (PWGSC) or any other Government of Canada representative shall not be construed as an offer to purchase or commitment by DND, PWGSC, or the Government of Canada as a whole. Any and all expenses incurred by Industry in perusing this opportunity including the provision of information and potential visits are at the Industry's sole risk and expense.
- 5.3. After review of all the information packages, the project staff may request additional information, briefings, and/or demonstrations from the respondents. The Government of Canada, through the PWGSC representative, may contact respondents for further information. Note that a separate announcement on the Government of Canada Buy and Sell shall be posted in the near future to outline an Industry engagement process which will include fairness monitors provided by the Government of Canada.
- 5.4. Although the documentation/information/data collected as a result of this P&A may be provided as commercial-in-confidence and will not be provided to a third party outside of the Government, the Government of Canada reserves the right to use the information on existing capabilities to assist them in drafting the final performance specifications, and budgetary estimates for the CASE (Phase 2) Project.
- 5.5. This is neither a Request for Tender nor a Request for Proposal. Neither an agreement nor contract for the procurement of the equipment to meet the requirements stated herein will be entered into solely as a result of this P&A.

6. List of Annexes

- 6.1 Annex "A" – Statement of Work
- 6.2 Annex "B" – Costing Data
- 6.3 Annex "C" – Milestones

Contact No. - N° de contrat
W8475-16-VMT2/B
Client Ref. No. - N° de réf. du client
W8475-16-VMT2

Amd. No. - N° de la modif.
File No. - N° du dossier
106qf W8475-16-VMT2

Buyer ID - Id de l'acheteur
106qf
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ANNEX "A" - STATEMENT OF WORK

ANNEX "B" - COSTING DATA

The costing data requested below is the specific information required by the project team to support project costings through the various stages of project approval. The costing data is divided into generic categories based on the different phases of project implementation. Vendors can provide more specific information if they so choose.

Vendors are encouraged to identify "big ticket" components or functionality for which, based on past experience, other training approaches could provide a more efficient and cost effective solution.

Item	Description	Qty	Price	Comment
1	Non-recurring Engineering Effort to design and build the required training suite			Non-recurring engineering efforts should include all activities (i.e. data collection, design, development, testing, project management, documentation, testing, etc) until the items are ready for shipping to CFSATE
2	Virtual Maintenance Trainers (VMT)			
2.A	VMT Hardware	LOT		Computer hardware to equip 7 classrooms for instruction. Each classroom to include an instructor terminal, 8 students stations and a large display for demonstration.
2.B	VMT Software	LOT		
3	Part Task Trainers (PTT)			
3.A	Integrated Avionics Trainers	6		
3.B	Power Generation and Distribution Trainers	3		
3.C	Flight Control and Landing Gear Trainers	8		
4	Installation	LOT		Include all costs associated with installation. Assume building has no network cabling, only power.

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4.A	Transportation	LOT		Include transportation charges for VMT and PTTs
4.B	Installation Hardware	LOT		Include the cost for all installation hardware including cabling, servers, switches, etc.
4.C	Installation Support – Field Service Rep (FSR)	6 months		Field Service Rep at CFSATE for up to 6 months. FSR must be present during the On-Site Acceptance. Cost to be inclusive of travel and living expenses.
5.	Technical Documentation <ul style="list-style-type: none"> - VMT Operating Instructions - PTT Operating Instructions - Drawings and Maintenance Manuals - Software Documentation 	LOT		
6.	Training for Instructors and Maintainers	LOT		Include all course materials, documentation, training syllabus, and on-site training delivery to 50 participants in Borden. Cost to be inclusive of travel and living expenses for the instructor.
7	Student Training Package	LOT		
8	Sparing Requirements for the first 2 years of operation	LOT		

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ANNEX "C" – MILESTONES

Milestone No.	Estimated Due Date	Description	Percentage of Total Firm Price	Amount
001	1 MACA	<p>On completion of the initial Program Review Meeting (Kick-Off) and acceptance of Minutes of Meeting</p> <p>On delivery and receipt by the DND TA of the 1st draft document:</p> <ul style="list-style-type: none"> Acceptance Plan (CDRL-004) Training Plan (CDRL-008) <p>On delivery and receipt by the DND TA of the 1st submission document:</p> <ul style="list-style-type: none"> Project Schedule (CDRL-001) System Engineering Management Plan (CDRL-003) Configuration Management Plan (CDRL-006) <p>On Delivery and and acceptance by the DND TA of the final submission document:</p> <ul style="list-style-type: none"> Quality Assurance Plan (CDRL-009) 	5%	
002A		On completion and acceptance by the DND TA of the Preliminary Design Review for the VMT	10%	
002B		On completion and acceptance by the DND TA of the Preliminary Design Review for the PTT	10%	
003A		<p>On completion and acceptance by the DND TA of the Critical Design Review of the VMT</p> <p>On delivery and receipt by the DND TA of the 1st submission document:</p> <ul style="list-style-type: none"> Acceptance Test Procedures - VMT (CDRL-005) Drawing & Maintenance Manuals – VMT (CDRL-012) Software Documentation – VMT (CDRL-013) 	15%	

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003B		<p>On completion and acceptance by the DND TA of the Critical Design Review of the PTT</p> <p>On delivery and receipt by the DND TA of the 1st submission document:</p> <ul style="list-style-type: none"> • Acceptance Test Procedures - PTT (CDRL-001) • Drawing and Maintenance Manuals – PTT (CDRL-012) • Software Documentation – PTT (CDRL-013) 	15%	
004A		<p>On completion and acceptance by the DND TA of the Factory Acceptance of the VMT</p> <p>On delivery and receipt by the DND TA of the 1st submission document:</p> <ul style="list-style-type: none"> • VMT Operating Instructions (CDRL-010/ILS-003) 	5%	
004B		<p>On completion and acceptance by the DND TA of the Factory Acceptance of the PTT</p> <p>On delivery and receipt by the DND TA of the 1st submission document:</p> <ul style="list-style-type: none"> • PTT Operating Instructions (CDRL-011/ILS-004) 	5%	
005		<p>On successful completion and acceptance by the DND TA of the On-site Acceptance of:</p> <ul style="list-style-type: none"> • VMT • Integrated Avionics Trainers • Power Generation and Distribution Trainers • Flight Control and Landing Gear Trainers 	10%	

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006	3 months after on-site acceptance	On delivery and acceptance by the DND TA of the final version documents: <ul style="list-style-type: none">• System Engineering Management Plan (CDRL-003)• VMT Operating Instructions (CDRL-010)• PTT Operating Instructions (CDRL-011)• Drawings and Maintenance Manuals (CDRL-012)• Software Documentation (CDRL- 013)	5%	
007		On delivery and acceptance by the DND TA of the training package for Instructors and Maintainers On provision of the on-site training to 50 instructors (CFSATE)	5%	
008		On delivery and acceptance by the DND TA of the Student Training Package	5%	
009		On satisfactory completion and acceptance by the DND TA and the PWGSC CA of all deliverables required by the Contract	10%	

DEPARTMENT OF NATIONAL DEFENCE (DND)



REQUISITION NO.

ANNEX A

STATEMENT OF WORK

FOR

CANADIAN ADVANCE SYNTHETIC ENVIRONMENT (CASE) PHASE 2

AIR TECHNICIAN APPRENTICE TRAINERS

Version Number: 1.00

Prepared by: DAEPM(TA&S) 4-4-4
National Defence Headquarters
Major General George R. Pearkes Building
Ottawa, Ontario
K1A 0K2

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Appendix 1 – VMT Technical and Performance Specifications

Appendix 2 – PTT Technical and Performance Specifications

Appendix 3 – CDRLS and DIDS

1.0 SCOPE

1.1 Purpose

1.1.1 The purpose of this Statement of Work (SOW) is to define the work required to deliver a Virtual Maintenance Trainer (VMT) and series of Part Task Trainers (PTT) to train aircraft maintenance technicians at the Canadian Forces School of Aerospace Technology and Engineering (CFSATE).

1.1.2 This SOW defines the work to be done by the Contractor to plan, design, develop, construct, integrate, test, and deliver the VMT and PTTs.

1.1.3 This SOW defines the material and data to be delivered by the Contractor to enable the maintenance, logistic support, and operation of the VMT and PTTs.

1.2 Objectives

1.2.1 To deliver a VMT and PTTs that will be used to teach and assess theory and maintenance of aircraft systems and to diagnose system malfunctions in a virtual environment.

