

RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:
Réception des soumissions - TPSGC / Bid
Receiving - PWGSC
1550, Avenue d'Estimauville
1550, D'Estimauville Avenue
Québec
Québec
G1J 0C7

REQUEST FOR PROPOSAL
DEMANDE DE PROPOSITION

**Proposal To: Public Works and Government
Services Canada**

We hereby offer to sell to Her Majesty the Queen in right of Canada, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the goods, services, and construction listed herein and on any attached sheets at the price(s) set out therefor.

**Proposition aux: Travaux Publics et Services
Gouvernementaux Canada**

Nous offrons par la présente de vendre à Sa Majesté la Reine du chef du Canada, aux conditions énoncées ou incluses par référence dans la présente et aux annexes ci-jointes, les biens, services et construction énumérés ici sur toute feuille ci-annexée, au(x) prix indiqué(s).

Comments - Commentaires

Title - Sujet DRDC-Ultra high speed camera	
Solicitation No. - N° de l'invitation W7701-155993/B	Date 2015-01-16
Client Reference No. - N° de référence du client W7701-155993	
GETS Reference No. - N° de référence de SEAG PW-\$QCM-004-16298	
File No. - N° de dossier QCM-4-37268 (004)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2015-02-03	
Time Zone Fuseau horaire Heure Normale du l'Est HNE	
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Fournier, Caroline	Buyer Id - Id de l'acheteur qcm004
Telephone No. - N° de téléphone (418) 649-2826 ()	FAX No. - N° de FAX (418) 648-2209
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: MINISTÈRE DE LA DÉFENSE NATIONALE DEFENCE R&D CANADA - VALCARTIER VALCARTIER RESEARCH CENTER 2459, ROUTE DE LA BRAVOURE QUÉBEC (QUÉBEC) G3J 1X5 Canada	

Instructions: See Herein

Instructions: Voir aux présentes

Vendor/Firm Name and Address

**Raison sociale et adresse du
fournisseur/de l'entrepreneur**

Issuing Office - Bureau de distribution

TPSGC-PWGSC
601-1550, Avenue d'Estimauville
Québec
Québec
G1J 0C7

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

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This bid solicitation cancels and supersedes previous bid solicitation number W7701-155993/A dated December 29, 2014 with a closing of January 14, 2015 at 2:00 pm. A debriefing or feedback session will be provided upon request to bidders/offerors/suppliers who bid on the previous solicitation.

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TITLE: Ultra High Speed Camera

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PART 1 - GENERAL INFORMATION

1.1 Requirement

Defence Research and Development Canada (DRDC), Weapons Effects and Protection (WEP) Section, requires the purchase of an ultra high speed camera, as per specifications in Annex A.

1.2 Debriefings

Bidders may request a debriefing on the results of the bid solicitation process. Bidders should make the request to the Contracting Authority within 15 working days from receipt of the results of the bid solicitation process. The debriefing may be in writing, by telephone or in person.

1.2 Trade Agreements

This requirement is subject to the provisions of the Agreement on Internal Trade (AIT)

PART 2 - BIDDER INSTRUCTIONS

2.1 Standard Instructions, Clauses and Conditions

All instructions, clauses and conditions identified in the bid solicitation by number, date and title are set out in the *Standard Acquisition Clauses and Conditions Manual* (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

Bidders who submit a bid agree to be bound by the instructions, clauses and conditions of the bid solicitation and accept the clauses and conditions of the resulting contract.

The 2003 (2014-09-25) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

2.1.1 SACC Manual Clauses

Condition of Material – Bid (2014-06-26) B1000T

2.2 Submission of Bids

Bids must be submitted only to Public Works and Government Services Canada (PWGSC) Bid Receiving Unit by the date, time and place indicated on page 1 of the bid solicitation.

****Due to the nature of the bid solicitation, bids transmitted by facsimile to PWGSC will not be accepted.**

2.3 Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than three (3) calendar days before the bid closing date. Enquiries received after that time may not be answered.

Bidders should reference as accurately as possible the numbered item of the bid solicitation to which the enquiry relates. Care should be taken by bidders to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a proprietary nature must be clearly marked "proprietary" at each relevant item. Items identified as "proprietary" will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the question(s) or may request that the Bidder do so, so that the proprietary nature of the question(s) is eliminated, and the enquiry can be answered to all bidders. Enquiries not submitted in a form that can be distributed to all bidders may not be answered by Canada.

2.4 Applicable Laws

Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Quebec.