1.2.2 The VMT is intended to a continuous learning experience that leads into Part Task Trainers to provide the student learner with continuity in core skills development and system theory re-enforcement. The VMT provides the student with the ability to perform system functional checks and to diagnose faults within aircraft systems in a simulated virtual environment. With this information in hand, the student would then move to the applicable PTTs to carry out system inspection, troubleshooting, component removal and installation and repair of this system.

1.3 Background

1.3.1 CFSATE is responsible for the technical training of apprentice aircraft technicians for the RCAF. Advances in technology and the evolution of aircraft maintenance practices in industry have led to increased obsolescence in the training aids used by CFSATE.

1.3.2 All foundational apprentice courses (Common Core, QL3 for Aviation Systems Technician (AVN), Avionics Systems Technician (AVS), Air Weapons Technician (AWS), and Aircraft Structures Technician (ACS)) provided by CFSATE for aircraft technicians require modernization to align with relevant Job Task Analysis Reports (JTAR).

1.4 List of Acronyms / Terminology

AC	Alternating Current
ACS	Aircraft Structures Technician
AP	Acceptance Plan
AVN	Aviation Systems Technician
AVS	Avionics Systems Technician
ATP	Acceptance Test Plan
AWS	Aircraft Weapons Technician
CDR	Critical Design Review
CFSATE	Canadian Forces School of Aerospace Technology and Engineering
CMP	Configuration Management Plan
DC	Direct Current
DND	Department of National Defence
FMS	Flight Management System
IAW	In Accordance With
ILS	Integrated Logistical Support
JTAR	Job Task Analysis Report
LRU	Line Replaceable Unit
MTP	Maintenance Training Plan
PM	Project Manager
PRM	Progress Review Meetings
PTT	Part Task Trainer
QA	Quality Assurance
RCAF	Royal Canadian Air Force
SE	Systems Engineering
SEMP	Systems Engineering Management Plan
SOR	Statement of Requirements
STP	Student Training Package
TA	Technical Authority
TDMP	Technical Data Management Plan
TIM	Technical Interchange Meetings
TP	Training Plan
VMT	Virtual Maintenance Trainer

2.0 APPLICABLE DOCUMENTS

2.1 General

2.1.1 The following documents are applicable to the extent that they are referenced in this SOW. Otherwise, referenced documents must be considered to be supplemental information.

2.1.2 In the event of a conflict between the text of this SOW and the references cited herein, this SOW must take precedence.

2.2 List of Applicable Documents

2.2.1 The following documents and standards are listed to help understand the SOW, and may be required to carry out the work:

2.2.2 Table 1.0: Applicable Documents

Document Number	Issuing Organisation	Document Name
D-10-001-001/SF-000	Department of National Defence	Reliability, Maintainability, Safety, and Technical Suitability of Military Training Equipment
D-02-006-008/SG-001	Department of National Defence	Design Change, Deviation and Waiver Procedure
C-01-100-100/AG-006	Department of National Defence	Writing, Format, and Production of Technical Documentation
C-01-100-100/AG-008	Department of National Defence	Writer's Guide for Technical Documentation
C-17-010-002/ME-000 through ME-010	Department of National Defence	Aircraft Electrical Wiring Interconnect System (EWIS)
ISO 90001:2008		Quality Management Systems Requirements
ISO 10005:2005		Quality Management Systems – Guidelines for Quality Plans
		SCORM Requirements for AFIIIE
		SCORM Users Guide for Programmers
		AFIIIE Metadata Application Profile
		3D Object Requirements for AFIIIE

3.0 PROJECT MANAGEMENT

3.1 General

3.1.1 The Contractor must provide all aspects of project management necessary for planning, designing, developing, constructing, integrating, testing, and delivering the VMT, as well as for providing the material, services, and data detailed in this SOW.

3.1.2 The Contractor must deliver the VMT in accordance with Appendix 1, the VMT Technical and Performance Specifications.

3.1.3 The Contractor must deliver the PTTs in accordance with Appendix 2, the PTT Technical and Performance Specifications.

3.1.4 The Contractor must deliver the data in accordance with Appendix 3, Contract Data Requirements List (CDRLs) and Data Item Descriptions (DIDs).

3.2 Project Schedule

3.2.1 The Contractor must submit and maintain a project schedule In Accordance With (IAW) CDRL-001/PM-001.

3.3 Progress Reports

3.3.1 The Contractor must submit progress reports IAW CDRL-002/PM-002.

3.3.2 Progress Reports must include minutes of all Project Review Meetings (PRMs) and Technical Interchange Meetings (TIMs) held during the reporting period.

3.4 Reviews and Meetings

3.4.1 The Contractor must conduct reviews and meetings identified in paragraphs 3.5 through 3.10 with the appropriate DND authorities as approved by the DND Technical Authority (TA).

3.4.2 All meeting will be chaired by the DND TA or designated personnel.

3.4.3 The Contractor must ensure that the required data, personnel, and facilities are available for each review.

3.4.4 The Contractor must submit an agenda to the DND TA for review at least five working days in advance of each meeting.

3.4.5 The Contractor must be responsible for taking and providing to the DND TA minutes from every review or meeting.

3.5 Kickoff Meeting

3.5.1 The Contractor must hold a Kick-off meeting with DND representatives within five weeks after contract award, at the Contractor's facility.

3.6 Project Review Meetings and Technical Interchange Meetings

3.6.1 The Contractor must hold Project Review Meetings (PRMs) monthly.

3.6.2 PRMs must encompass total project status as of the review date and must present a summary of project progress, known problems, proposed resolutions, and impact on the schedule.

3.6.3 Technical Interchange Meetings (TIMs) must deal strictly with technical requirements of the contract and must be scheduled at the DND TA's request.

3.6.4 The DND TA may cancel PRMs or TIMs by issuing written notice at least five working days prior to the meeting.

3.7 Preliminary Design Review

3.7.1 The Contractor must hold the Preliminary Design Review (PDR) meeting as per approved project schedule to review the VMT and PTT preliminary designs and to resolve any outstanding issues.

3.8 Critical Design Review

3.8.1 The Contractor must hold the Critical Design Review (CDR) meeting to ensure that the detailed design will meet DND requirements within the identified cost and schedule constraints, and is appropriate to proceed with full-scale assembly, and integration.

~~3.8.1~~ 3.8.2 The VMT and PTT designs must be frozen upon DND TA approval of the design solution presented at CDR.

3.9 Government Furnished Data Requests

3.9.1 Any Government Furnished Data requested by the Contractor, which is not specifically provided for in this contract, must be requested in writing to the DND TA.

4.0 SYSTEMS ENGINEERING

4.1 Systems Engineering Management

4.1.1 The Contractor must provide the system engineering required for installation and testing of the VMT and PTTs.

4.1.2 Contractor must prepare and submit a Systems Engineering Management Plan (SEMP) IAW CDRL-003/SE-001.

4.1.3 Contractor must conduct hardware and software requirements analysis, and must conduct design IAW the approved SEMP.

4.1.4 Contractor must implement, maintain, and use the approved SEMP in the performance of the work.

4.2 Implementation, Integration and Installation

4.2.1 The Contractor must implement the VMT and PTT design IAW the approved SEMP.

4.2.2 The Contractor must commence installation of the VMT and PTTs at CFSATE in Borden upon written approval from DND TA, following execution of the Acceptance Test Procedures.

4.3 Acceptance Plan (AP)

4.3.1 The Contractor must submit an Acceptance Plan (AP) IAW CDRL-004/SE-002.

4.3.2 Execution of the AP at CFB Borden must be co-ordinated with DND IAW the approved project schedule.

4.4 Testing

4.4.1 The Contractor must prepare and submit Acceptance Test Procedures (ATPs) in IAW CDRL-005/SE-003.

4.4.2 ATPs are part of the AP.

4.4.3 As per approved AP, execution of the ATPs must verify the serviceability, configuration and functionality of the VMT and PTTs before delivery.

4.4.4 Approved ATPs must be re-submitted after each testing phase to include the test results.

4.4.5 Upon delivery, DND will verify by execution of the ATPs, as per approved AP, that the VMT and PTTs meet the specified system performance and technical requirements, specified in Appendix 1 and 2.

4.5 Configuration Management

4.5.1 The Contractor must prepare and submit a Configuration Management Plan (CMP) IAW CDRL-006/SE-004.

4.5.2 The Contractor must implement, maintain, and use the approved CMP for configuration management.

4.5.3 Prior to installation, the Contractor must certify the configuration and serviceability of the VMT and PTTs, in the presence of the DND, through the execution of ATPs.