Bidders may, at their discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of their bid, by deleting the name of the Canadian province or territory specified and inserting the name of the Canadian province or territory of their choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the bidders.

PART 3 - BID PREPARATION INSTRUCTIONS

3.1 Bid Preparation Instructions

Canada requests that bidders provide their bid in separately bound sections as follows:

Section I: Technical Bid (three (3) hard copies)

Section II: Financial Bid (three (3) hard copies)

Section III: Certifications (one (1) hard copy)

Prices must appear in the financial bid only. No prices must be indicated in any other section of the bid.

Canada requests that bidders follow the format instructions described below in the preparation of their bid:

- (a) use 8.5 x 11 inch (216 mm x 279 mm) paper;
- (b) use a numbering system that corresponds to the bid solicitation.

In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process [Policy on Green Procurement](http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html) (<http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html>). To assist Canada in reaching its objectives, bidders should:

- 1) use 8.5 x 11 inch (216 mm x 279 mm) paper containing fibre certified as originating from a sustainably-managed forest and containing minimum 30% recycled content; and
- 2) use an environmentally-preferable format including black and white printing instead of colour printing, printing double sided/duplex, using staples or clips instead of cerlox, duotangs or binders.

Section I: Technical Bid

In their technical bid, bidders should explain and demonstrate how they propose to meet the mandatory and point rated technical criteria described in sections 4.1.2 and 4.1.3 of this document.

Section II: Financial Bid

Bidders must submit their financial bid in accordance with the Basis of Payment at Annex B. The total amount of Applicable Taxes must be shown separately. **Unless otherwise stated, tenderers must provide a single all-inclusive fixed price, in Canadian Dollars.**

3.1.1 Exchange Rate Fluctuation

[C3011T](#) (2013-11-06), Exchange Rate Fluctuation

Section III: Certifications

Bidders must submit the certifications required under Part 5.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

4.1 Evaluation Procedures

- (a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.
- (b) An evaluation team composed of representatives of Canada will evaluate the bids.

4.1.1 Technical Evaluation

4.1.2 Mandatory Technical Criteria

The bidder must fill out and include with its proposal, the table of mandatory specifications of the requirements.

IMPORTANT: The Bidder must indicate, for each mandatory criteria, whether the proposed equipment complies or not by checking the relevant box. The Bidder must clearly demonstrate how the proposed equipment complies to each criteria. Where it is necessary to refer to other documentation that is included in the proposal, Bidders should include the precise location of the reference material including the title of the document, and the page and paragraph numbers. It is imperative that the bidder provides an answer for each criterion. It is the bidder's responsibility to provide enough details to permit a complete evaluation.

Title : Mandatory specifications of the requirement

	Mandatory Technical Criteria	Compliant	Non-Compliant	Description / References
#1	Provide technical information (data sheets and/or technical specifications that address the following #2 to #8 criteria)			
#2	Saved image format RAW TIFF JPEG AVI			
#3	Camera interface and data export to PC Gigabit Ethernet			
#4	Front Lens mount Nikon F-Mount or equivalent			
#5	Mechanical Mounting Compatible with standard tripod			
#6	Triggering Continuous access TTL 5 V negative or positive polarity			
#7	Power requirements 100-220 V 50-60 Hz			
#8	Camera head bulk (portability) m3 0.03 m3 or less			
#9	Power supply included			

#10	Cables included			
#11	Control software included			
#12	Maintenance and technical support			
#13	Supply eight (8) hours of on-site training within six (6) weeks of delivery			
#14	Supply images to allow image quality criteria to be assessed			

4.1.3 Point Rated Technical Criteria

Each technical offer that meets all the mandatory requirements defined above will be evaluated and rated in terms of the evaluation criteria below.

	Point Rated Technical Criteria	Mandatory Minimum Criteria Essential	Desirable Point Rated Criteria	Maximum
#1	Recording speed or continuous frame rate Frame per second (fps)	5 million fps	7 million fps = 10 points	10 million fps or more = 15 points
#2	Sensor Resolution Total pixels totaux (horizontal x vertical) - at 5 M fps	100,000 pixels	500,000 pixels = 5 points	700,000 pixels or more = 15 points
#3	Recording capacity or number of frames ar full resolution - at 5M fps	128	180 = 15 points	225 or more = 20 points
#4	Shutter speed (longest exposure time allowed)	250 ns	50 – 150 ns = 5 points	50 ns or less = 10 points
#5	Image Quality	Level III	Level II = 40 points	Level I = 75 points
#6	Color	Monochrome		Color = 5 points
#7	Bit depth / recording / digitisation	10	12 = 5 points	14 = 10 points

4.2 Evaluation of Price

The price of the bid will be evaluated in Canadian dollars, Applicable Taxes excluded, Canadian customs duties and excise taxes included. The total amount of Applicable Taxes must be shown separately.

4.3 Basis of Selection - Lowest Evaluated Price Per Point

1. To be declared responsive, a bid must:
 - (a) comply with all the requirements of the bid solicitation;
 - (b) meet all mandatory technical evaluation criteria; and
 - (c) obtain the required minimum points for each criterion with a pass mark.

Bids not meeting (a) or (b) or (c) will be declared non-responsive. Neither the responsive bid that receives the highest number of points nor the one that proposed the lowest price will necessarily be accepted. The responsive bid with the lowest evaluated price per point will be recommended for award of a contract. The evaluated price per point will be determined by dividing the evaluated price of the bid by the number of points obtained for the point rated technical evaluation criteria.

In the event that two or more responsive bids have the same lowest evaluated price per point, the responsive bid which obtained the highest number of points overall for the point rated technical evaluation criteria will be recommended for award of a contract.

PART 5 - CERTIFICATIONS

Bidders must provide the required certifications and associated information to be awarded a contract.

The certifications provided by bidders to Canada are subject to verification by Canada at all times. Canada will declare a bid non-responsive, or will declare a contractor in default in carrying out any of its obligations under the Contract, if any certification made by the Bidder is found to be untrue whether made knowingly or unknowingly, during the bid evaluation period or during the contract period.

The Contracting Authority will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply and to cooperate with any request or requirement imposed by the Contracting Authority may render the bid non-responsive or constitute a default under the Contract.

5.1 Certifications Precedent to Contract Award

The certifications listed below should be completed and submitted with the bid, but may be submitted afterwards. If any of these required certifications is not completed and submitted as requested, the Contracting Authority will inform the Bidder of a time frame within which to provide the information. Failure to comply with the request of the Contracting Authority and to provide the certifications within the time frame provided will render the bid non-responsive.

5.1.1 Integrity Provisions - Associated Information

By submitting a bid, the Bidder certifies that the Bidder and its Affiliates are in compliance with the provisions as stated in Section 01 Integrity Provisions - Bid of Standard Instructions 2003. The associated information required within the Integrity Provisions will assist Canada in confirming that the certifications are true.

5.1.2 Federal Contractors Program for Employment Equity - Bid Certification

By submitting a bid, the Bidder certifies that the Bidder, and any of the Bidder's members if the Bidder is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "FCP Limited Eligibility to Bid" list (http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml) available from Employment and Social Development Canada (ESDC) - Labour's website.

Canada will have the right to declare a bid non-responsive if the Bidder, or any member of the Bidder if the Bidder is a Joint Venture, appears on the "FCP Limited Eligibility to Bid" list at the time of contract award.

PART 6 - RESULTING CONTRACT CLAUSES

The following clauses and conditions apply to and form part of any contract resulting from the bid solicitation.

6.1 Security Requirements

6.1.1 There is no security requirement applicable to this Contract.

6.2 Statement of Requirement

Defence Research and Development Canada (DRDC), Weapons Effects and Protection (WEP) Section, requires the purchase and delivery of an ultra high speed camera, as per specifications in Annex A.

6.3 Standard Clauses and Conditions

All clauses and conditions identified in the Contract by number, date and title are set out in the [Standard Acquisition Clauses and Conditions Manual](https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

6.3.1 General Conditions

[2010A](#) (2014-09-25), General Conditions - Goods (Medium Complexity), apply to and form part of the Contract.

6.4 Term of Contract

6.4.1 Delivery Date

All the deliverables must be received **on or before March 31, 2015**.

6.4.2 Shipping Instructions

Goods must be consigned to the destination specified in the Contract and delivered:

Delivery Duty Paid (DDP), Defence R&D Canada – Valcartier Research Center, 2459 route de la Bravoure, Quebec, Qc, G3J 1X5, Canada, Incoterms 2000 for shipments from a commercial contractor.

6.5 Authorities

6.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Name: Caroline Fournier
Title: Supply Specialist
Public Works and Government Services Canada
Acquisitions Branch
Directorate: Acquisition

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Address: 1550, D'Estimauville Avenue, Quebec, Qc, G1J 0C7

Telephone: 418-649-2826
Facsimile: 418-648-2209
E-mail address: caroline.fournier@tpsgc-pwgsc.gc.ca

The Contracting Authority is responsible for the management of the Contract and any changes to the Contract must be authorized in writing by the Contracting Authority. The Contractor must not perform work in excess of or outside the scope of the Contract based on verbal or written requests or instructions from anybody other than the Contracting Authority.