4.5.4 The project schedule must establish a Design Baseline Control Date upon DND approval of the Design Baseline Report.

4.5.5 Following the Design Baseline Control Date, discrepancies between the approved design baseline and the delivered product must be submitted by the Contractor for DND TA approval as a request for Design Change, Deviation or Waiver IAW CDRL 007/SE-005.

5.0 INTEGRATED LOGISTICS SUPPORT

5.1 Training Plan for Instructors and Maintainers

5.1.1 The Contractor must submit a Training Plan (TP) for DND approval IAW CDRL-008/ILS-001.

5.1.2 The Contractor must deliver the entire training package, including course materials, documentation and training syllabus, as specified in the approved TP.

5.1.3 The Contractor must submit the course material for use on the Defence Learning Network (DLN) according to SCORM requirements specified on the DLN.

5.1.4 The Contractor must design the training to enable DND personnel to:

5.1.4.1 Use devices to instruct apprentices;

5.1.4.2 Develop and edit Lesson Plans without assistance; and,

5.1.4.3 VMT and PTT maintainers to diagnose and correct faults at the first level of maintenance.

5.1.5 The Contractor must provide on-site training (in Borden) to 50 instructors IAW the approved TP and project schedule.

5.2 Student Training Package

5.2.1 The VMT and each PTT must have an accompanying Student Training Package (STP). The STP will include the maintenance procedures included in the VMT and PTTs and act as an aid to the instructor for the development of specialized lessons.

5.2.1.2 The Student Training Package must meet these requirements by including the following as a minimum:

5.2.1.1 at least five (5) typical faults per system in the PTT;

5.2.1.2 descriptions of each fault, how to trigger, what the effects are and what the resolving solution is; and,

5.2.1.3 technical manuals for the maintenance procedures to be performed by the student in the simulated VMT or PTT environment including general description of the system and components, system diagram, removal and installation instructions (including functional), trouble shooting model, schematic/block diagram and wiring diagrams. Manuals may be formatted IAW C-01-100-100/AG-006.

5.3 Quality Management

5.3.1 In the performance of the work described herein, the Contractor must comply with the requirements of ISO 9001:2008, "Quality Management Systems Requirements".

5.3.2 The Contractor must submit a Quality Assurance (QA) Plan IAW CDRL-009/ILS-002.

5.3.3 The QA Plan must describe how the Contractor will meet the quality assurance requirements for the planning, design, development, construction, integration, testing, and delivery of the VMT.

5.4 Documentation, Drawings and Publications

5.4.1 The Contractor must deliver:

5.4.1.1 VMT Operating Instructions IAW CDRL-010/ILS-003;

5.4.1.2 PTT Operating Instructions IAW CDRL-011/ILS-004;

5.4.1.3 Drawings and Maintenance Manuals IAW CDRL-012/ILS-005; and

5.4.1.4 Software Documentation IAW CDRL-013/ILS-006.

5.4.2 Following unconditional acceptance of the device, Operating Instructions, Drawings and Software Documentation must be validated and certified as complete by the Contractor, and final copies must be submitted to DND TA for acceptance.

5.5 Acceptance of Integrated Logistics Support Deliverables

5.5.1 Following conditional product acceptance, all Integrated Logistics Support (ILS) deliverables must be validated and certified as complete by the Contractor, and final copies must be submitted to DND for acceptance.

5.5.2 The Contractor must correct within 30 working days of DND notification any deficiencies, discrepancies or anomalies found during the 12 months following delivery to DND of the approved final copy.

6.0 DELIVERABLES

6.1 Virtual Maintenance Trainer

6.1.1 The Contractor must deliver the VMT in accordance with the technical requirements found in Appendix 1 to this SOW.

6.2 Part Task Trainers

6.2.1 The Contractor must deliver the following PTTs IAW the technical requirements found in Appendix 2 to this SOW:

6.2.1.1 Quantity 6 of integrated avionics trainers;

6.2.1.2 Quantity 3 of power generation and distribution trainers;

6.2.1.3 Quantity 8 of flight control and landing gear trainers; and,

6.3 Student Training Package

6.3.1 The Contractor must deliver the Student Training Package in accordance with para 5.2 of this SOW.

DEPARTMENT OF NATIONAL DEFENCE (DND)



APPENDIX 1: VMT TECHNICAL REQUIREMENTS

**TO ANNEX A: STATEMENT OF WORK FOR CANADIAN ADVANCED SYNTHETIC ENVIRONMENT
(CASE) PHASE 2
AIR TECHNICIAN APPRENTICE TRAINERS**

Version Number: 1.00

Prepared by: DAEPM(TA&S) 4-4-4
National Defence Headquarters
Major General George R. Pearkes Building
Ottawa, Ontario
K1A 0K2

1.0 TECHNICAL AND PERFORMANCE SPECIFICATIONS

1.1 VMT Performance Requirements

1.1.1 The VMTs must facilitate the learning of the following core skills:

- 1.1.1.1 system inspection;
- 1.1.1.2 component removal/installation;
- 1.1.1.3 functional checks;
- 1.1.1.4 troubleshooting; and,
- 1.1.1.5 system repair.

1.2 VMT Hardware Requirements

1.2.1 The Contractor must provide the hardware to equip seven classrooms for instruction. A classroom includes:

- 1.2.1.1 an instructor terminal;
- 1.2.1.2 workstations for eight students; and
- 1.2.1.3 a large display for demonstration.

1.2.2 The workstations must provide the students the screen space to view the following concurrently:

- 1.2.2.1 the virtual model of the system;
- 1.2.2.2 an interactive diagram of the system showing system functionality; and,
- 1.2.2.3 the technical documents for the system.

1.2.3 The hardware configuration must be designed to meet the software requirements of the VMT software for performance.

1.2.4 The VMT hardware must be networked to allow instructor control of the workstations as well as independent usage by the students.

1.2.5 The Contractor must provide spares to support the VMT hardware for the first two years.

1.2.6 The VMT hardware must fit in existing facilities at CFSATE.

1.3 VMT Software Requirements

1.3.1 The VMT must support apprentice learning objectives through interactive simulation.

1.3.2 The VMTs must provide concurrent asynchronous learning opportunities between workstations.

1.3.3 The VMT must include automatic exercises and assignments for students that do not require instructor involvement and provide supplementary background knowledge and theory for the student.

1.3.4 The VMT must provide a free-play mode of all included systems.

1.3.5 The VMT must provide the instructor the ability to monitor students' screens from the instructor's terminal.

1.3.6 The VMT must provide the instructor the ability using the instructor terminal to insert faults of varying degrees of difficulty, involving all integrated systems and cockpit indicating systems to which the students will detect and diagnose system malfunctions utilizing supporting technical documentation and instructor assistance.

1.3.7 The VMT must include modern electronic technical manuals that include, as a minimum, general description of system and components thereof, system diagrams, removal and installation instructions, functional check procedures, trouble shooting models, and schematic, block and wiring diagrams.

1.3.8 The VMT must model a multi-engine fixed wing aircraft.

1.3.9 The VMT must represent an aircraft type which will provide the maximum learning objectives of benefit to students. This must include the following systems:

1.3.9.1 modern integrated avionics typically found in RCAF aircraft (excluding classified systems) to include as a minimum: Flight Management System (FMS), Attitude Heading Reference System (AHRS), Global Positioning System (GPS), Radio navigation and inertial navigation, Terrain Collision Avoidance System (TCAS), Air data systems and Automatic Flight Control Systems (AFCS), including control display unit selection and information presentation on Electronic Flight Instrument System (EFIS) multi-function display(s);

1.3.9.2 cockpit selection and indications related to engine and airframe systems for fuel, engine parameter indication, caution and warning indication, and environmental control indication; and,

1.3.9.3 power generation and distribution management.

1.3.10 The VMT models must react realistically to inputs from students and instructors.

1.3.11 The VMT must include a tracking system for recording students learning progress, errors made, and scenario usage.

DEPARTMENT OF NATIONAL DEFENCE (DND)



APPENDIX 2: PART TASK TRAINER (PTT) TECHNICAL REQUIREMENTS

**TO ANNEX B: STATEMENT OF WORK FOR CANADIAN ADVANCED SYNTHETIC ENVIRONMENT
(CASE) PHASE 2
AIR TECHNICIAN APPRENTICE TRAINERS**

Version Number: 1.00

Prepared by: DAEPM(TA&S) 4-4-4
National Defence Headquarters
Major General George R. Pearkes Building
Ottawa, Ontario
K1A 0K2

1.0 TECHNICAL AND PERFORMANCE SPECIFICATIONS

1.1 Part Task Trainer (PTT) Performance Requirements

1.1.1 The PTTs must facilitate the learning of the following core skills:

- 1.1.1.1 system inspection;
- 1.1.1.2 component removal/installation;
- 1.1.1.3 functional checks;
- 1.1.1.4 system diagnosis;
- 1.1.1.5 troubleshooting; and,
- 1.1.1.6 system repair.

1.2 PTT Technical Requirements

1.2.1 The PTTs must include the following mandatory requirements:

1.2.1.1 Integrated Avionics Trainers:

1.2.1.1.1 must replicate typical systems found on Royal Canadian Air Force (RCAF) aircraft of post-2000 technology having a central maintenance system, real aircraft system Line Replaceable Units (LRUs) and interconnecting wiring for systems;

1.2.1.1.2 must include the following systems as a minimum: Aircraft Flight Control System (AFCS) with Flight Director and Auto-Pilot system, Air Data System (ADS) with pitot heads and static ports, Traffic alert Collision Avoidance System (TCAS), Flight Management System (FMS) with Control Display Unit (CDU), Electronic Flight Instrument System (EFIS) with multi-function displays, Altitude and Heading Reference System (AHRS) with Global Positioning System (GPS), inertial navigation unit or radio navigation system;

1.2.1.1.3 Must integrate realistic aircraft wiring and routing with the inclusion of data buses;

1.2.1.1.4 must have wire labelling and routing consistent with RCAF aircraft electrical wiring policy IAW C-17-010-002/ME-001;

1.2.1.1.5 must include integrated components with fault insertion capabilities for physical removal and installation of components (1st line replaceable components such as switches, breakers and terminal block pins);

1.2.1.1.6 must allow the instructor to insert faults of varying complexity, covering all included systems, with indications of wiring snags;

1.2.1.1.7 must have integrated Built in Test Equipment (BITE) including but not limited to, ARINC Communication and Addressing and Reporting System, Electric Centralised Aircraft Monitoring System, and Engine Indication and Crew Alerting Systems; and,

1.2.1.1.8 must facilitate the use of common test equipment used by AVS technicians in a first line environment including: pitot static test set, digital multi meter, time domain reflectometer, navigation and communications flight line tester, Load (flash) CDU and/or FMS program version, and IFF test set.

1.2.1.2 Power Generation and Distribution Trainers:

1.2.1.2.1 must emulate a multi-generator aircraft system of post-2000 technology with load sharing, alternating current (AC) and direct current (DC) conditioning and multi AC bus distribution;

1.2.1.2.2 must include transformer rectifier units and generator control units for AC conditioning;

1.2.1.2.3 must include an inverter for DC conditioning;

1.2.1.2.4 must have an electronic indicating system; and,

1.2.1.2.5 must allow the instructor to insert faults of varying complexity including but not limited to indication of wiring snags, generator malfunction/failure, transformer rectifier unit failure, battery failure , bus fault/failure and circuit breaker faults.

1.2.1.3 Flight Control Trainers:

1.2.1.2.6 1.2.1.3.1 must support a range of hands-on maintenance activities related to aircraft primary and secondary flight controls;

1.2.1.2.7 1.2.1.3.2 must emulate system operation including manual, hydraulic, electrical and fly-by-wire;

~~1.2.1.2.8~~1.2.1.3.3 must have integrated mechanical, hydraulic and electrical systems typical to aircraft flight control systems;

~~1.2.1.2.9~~1.2.1.3.4 must include applicable cockpit status indicators and levers;

~~1.2.1.2.10~~1.2.1.3.5 must have representative mechanical systems for pitch, roll and yaw controls;

~~1.2.1.2.11~~1.2.1.3.6 must have representative electrical systems for pitch, roll and yaw controls;

~~1.2.1.2.12~~1.2.1.3.7 must have representative hydraulic systems for pitch, roll and yaw controls;

~~1.2.1.2.13~~1.2.1.3.8 hydraulic systems must emulate at a minimum, hydraulic fluids, hydraulic reservoirs and accumulators, pressure generation systems and pressure control, and related indication and warning systems;

~~1.2.1.2.14~~1.2.1.3.9 must enable the user to remove, repair, install and confirm functionality representative of components related to the mechanical, electrical and hydraulic systems;

~~1.2.1.2.15~~1.2.1.3.10 must monitor each connection of the hydraulic and electrical system and the system must emulate the effect of a correct or incorrect connection disconnection of components;

~~1.2.1.2.16~~1.2.1.3.11 must allow the instructor to input realistic faults into the hydraulic, electrical and mechanical systems in real time;

— must include a capacitance type fuel quantity indicating system and allow students to inspect, calibrate, remove and install fuel indicating probes and compensators ;

~~1.2.1.2.17~~1.2.1.3.12

~~1.2.1.2.18~~1.2.1.3.13 must function with common AMSE equipment including hydraulic test stand, HSE-110, electric hydraulic fluid and oil unit, and hydraulic fill and bleed cart.

~~1.2.1.3~~1.2.1.4 Landing Gear Trainers:

~~1.2.1.3.1~~1.2.1.4.1 must support a range of hands-on maintenance activities related to aircraft landing gear systems, including main landing gear, braking systems and steering system;

~~1.2.1.3.2~~1.2.1.4.2 must emulate system operation including manual, hydraulic, and electrical;

~~1.2.1.3.3~~1.2.1.4.3 must have representative mechanical systems for main landing gear, steering system and brakes;

~~1.2.1.3.4~~1.2.1.4.4 must have representative electrical systems for main landing gear, steering system and brakes;

~~1.2.1.3.5~~1.2.1.4.5 must have representative hydraulic systems for main landing gear, steering system and brakes;

~~1.2.1.3.6~~1.2.1.4.6 must emulate extension and retraction systems for main landing gear;

~~1.2.1.3.7~~1.2.1.4.7 must enable the user to remove, repair, install and conduct functional checks on typical landing gear/wheel assembly electrical, mechanical and hydraulic components including brakes and nose wheel steering;

~~1.2.1.3.8~~1.2.1.4.8 must monitor each connection of the hydraulic and electrical system and the system must emulate the effect of a correct or incorrect connection disconnection of components;

~~1.2.1.3.9~~1.2.1.4.9 must allow the instructor to input realistic faults into the hydraulic, electrical and mechanical systems in real time; and,

~~1.2.1.3.10~~1.2.1.4.10 must function with common AMSE equipment including hydraulic test stand, HSE-110, electric hydraulic fluid and oil unit, and hydraulic fill and bleed cart.

~~1.2.1.4~~1.2.1.5 The Contractor must provide initial spares to support the PTTs for the first two years of operation.

~~1.2.1.5~~1.2.1.6 The PTTs must fit within existing facilities at CFSATE.

DEPARTMENT OF NATIONAL DEFENCE (DND)



APPENDIX 3: CDRLs and DIDs

**TO ANNEX A: STATEMENT OF WORK FOR CANADIAN ADVANCED SYNTHETIC
ENVIRONMENT (CASE) PHASE 2
AIR TECHNICIAN APPRENTICE TRAINERS**

Version Number: 1.00

Prepared by: DAEPM(TA&S) 4-4-4
National Defence Headquarters
Major General George R. Pearkes Building
Ottawa, Ontario
K1A 0K2

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1.0 CONTRACT DATA REQUIREMENTS LIST (CDRLS)

1.1 CDRL Template

1.1.1 A description of each block of information used in the CDRL template follows:

1.1.1.1 Block 1 – CDRL Item Number

The CDRL Item Number is a sequential three-digit number commencing with 001 to uniquely identify the individual Data Item (DI).

1.1.1.2 Block 2 – Title

The title of the DI.

1.1.1.3 Block 3 – Subtitle

Not used.

1.1.1.4 Block 4 – Data Item Number

If applicable, the Data Item Description (DID) number associated with the CDRL item.

1.1.1.5 Block 5 – SOW Reference

The Statement of Work (SOW) paragraph that references the CDRL.

1.1.1.6 Block 6 – Technical Office

Not used.

1.1.1.7 Block 7 - Inspection

Not Used.

1.1.1.8 Block 8 – Approval Code

An “A” in Block 8 means that draft approval is required before submission of the final document. If advance approval is not needed, Block 8 is left blank.

An “R” in Block 8 means that the DI will be reviewed by Canada for acceptability of format, clarity and completeness. Once accepted, the DI must be considered for information only; and

An “I” in Block 8 means that the DI is for information only.