6.5.2 Technical Authority

(to be completed at award of Contract)

The Project Authority is the representative of the department or agency for whom the Work is being carried out under the Contract and is responsible for all matters concerning the technical content of the Work under the Contract. Technical matters may be discussed with the Project Authority, however the Project Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of the Work can only be made through a contract amendment issued by the Contracting Authority.

6.5.3 Supplier's Representative

General Information

Name: _____

Title: _____

Telephone: _____

Facsimile: _____

E-mail: _____

Delivery Follow-up:

Name: _____

Title: _____

Telephone: _____

Facsimile: _____

E-mail: _____

6.6 Payment

6.6.1 Basis of Payment

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In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a firm price, as specified in the Contract for a cost of \$ _____ (to be completed at contract award), **FOB Destination**. Customs duties are included and Applicable Taxes are extra.

Canada will not pay the Contractor for any design changes, modifications or interpretations of the Work, unless they have been approved, in writing, by the Contracting Authority before their incorporation into the Work.

6.6.2 Single Payment

Canada will pay the Contractor upon completion and delivery of the Work in accordance with the payment provisions of the Contract if:

- a. an accurate and complete invoice and any other documents required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
- b. all such documents have been verified by Canada;
- c. the Work delivered has been accepted by Canada

6.6.3 Taxes – Foreign-Based Contractor

Unless specified otherwise in the Contract, the price includes no amount for any federal excise tax, state or local sales or use tax, or any other tax of a similar nature, or any Canadian tax whatsoever. The price, however, includes all other taxes. If the Work is normally subject to federal excise tax, Canada will, upon request, provide the Contractor a certificate of exemption from such federal excise tax in the form prescribed by the federal regulations.

Canada will provide the Contractor evidence of export that may be requested by the tax authorities. If, as a result of Canada's failure to do so, the Contractor has to pay federal excise tax, Canada will reimburse the Contractor if the Contractor takes such steps as Canada may require to recover any payment made by the Contractor. The Contractor must refund to Canada any amount so recovered.

6.7 Invoicing Instructions

The Contractor must submit invoices in accordance with the section entitled "Invoice Submission" of the general conditions. Invoices cannot be submitted until all work identified in the invoice is completed.

Invoices must be distributed as follows:

- a. The original and one (1) copy must be forwarded to the address shown on page 1 of the Contract for certification and payment.
- b. One (1) copy must be forwarded to the Contracting Authority identified under the section entitled "Authorities" of the Contract.

6.8 Certifications

6.8.1 Compliance

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The continuous compliance with the certifications provided by the Contractor in its bid and the ongoing cooperation in providing associated information are conditions of the Contract. Certifications are subject to verification by Canada during the entire period of the Contract. If the Contractor does not comply with any certification, fails to provide the associated information, or if it is determined that any certification made by the Contractor in its bid is untrue, whether made knowingly or unknowingly, Canada has the right, pursuant to the default provision of the Contract, to terminate the Contract for default.

6.9 Applicable Laws

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Quebec.

6.10 Priority of Documents

If there is a discrepancy between the wording of any documents that appear on the list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list.

- (a) the Articles of Agreement;
- (b) the general conditions 2010A (2014-09-25) General Conditions – Goods (Medium Complexity);
- (c) Annex A, Statement of Requirement;
- (d) Annex B, Basis of Payment;
- (e) the Contractor's bid dated _____ (*insert date of bid*)

6.11 Defence Contract

SACC *Manual* clause [A9006C](#) (2012-07-16) Defence Contract

6.13 SACC Manual Clauses

Excess Goods (2006-06-16) B7500C

ANNEX "A"

STATEMENT OF REQUIREMENT

Ultra High-Speed Video Camera

1.0 Background

The Weapons Effects and Protection (WEP) Section at Defence Research and Development Canada - Valcartier Research Centre is in charge of evaluating advanced armour materials and systems for vehicle ballistic protection. In order to allow for further optimising the performance of armour systems, it is necessary to understand the impact and penetration dynamics of small arms projectiles impacting ceramic and metallic targets. Such detailed terminal ballistics assessment can be done using ultra high speed cameras capable of frame rate up to 5 million images per second (i.e. ultra high speed) with sufficient resolution to allow for the quantitative characterization of the projectile-target interaction mechanisms.