1.1.1.9 Block 9 – Review Period

Denotes the number of working days that are required for the TA to approve or review the DI.

1.1.1.10 Block 10 - Frequency

Indicates the submission frequency of the DI. A description of the submission codes used in Block 10 follows:

CODE	DESCRIPTION
ASREQ	As and when required
MACA	Months after contract award
MNTHY	Monthly
ONCE	One-time delivery
R/ASR	Revisions as required

1.1.1.11 Block 11 – As of Date

Not used.

1.1.1.12 Block 12 – 1st Submission

Specifies the date on which the DI must be submitted. See Block 10 for submission codes.

1.1.1.13 Block 13 – Subsequent Submission

Specifies the required submittal date(s) for any subsequent deliveries if the DI is submitted more than once.

1.1.1.14 Block 14 – Distribution and Addressees

Not used.

1.1.1.15 Block 15 – Media and Quantity

The media and, in the case of hard copy, the number of copies in which the data item is to be delivered. The following codes may be used:

- i. Hard Copy;
- ii. Email;
- iii. CD: electronic media stored on CD ROM.

1.1.1.16 Block 16 - Remarks

Provides additional or clarifying information. Where other blocks refer to Block 16 – Remarks, then the associated block number is indicated with the information, and a “See Block 16” note is entered in the referring block.

1.2 CDRL-001 Project Schedule

Block 1 – CDRL Item Number CDRL-001	Block 2 – Title Project Schedule	Block 3 – Subtitle	Block 4 – Data Item Number PM-001	
Block 5 – SOW Reference 3.2.1	Block 6 – Technical Office	Block 7 - Inspection	Block 8 – Approval Code A	Block 9 – Review Period 10
Block 10 – Frequency Block 16	Block 11 – As Of Date	Block 12 – First Submission Block 16		Block 13 – Subsequent Submission
Block 14 – Distribution and Addressees		Block 15 – Media and Quantity An electronic copy of the Project Schedule must be included with Contractor's Proposal, either on CD/DVD or via an electronic transfer medium deemed acceptable by the TA. The Project Schedule must be in Microsoft Project. No paper copy is required for the schedule.		
Block 16 – Remarks Frequency First Submission & Subsequent Submissions – Project Schedule must be submitted within 1 MACA.				

1.3 CDRL-002 Progress Reports

Block 1 – CDRL Item Number CDRL-002	Block 2 – Title Progress Reports	Block 3 – Subtitle	Block 4 – Data Item Number PM-002	
Block 5 – SOW Reference 3.3.1	Block 6 – Technical Office	Block 7 - Inspection	Block 8 – Approval Code R	Block 9 – Review Period 5
Block 10 – Frequency Block 16	Block 11 – As Of Date	Block 12 – First Submission Block 16		Block 13 – Subsequent Submission Block 16
Block 14 – Distribution and Addressees		Block 15 – Media and Quantity Email or any other electronic transfer media acceptable to TA. Progress Reports must be provided in a file type acceptable to the TA. No paper copy is required for the progress reports.		
Block 16 – Remarks Frequency First Submission & Subsequent Submissions – Progress Reports must be submitted 5 working days before each PRM, which must occur IAW approved schedule and whenever the Contractor and the TA agree to meet to solve specific issues.				

1.4 CDRL-003 System Engineering Management Plan

Block 1 – CDRL Item Number CDRL-003	Block 2 – Title System Engineering Management Plan (SEMP)	Block 3 – Subtitle	Block 4 – Data Item Number SE-001	
Block 5 – SOW Reference 4.1.2	Block 6 – Technical Office	Block 7 – Inspection	Block 8 – Approval Code A	Block 9 – Review Period 30
Block 10 – Frequency R/ASR	Block 11 – As Of Date	Block 12 – First Submission Block 16	Block 13 – Subsequent Submission Block 16	
Block 14 – Distribution and Addressees		Block 15 – Media and Quantity An electronic Copy must be included with Contractor's Proposal, either on CD/DVD or via an electronic transfer medium deemed acceptable by the TA. The SEMP must be submitted in Microsoft Word format to the TA. No paper copy is required for the SEMP.		
Block 16 – Remarks First Submission: Draft SEMP must be submitted with the Contractor's Proposal Subsequent Submission: As per Approved Schedule				

1.5 CDRL-004 Acceptance Plan

Block 1 – CDRL Item Number CDRL-004	Block 2 – Title Acceptance Plan (AP)	Block 3 – Subtitle	Block 4 – Data Item Number SE-002
Block 5 – SOW Reference 4.3.1	Block 6 – Technical Office	Block 7 – Inspection	Block 8 – Approval Code A
Block 10 – Frequency R/ASR	Block 11 – As Of Date	Block 12 – First Submission Block 16	Block 13 – Subsequent Submission Block 16
Block 14 – Distribution and Addressees		Block 15 – Media and Quantity An electronic copy must be included with Contractor's Proposal, either on CD/DVD or via an electronic transfer medium deemed acceptable by the TA. The AP must be submitted in MS Word format to the TA. No paper copy is required for the AP.	
Block 16 – Remarks First Submission: Draft AP must be submitted with the Contractor's proposal Subsequent Submission: IAW the approved schedule, the AP must be re-submitted after on-site testing, to reflect any changes in the plan arising from testing, as required, and to summarize and analyze test results.			

1.6 CDRL-005 Acceptance Test Procedures

Block 1 – CDRL Item Number CDRL-005	Block 2 – Title Acceptance Test Procedures (ATP)	Block 3 – Subtitle	Block 4 – Data Item Number SE-003
Block 5 – SOW Reference 4.4.1	Block 6 – Technical Office	Block 7 – Inspection	Block 8 – Approval Code A
Block 10 – Frequency R/ASR	Block 11 – As Of Date	Block 12 – First Submission Block 16	Block 9 – Review Period Block 16
Block 14 – Distribution and Addressees		Block 15 – Media and Quantity The Contractor must update existing documentation in their original quantity and format, i.e. Electronic and/or hard copy format, as applicable. Any new ATP delivered must include an electronic copy using any file type acceptable to the TA and one hardcopy. Electronic File transfer may occur via disk in the mail, email or any other electronic transfer means acceptable to the TA.	
Block 16 – Remarks First Submission, Subsequent Submission & Review Period – The initial delivery must be scheduled to allow 30 days for DND review and comment after which the subsequent version must be delivered no later than 30 days before commencement of on-site acceptance testing. The verification matrix must be delivered at least 30 days prior to initial delivery of the ATP. Following the completion of the post-installation test phase, ATPs must be re-submitted with the test results included, IAW the approved schedule.			

1.7 CDRL-006 Configuration Management Plan

Block 1 – CDRL Item Number CDRL-006	Block 2 – Title Configuration Management Plan (CMP)	Block 3 – Subtitle	Block 4 – Data Item Number SE-004	
Block 5 – SOW Reference 4.5.1	Block 6 – Technical Office	Block 7 – Inspection	Block 8 – Approval Code A	Block 9 – Review Period 30
Block 10 – Frequency R/ASR	Block 11 – As Of Date	Block 12 – First Submission Block 16	Block 13 – Subsequent Submission Block 16	
Block 14 – Distribution and Addressees		Block 15 – Media and Quantity An electronic Copy must be included with Contractor's Proposal, either on CD/DVD or via an electronic transfer medium deemed acceptable by the TA. The CMP must be submitted in MS Word format to the TA. No paper copy is required for the CMP.		
Block 16 – Remarks First Submission: Draft CMP must be submitted with the Contractor's proposal Subsequent Submission: As per approved schedule				

1.8 CDRL-007 Design Change, Deviations, and Waivers

Block 1 – CDRL Item Number CDRL-007	Block 2 – Title Design Changes, Deviations and Waivers	Block 3 – Subtitle	Block 4 – Data Item Number SE-005	
Block 5 – SOW Reference 4.5.5	Block 6 – Technical Office	Block 7 – Inspection	Block 8 – Approval Code A	Block 9 – Review Period 30
Block 10 – Frequency ASREQ	Block 11 – As Of Date	Block 12 – First Submission ASREQ	Block 13 – Subsequent Submission ASREQ	
Block 14 – Distribution and Addressees		Block 15 – Media and Quantity An electronic Copy must be delivered either on CD/DVD or via an electronic transfer medium deemed acceptable by the TA. The requests must use any file type acceptable to the TA. No paper copy is required for these requests.		
Block 16 – Remarks				

1.9 CDRL-008 Training Plan

Block 1 – CDRL Item Number CDRL-008	Block 2 – Title Training Plan (TP)	Block 3 – Subtitle	Block 4 – Data Item Number ILS-001	
Block 5 – SOW Reference 5.1.1	Block 6 – Technical Office	Block 7 – Inspection	Block 8 – Approval Code A	Block 9 – Review Period 30
Block 10 – Frequency R/ASR	Block 11 – As Of Date	Block 12 – First Submission Block 16	Block 13 – Subsequent Submission Block 16	
Block 14 – Distribution and Addressees		Block 15 – Media and Quantity Hardcopy and electronic Copy, either on CD/DVD or flash drive, must be included with Contractor's Proposal. File type used must be MS Word. No paper copy is required for subsequent submission(s) of the TP.		
Block 16 – Remarks First Submission- A draft must be submitted with the Contractor's proposal. Draft submission need only be concerned with planning/process issues. Subsequent Submission- The final delivery must be IAW the approved schedule. 30 days must be allowed for DND review and comment.				

1.10 CDRL-009 Quality Assurance Plan

Block 1 – CDRL Item Number CDRL-009	Block 2 – Title Quality Assurance (QA) Plan	Block 3 – Subtitle	Block 4 – Data Item Number ILS-002	
Block 5 – SOW Reference 5.2.2	Block 6 – Technical Office	Block 7 – Inspection	Block 8 – Approval Code A	Block 9 – Review Period 30
Block 10 – Frequency Once	Block 11 – As Of Date	Block 12 – First Submission Block 16	Block 13 – Subsequent Submission Block 16	
Block 14 – Distribution and Addressees		Block 15 – Media and Quantity Hardcopy and an electronic copy, either on CD/DVD or flash drive, must be included with Contractor's Proposal. File type used must be MS Word. No paper copy is required for the final copy of the QA Plan.		
Block 16 – Remarks First & Subsequent Submission: A draft QA Plan must be submitted with the Contractor's proposal. Following DND review and comment, the final must be submitted for DND approval by 1 MACA.				

1.11 CDRL-010 VMT Operating Instructions

Block 1 – CDRL Item Number CDRL-010	Block 2 – Title VMT Operating Instructions	Block 3 – Subtitle	Block 4 – Data Item Number ILS-003	
Block 5 – SOW Reference 5.3.1.1	Block 6 – Technical Office	Block 7 – Inspection	Block 8 – Approval Code A	Block 9 – Review Period 30
Block 10 – Frequency Once	Block 11 – As Of Date	Block 12 – First Submission Block 16	Block 13 – Subsequent Submission Block 16	
Block 14 – Distribution and Addressees		Block 15 – Media and Quantity A total of two hard copies must be provided by the contractor. The hard copy submissions must be in the form of a printed amendments package. DND will then remove superseded pages from the existing publications and insert the amendments. An electronic Copy must be delivered either on CD/DVD or via an electronic transfer medium deemed acceptable by the TA. The Operating Instructions must use any file type acceptable to the TA.		
Block 16 – Remarks First Submission: Draft: 30 working days prior to on-site acceptance testing. Subsequent Submission: Final must be delivered no more than 3 calendar months after completion of on-site acceptance testing				

1.12 CDRL-011 PTT Operating Instructions

Block 1 – CDRL Item Number CDRL-011	Block 2 – Title PTT Operating Instructions	Block 3 – Subtitle	Block 4 – Data Item Number ILS-004	
Block 5 – SOW Reference 5.3.1.2	Block 6 – Technical Office	Block 7 – Inspection	Block 8 – Approval Code A	Block 9 – Review Period 30
Block 10 – Frequency Once	Block 11 – As Of Date	Block 12 – First Submission Block 16	Block 13 – Subsequent Submission Block 16	
Block 14 – Distribution and Addressees		Block 15 – Media and Quantity A total of two hard copies must be provided by the contractor. The hard copy submissions must be in the form of a printed amendments package. DND will then remove superseded pages from the existing publications and insert the amendments. An electronic Copy must be delivered either on CD/DVD or via an electronic transfer medium deemed acceptable by the TA. The Operating Instructions must use any file type acceptable to the TA.		
Block 16 – Remarks First Submission: Draft: 30 working days prior to on-site acceptance testing. Subsequent Submission: Final must be delivered no more than 3 calendar months after completion of on-site acceptance testing				

1.13 CDRL-012 Drawings and Maintenance Manuals

Block 1 – CDRL Item Number CDRL-012	Block 2 – Title Drawings and Maintenance Manuals	Block 3 – Subtitle	Block 4 – Data Item Number ILS-005
Block 5 – SOW Reference 5.3.1.3	Block 6 – Technical Office	Block 7 – Inspection	Block 8 – Approval Code A
Block 10 – Frequency Once	Block 11 – As Of Date	Block 12 – First Submission Block 16	Block 13 – Subsequent Submission 195B195BBlock 16
Block 14 – Distribution and Addressees		Block 15 – Media and Quantity A total of two hard copies must be provided by the contractor. The hard copy submissions must be in the form of a printed amendments package. DND will then remove superseded pages from the existing publications and insert the amendments. An electronic Copy must be delivered either on CD/DVD or via an electronic transfer medium deemed acceptable by the TA. The Operating Instructions must use any file type acceptable to the TA.	
Block 16 – Remarks First Submission: Drafts must be scheduled to allow DND 30 days to review and comment and sufficient time thereafter for the Contractor to take corrective action prior to on-site acceptance testing. Subsequent Submission: Final: no more than 3 calendar months after completion of on-site acceptance testing 1. The Drawing Package hardcopies Qty (2) must be delivered as Size “D” IAW ANSI Standard US Engineering Drawing Sizes (width 22.0 inches) x(Length 34.0 inches). It is desired of these drawings be delivered as follows: a. 1 set to the TA at DGAEPM (TA&S) 4-4 & b. 1 set delivered to CFSATE			

1.14 CDRL-013 Software Documentation

Block 1 – CDRL Item Number CDRL-013	Block 2 – Title Software Documentation	Block 3 – Subtitle	Block 4 – Data Item Number SE-006	
Block 5 – SOW Reference 5.3.1.4	Block 6 – Technical Office	Block 7 – Inspection	Block 8 – Approval Code R	Block 9 – Review Period 30
Block 10 – Frequency Block 16	Block 11 – As Of Date	Block 12 – First Submission Block 16	Block 13 – Subsequent Submission Block 16	
Block 14 – Distribution and Addressees		Block 15 – Media and Quantity The Contractor must update existing documentation in their original format, i.e. Electronic and/or hard copy format, as applicable. All new documentation must be in electronic copy only, using a file type acceptable to the TA. File transfer may occur via disk in the mail, email or any other electronic transfer means acceptable to the TA.		
Block 16 – Remarks Frequency, First & Subsequent Submission- Drafts must be scheduled to allow DND 30 days to review and comment and sufficient time thereafter for the Contractor to take corrective action prior to on-site acceptance testing. Finals must then be delivered within three months after on-site acceptance.				

2.0 DAPM ITEM DESCRIPTIONS (DID)

2.1 DID Template

2.1.1 A description of each block of information used in the DID template follows:

2.1.1.1 Block 1 – Title

This is the title of the DID and corresponds to the associated CDRL item title.

2.1.1.2 Block 2 – Identification Number

This is the number assigned to the DID.

2.1.1.3 Block 3 – Description/Purpose

This provides general information on how the Data Item (DI) is to be used.

2.1.1.4 Block 4 – Approval Date

Not used.

2.1.1.5 Block 5 – Office of Primary Interest

Not used.

2.1.1.6 Block 6 – Office of Collateral Interest

Not used.

2.1.1.7 Block 7 – Interrelationship

The Statement of Work paragraph that references the DID.

2.1.1.8 Block 8 – Originator

Not used.

2.1.1.9 Block 9 – References

This points to the standard(s) to be used for completion of DI.

2.1.1.10 Block 10 – Preparation Instructions

This provides the preparation details for the format and for the content in the DID.