2.0 Objective

To acquire an ultra-high speed video camera for terminal ballistics applications for the WEP section at Defence Research and Development Canada - Valcartier Research Centre more specifically for the Novel Operational Combat Armour (NOCA) project.

3.0 Technical Requirements

3.1 Mandatory Requirements

The Contractor must provide an ultra-high speed video camera that meets all mandatory the requirements specified in section 4, points 4.1.2 and 4.1.3. In addition to the ultra-high speed video camera, the Contractor must also provide the power supply, cables and control software. Camera lenses and a tripod are not part of the requirements but maintenance and technical support must be included.

3.1.1 On-site training: The Contractor must provide 8 hours of on-site training within 6 weeks of delivery.

3.2 Point-Rated Requirements

The point-rated requirements are specified in point 4.1.3 and include the following seven parameters, i.e.: recording speed, sensor resolution, number of frames, shutter speed, image quality, color, and bit depth. The total score for a proposal will be the sum of the point rated scores for each of the seven rated parameters for a **maximum possible score of 150 points**.

3.2.1 Image Quality (IQ) (Max 75 points)

Three level of quality (I – excellent, II – adequate, III – insufficient) have been defined for the purpose of this requirement. The image quality criteria will be assessed based on TIFF images (side views and/or angle views) provided by the Contractor showing the impact of a small caliber bullet (7.62 to 14.5 mm caliber) on a rigid target (metallic or glass) at high speed (850 to 1000 m/s) from the point of impact on the target to complete penetration of the target with at least 50 frames (for 12.7mm or 14.5mm calibre)

covering the projectile-target interaction. Image quality depends directly on the resolution of the sensor provided (i.e. no of pixels), the pixel size, and the shutter speed of the camera system. Indirect factors affecting images quality includes sufficient lighting (e.g. intense strobe light) and the lensing used. Details for the IQ assessment are provided in Section 4.

3.2.2 IQ Level Definition and Assessment Method

3.2.2.1 IQ - Level I: 75 points:

Images with projectile shape very well defined (i.e. sharp contour with very low noise) with rifling mark visible with projectile deformation and erosion process well captured and resolved along with target cracking (glass targets) or spalling (metallic targets) to allow for a quantitative and time resolved evaluation of the impact event including the evaluation of penetration velocity vs time deceleration profile.

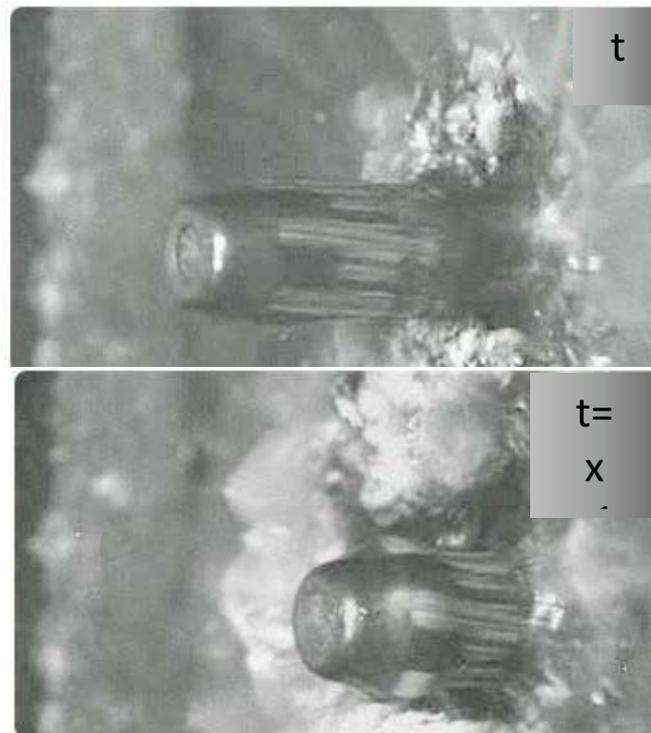


Figure A1 – Example of IQ level I (Excellent time and space resolution)

3.2.2.2 IQ – Level II: 40 points: Images with projectile shape sufficiently defined (moderate image noise only) with projectile deformation and erosion process captured with less resolution (e.g. granular image) along with target cracking (glass targets) or spalling (metallic targets) to allow for a qualitative evaluation of the impact event