2.2 PM-001 Project Schedule

DAPM ITEM DESCRIPTION (DID)		DND Form 1409	
1. TITLE Project Schedule		2. IDENTIFICATION NUMBER CDRL-001/PM-001	
3. DESCRIPTION/PURPOSE The schedule must include all project activities and must identify the major activities and milestones. The Project Schedule must reflect the time-phased sequence of the Contractor activities, deliverables and milestones for the Contractor's work on the VMT project. The Project Schedule must be used to depict the schedule status of the overall project.			
4. APPROVAL DATE	5. OFFICE OF PRIMARY INTEREST)	6. OFFICE OF COLLATERAL INTEREST	
7. INTERRELATIONSHIP 3.2.1			
8. ORIGINATOR		9. REFERENCES	
10. PREPARATION INSTRUCTIONS 10.1 The Project Schedule must include the Contractor's major and significant events, deliverables, milestones and summary activities. The information on the Project Schedule must be in sufficient detail to monitor the progress of the work, and to facilitate the coordination of Government Property and resources being provided by Canada. The Project Schedule must include: 10.1.1 a tracking Gantt chart showing the contract work elements; 10.1.2 major contract milestones; 10.1.3 all meetings; 10.1.4 production start, completion and dates for each deliverable; 10.1.5 on-site Acceptance Test dates; and 10.1.6 update submissions must be in the form of a re-issuance of the complete Project Schedule. The Project Schedule status reporting requirements must include progress indications and planned or actual schedule slippage/accelerations of the current schedule must be clearly shown in relation to the baseline schedule.			

2.3 PM-002 Progress Report

DAPM ITEM DESCRIPTION (DID)		DND Form 1409
1. TITLE Progress Report		2. IDENTIFICATION NUMBER CDRL-002/PM-002
3. DESCRIPTION/PURPOSE The Progress Report summarizes the Contractor's progress in relation to the Contract.		
4. APPROVAL DATE	5. OFFICE OF PRIMARY INTEREST	6. OFFICE OF COLLATERAL INTEREST
7. INTERRELATIONSHIP 3.3.1		
8. ORIGINATOR		9. REFERENCES
10. PREPARATION INSTRUCTIONS 10.1 The Progress Report must be submitted in Contractor format. The Progress Report must include the following information: 10.1.1 an update on risks and issues containing, as a minimum: description of issues and associated risks, their impact, their likelihood, proposed mitigation and response action; 10.1.2 a narrative detailing design changes, progress against milestones, expected date of completion of near milestones, problem areas, and work-around plans where required; 10.1.3 significant incidents including, as a minimum, significant technical, supply or quality problems, anticipation of a significant schedule slippage involving the work; 10.1.4 production status against each deliverable and the timing of significant stages of production, testing, and delivery; 10.1.5 all minutes of all meetings, in Contractor format, within the reporting period; and 10.1.6 outstanding action items.		

2.4 SE-001 System Engineering Management Plan

DAPM ITEM DESCRIPTION (DID)		DND Form 1409
1. TITLE Systems Engineering Management Plan (SEMP)		2. IDENTIFICATION NUMBER CDRL-003/SE-001
3. DESCRIPTION The SEMP describes the engineering processes, methods and designs used by the contractor to ensure system integration and product performance. The SEMP describes the Contractor's Plan for the conduct and management of a fully integrated engineering effort that satisfies the technical requirements of the Contract.		
4. APPROVAL DATE	5. OFFICE OF PRIMARY INTEREST	6. OFFICE OF COLLATERAL INTEREST
7. APPLICATION / INTERRELATIONSHIP 4.1.2		
8. ORIGINATOR	9. REFERENCES	
10. PREPARATION INSTRUCTIONS 10.1 The SEMP must be in Contractor format. The SEMP must contain the following information: 10.1.1 <u>Introduction</u> : defines the scope and purpose of the plan, together with applicable definitions, references and related documents; 10.1.2 <u>Management</u> : this section must explain the engineering management plan to deliver all technical deliverables, from design to acceptance; 10.1.3 <u>Design</u> : this section must overview the selection of systems (hardware and software), subsystems and determine their performance requirements and interfaces. The design must provide an overview of the plans and methods used to aggregate, interconnect, and test the hardware, software, and other components so as to deliver the specified functionality. The SEMP must reference the following associated plans and reports, as a minimum, for amplifying details: 10.1.3.1 Configuration Management Plan; 10.1.3.2 Acceptance Plan; and, 10.1.3.3 Quality Assurance Plan.		

2.5 SE-002 Acceptance Plan

DAPM ITEM DESCRIPTION (DID)		DND Form 1409
1. TITLE Acceptance Plan (AP)		2. IDENTIFICATION NUMBER CDRL-004/SE-002
3. DESCRIPTION/PURPOSE The AP must describe the Contractor's overall plan to demonstrate product conformance to the Contract requirements. The AP must describe how the Contractor must verify the serviceability, functionality and configuration of the current CH-146 FMFS prior to the upgrade (i.e. determine the Existing Baseline), then verify product conformance to the approved Design Baseline. After testing, a new version of the AP must be submitted to analyze the test results noted down in the Acceptance Test Procedures (ATPs), to demonstrate product conformance.		
4. APPROVAL DATE	5. OFFICE OF PRIMARY INTEREST	6. OFFICE OF COLLATERAL INTEREST
7. INTERRELATIONSHIP 4.3.1		
8. ORIGINATOR		9. REFERENCES
10. PREPARATION INSTRUCTIONS 10.1 The AP must be in Contractor's format. 10.2 The AP must describe how the Contractor intends to manage all acceptance testing activities to demonstrate product conformance to the contract requirements. The AP must describe how the Contractor will verify the serviceability of the current CH-146 FMFS, establish its Existing Baseline configuration then prove product conformance to the approved Design Baseline. 10.3 The AP must arrange for the amendment of existing ATPs (A/R), the development of new ATPs (A/R), the execution of the tests, and the analysis of test results. 10.4 The AP must demonstrate that the system meets the work requirements through reviews of subsystems, component analysis, and test results. Following installation, test results must be reported in Acceptance Test Procedures (ATPs), but summarized and analyzed in subsequent submissions of the AP. 10.5 The AP must outline the coordination mechanisms to ensure participation of DND TA in the testing activities.		

2.6 SE-003 Acceptance Test Procedures

DAPM ITEM DESCRIPTION (DID)		DND Form 1409	
1. TITLE Acceptance Test Procedures (ATPs)		2. IDENTIFICATION NUMBER CDRL-005/SE-003	
3. DESCRIPTION/PURPOSE ATPs document the criteria and acceptance procedures to establish the FMFS configuration and serviceability as GFE prior to installation of the upgrade, and demonstrate that the product meets the requirements of the contract following the installation.			
4. APPROVAL DATE	5. OFFICE OF PRIMARY INTEREST	6. OFFICE OF COLLATERAL INTEREST	
7. INTERRELATIONSHIP 4.4.1			
8. ORIGINATOR		9. REFERENCES	
10. PREPARATION INSTRUCTIONS 10.1 The ATP format must be in consistent with existing ATPs. ATPs describe the tests that define the criteria for the acceptance of the final delivered product. 10.2 The ATPs must be formatted to combine the procedures and results into one document. Included in the format will be columns for Contractor and DND initials to verify results and to document action items resulting from testing, as required.			

2.7 SE-004 Configuration Management Plan

DAPM ITEM DESCRIPTION (DID)			DND Form 1409
1. TITLE Configuration Management Plan (CMP)		2. IDENTIFICATION NUMBER CDRL-006/SE-007	
3. DESCRIPTION/PURPOSE The CMP must describe how the Contractor will establish and maintain control of the VMT and PTT configuration.			
4. APPROVAL DATE	5. OFFICE OF PRIMARY INTEREST	6. OFFICE OF COLLATERAL INTEREST	
7. INTERRELATIONSHIP 4.5.1			
8. ORIGINATOR		9. REFERENCES	
10. PREPARATION INSTRUCTIONS 10.1 The CMP must be prepared and submitted for DND approval in Contractor format IAW the approved SEMP. Where reference to other documents is made from within the CMP, such documents must be attached as annexes to the CMP. 10.2 The CMP must include all approved design changes, deviations and waivers as annexes.			

2.8 SE-005 Design Change, Deviations, and Waivers

DAPM ITEM DESCRIPTION (DID)		DND Form 1409
1. TITLE Design Changes, Deviations and Waivers	2. IDENTIFICATION NUMBER CDRL-007/SE-005	
3. DESCRIPTION/PURPOSE <p>A Design Change is a proposed change in the configuration item after establishment of the Design Baseline. It contains the documentation and data describing the change. A deviation authorizes departure from a particular contractual requirement. A Deviation is a specific written authorization, granted prior to the manufacture of an item, to depart from a particular performance or design requirement of a specification, drawing or other document for a specific number of units or a specific period of time. A deviation differs from an engineering change in that an approved engineering change requires corresponding revision of the documentation defining the affected item whereas a deviation does not contemplate revision of the application specification or drawing. A waiver authorizes acceptance of an item not conforming to contractual requirements. A Waiver is a written authorization to accept an item, which during production or after having been submitted for inspection, is found to depart from specified requirements, but nevertheless, is considered suitable for use "as is" or after rework by an approved method.</p>		
4. APPROVAL DATE	5. OFFICE OF PRIMARY INTEREST	6. OFFICE OF COLLATERAL INTEREST
7. INTERRELATIONSHIP 4.5.5		
8. ORIGINATOR	9. REFERENCES D-02-006-008/SG-001	
10. PREPARATION INSTRUCTIONS 10.1 The Contractor must prepare and submit Design Changes, Requests for Waivers and Deviations IAW D-02-006-008/SG-001.		