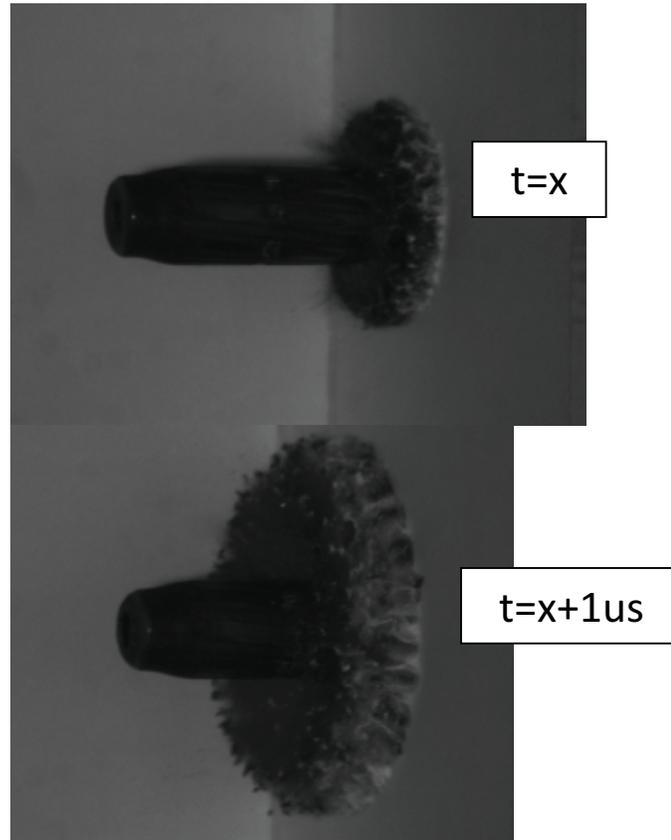


Figure A2 – Example of IQ level II (Sufficient time and space resolution)

3.2.2.3 IQ – Level III: 0 points: Images with high noise and not sufficiently well defined to allow for image analysis and/or time resolution not sufficient to allow for capturing at least 50 frames over the full projectile-target interaction (frames spaced at more than 1 microsecond).

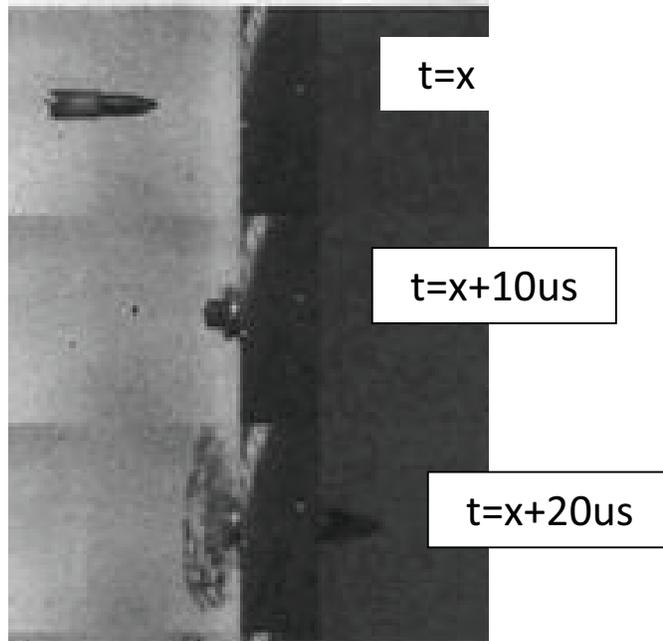


Figure A3 – Example of IQ level III (insufficient time and space resolution)

ANNEX "B"

REQUIREMENT / BASIS OF PAYMENT

Description of requirement

Defence Research and Development Canada (DRDC), Weapons Effects and Protection (WEP) Section, requires the purchase and delivery of a ultra high speed camera, as per specifications in Annex A.

The price must include:

- a. The camera
- b. Power supply
- c. Cables
- d. Control software
- e. Maintenance and technical support
- f. Eight (8) hours of on-site training

***See note**

The camera must meet all minimum mandatory criteria specified in point 4.1.3

Item	Description	Quantity	Unit of measurement	Lot Firm Price in Canadian Dollars
1	Ultra High Speed Camera compliant with the mandatory criteria stated in point 4.1.3	1	Unit	\$ _____
2	Applicable Taxes	1	Unit	\$ _____

NOTE: The goods must be shipped to the destination specified in the Request for Proposal and delivered: Delivery Duty Paid (DDP), as per Incoterms 2000 for shipments from a commercial contractor.