2.9 ILS-001 Training Plan

DAPM ITEM DESCRIPTION (DID)		DND Form 1409	
1. TITLE Training Plan (TP)		2. IDENTIFICATION NUMBER CDRL-008/ILS-001	
3. DESCRIPTION/PURPOSE The TP must provide all information required to deliver on-site training to DND instructors, real-world modellers and contracted maintainers, to enable operation and support of the VMTs.			
4. APPROVAL DATE	5. OFFICE OF PRIMARY INTEREST	6. OFFICE OF COLLATERAL INTEREST	
7. INTERRELATIONSHIP 5.1.1			
8. ORIGINATOR		9. REFERENCES	
10.0 PREPARATION INSTRUCTIONS 10.1 The TP must be prepared in Contractor format and must describe how the Contractor will provide training to instructors and maintainers. Training must be in sufficient depth to enable: 10.1.1 Instructors to operate the VMTs in their training role without assistance; and 10.1.2 Maintainers to diagnose and correct faults to the first level of maintenance. First Level Maintenance means inspections; servicing and fault correction generally by replacement of a quick replacement module, performed using DND-owned tools and replaceable unit/assemblies; 10.1.3 Editing of Lesson Plans without assistance; and 10.2 The TP must plan include the preparation of all documentation, and all other information and material necessary to conduct the training of the instructors.			

2.10 ILS-002 Quality Assurance Plan

DAPM ITEM DESCRIPTION (DID)		DND Form 1409
1. TITLE Quality Assurance (QA) Plan		2. IDENTIFICATION NUMBER CDRL-009/ILS-002
3. DESCRIPTION/PURPOSE The Contractors Quality Assurance (QA) Plan must define how the quality system requirements of ISO 9001:2008 will be met for the VMT.		
4. APPROVAL DATE	5. OFFICE OF PRIMARY INTEREST	6. OFFICE OF COLLATERAL INTEREST
7. INTERRELATIONSHIP 5.2.2		
8. ORIGINATOR		1. REFERENCES ISO 9001:2008 ISO 10005:2005
10. PREPARATION INSTRUCTIONS 10.1 <u>General</u> . The Contractors Quality Plan must define how the quality system requirements of ISO 9001:2008 - Quality management systems will be met for the project. 10.2 <u>Content of the Quality Plan</u> . The content of the Quality Plan must be based on ISO 10005:2005: Quality management systems -- Guidelines for quality plans and the specific requirements of this DID.		

2.11 ILS-003 VMT Operating Instructions

DAPM ITEM DESCRIPTION (DID)		DND Form 1409
1. TITLE VMT Operating Instructions	2. IDENTIFICATION NUMBER CDRL-010/ILS-003	
3. DESCRIPTION/PURPOSE To provide VMT Operating Instructions manual to allow instructors and maintainers to operate the VMT.		
4. APPROVAL DATE	5. OFFICE OF PRIMARY INTEREST	6. OFFICE OF COLLATERAL INTEREST
7. INTERRELATIONSHIP 5.3.1.1		
8. ORIGINATOR	2. REFERENCES	
10. PREPARATION INSTRUCTIONS 10.1The VMT manual must be the sole reference necessary for VMT operation. The manual will also be a reference handbook for operators and maintenance personnel who will need to operate the VMT for maintenance purposes. It must include descriptions of all VMT modes, and procedures. Descriptions must cover every control, button, switch, readout, and display affected by the program at the level required for efficient operation. Illustrations must be included to aid operators in locating controls. Equipment interconnections necessary for correct system operation must be included. 10.2The VMT Operating Instruction must be provided in a format IAW SCORM requirements to be uploaded to the Defence Learning Network.		

2.12 ILS-004 PTT Operating Instructions

DAPM ITEM DESCRIPTION (DID)		DND Form 1409
1. TITLE PTT Operating Instructions	2. IDENTIFICATION NUMBER CDRL-011/ILS-004	
3. DESCRIPTION/PURPOSE To provide VMT Operating Instructions manual to allow instructors and maintainers to operate the VMT.		
4. APPROVAL DATE	5. OFFICE OF PRIMARY INTEREST	6. OFFICE OF COLLATERAL INTEREST
7. INTERRELATIONSHIP 5.3.1.2		
8. ORIGINATOR	3. REFERENCES	
11. PREPARATION INSTRUCTIONS 11.1 The PTT manuals must be the sole reference necessary for PTT operation. The manual will also be a reference handbook for operators and maintenance personnel who will need to operate the PTT for maintenance purposes. It must include descriptions of all VMT modes, and procedures. Descriptions must cover every control, button, switch, readout, and display affected by the program at the level required for efficient operation. Illustrations must be included to aid operators in locating controls. Equipment interconnections necessary for correct system operation must be included. 11.2 The PTT Operating Instruction must be provided in a format IAW SCORM requirements to be uploaded to the Defence Learning Network.		

2.13 ILS-005 Drawings and Maintenance Manuals

DAPM ITEM DESCRIPTION (DID)		DND Form 1409
1. TITLE Drawings & Maintenance Manuals	2. IDENTIFICATION NUMBER CDRL-012/ILS-005	
3. DESCRIPTION/PURPOSE To provide Engineering drawings, their associated lists and Maintenance Manuals that enable support the VMT over its lifecycle.		
4. APPROVAL DATE	5. OFFICE OF PRIMARY INTEREST	6. OFFICE OF COLLATERAL INTEREST
7. INTERRELATIONSHIP 5.3.1.3		
8. ORIGINATOR	9. REFERENCES D-01-100-214/SF-000, Para 3.8.3	
10. PREPARATION INSTRUCTIONS 10.1 The Contractor must provide engineering drawings and maintenance manuals necessary to support the VMT. 10.2 <u>Engineering Drawings</u> : The drawing set must conform to paragraph 3.8.3 of D-01-100-214/SF-000 and must include: 10.2.1 Drawings essential to accommodate installation, maintenance, removal, and repair of all equipment; 10.2.2 Drawings for all electrical schematics, cabling, interconnections, and wiring diagrams. 10.3 <u>System Maintenance Manuals</u> : Manuals must outline the scope and configuration of the system, and must augment and relate to manuals supplied with vendor equipment (e.g. computer). Manuals must include as a minimum: 10.3.1 operating procedures; 10.3.2 guidance on routine servicing; 10.3.3 system fault finding, use of maintenance and test programs, and corrections; 10.3.4 a functional description showing the parameters and interrelationship of the equipment comprising the total system; 10.3.5 illustrations, block, wiring, and system diagrams showing equipment inter-connection and signal paths;		

- 10.3.6 information on any modifications, special configuration or options to vendor equipment,
 - 10.3.7 information on fabricated cables and connectors peculiar to the system;
 - 10.3.8 information on special parts required which are not covered by individual manual parts lists; and
 - 10.3.9 information relating to system assembly/disassembly and setup procedures.
- 10.4 Vendor Publications: Publications prepared by manufacturers of commercial vendor equipment must be included with the publication set.

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2.14 ILS-006 Software Documentation

DAPM ITEM DESCRIPTION (DID)		DND Form 1409
1. TITLE Software Documentation	2. IDENTIFICATION NUMBER CDRL-013/ILS-006	
3. DESCRIPTION/PURPOSE To provide software documentation package that will enable software use and software support of the VMT throughout its life cycle.		
4. APPROVAL DATE	5. OFFICE OF PRIMARY INTEREST	6. OFFICE OF COLLATERAL INTEREST
7. INTERRELATIONSHIP 5.3.1.4		
8. ORIGINATOR	9. REFERENCES ISO/IEC 90003:2004	
10. PREPARATION INSTRUCTIONS 10.1 The Contractor must deliver all software documentation required to operate and maintain VMT software over its lifecycle. Software documentation must conform to ISO/IEC 90003:2004 (version effective at contract signature). The documentation provided must include amendments to existing documents where applicable, and any new documents IAW the approved technical proposal.		