

**RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:**

**Bid Receiving
PWGSC
33 City Centre Drive
Suite 480
Mississauga
Ontario
L5B 2N5
Bid Fax: (905) 615-2095**

**SOLICITATION AMENDMENT
MODIFICATION DE L'INVITATION**

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

Comments - Commentaires

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

Issuing Office - Bureau de distribution
Public Works and Government Services Canada
Ontario Region
33 City Centre Drive
Suite 480
Mississauga
Ontario
L5B 2N5

Title - Sujet High Speed Camera	
Solicitation No. - N° de l'invitation KM175-121085/A	Amendment No. - N° modif. 001
Client Reference No. - N° de référence du client KM175-121085	Date 2012-10-12
GETS Reference No. - N° de référence de SEAG PW-\$TOR-015-6028	
File No. - N° de dossier TOR-2-35109 (015)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2012-11-05	
Time Zone Fuseau horaire Eastern Daylight Saving Time EDT	
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: Abela, Aaron	Buyer Id - Id de l'acheteur tor015
Telephone No. - N° de téléphone (905) 615-2061 ()	FAX No. - N° de FAX (905) 615-2060
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction:	

Instructions: See Herein

Instructions: Voir aux présentes

Delivery Required - Livraison exigée	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

Solicitation Amendment No. 001 is being issued to reflect the following changes:

- A) Amend Part 6 - Resulting Contract Clauses, Section 6.3 - Single Payment**
- B) Amend Annex A - Requirement, Section 4 - General Requirements, Item 7.**
- C) Amend Annex A - Requirement, Section 5 - Mandatory Technical Specifications, Item 1**
- D) Amend Annex C - OEM Certification**
- E) Questions & Answers**

A) At Part 6 - Resulting Contract Clauses, Section 6.3 - Single Payment

Delete in its entirety;

Insert:

6.3 Single Payment

SACC Manual Clause H1000C (2008-05-12)

B) At Annex A - Requirement, Section 4 - General Requirements, Item 7.

Delete in its entirety;

Insert:

The video camera must have a Suitable Light Source

*Suitable Light Source must illuminate a 3.5m x 4.5m area as a minimum, and is defined as being with little or no heat diode, diffuse panels when needed, highlight output, low power consumption (i.e. Multiple lights on 1 circuit possible).

C) At Annex A - Requirement, Section 5 - Mandatory Technical Specifications, Item 1

Delete in its entirety;

Insert:

1. The camera must have a speed better than 3,600 fps at is full resolution, but must of have a higher fps at lower resolution.

D) At Annex C - OEM Certification

Delete in its entirety;

Insert:

OEM Certification

OEM Certification Form

This confirms that the original equipment manufacturer (OEM) identified below has authorized the Bidder named below to provide and maintain its products under any contract resulting from the bid solicitation identified below.

Name of OEM _____

Signature of authorized signatory of OEM _____

Print Name of authorized signatory of OEM _____

Print Title of authorized signatory of OEM _____

Address for authorized signatory of OEM _____

Telephone no. for authorized signatory of OEM _____

Fax no. for authorized signatory of OEM _____

Date signed _____

Solicitation Number _____

Name of Bidder _____

E) Questions & Answers

Questions & Answers

Q1: Annex "A", Section 5 - Mandatory Technical Specifications, Item 1 states: "The camera must have a speed better than 3000 fps at its full resolution, but capable of having higher fps at lower resolution".

There are multiple cameras that will capture 3000 - 9000 fps at resolutions ranging from 1280 x 1024 to 2 Megapixel and 4670fps @ Full HD 1920 x 1080

Therefore, what is the maximum full resolution that is required at 3000 fps?

A1: We don't have a maximum frame rate at full resolution, but the speed must reach up to 3600 fps or better at full resolution and capable of achieving much higher frame rate at lower resolution.

Q2: Annex "A", Section 5 - Mandatory Technical Specifications, Item 7 states: "Must include a light stand and be able to support a light source". Earlier under Section 4 - General Specifications, a suitable Light Source is defined as being with little or no head diode, diffuse panels when needed, highlight output, low power consumption (i.e multiple lights on 1 circuit possible).

Therefore, please define light output and power consumption requirements regarding the following:

(a) Lumens and Watts?

(b) Will heat affect the study (LED vs HMI)?

(c) How far away and what angle do you require the light dispersion? By "angle", I mean the area of illumination. There are bulb lenses and reflectors that range from a tight beam to a wide area coverage. By defining an area (ROI – Region of Interest), that needs to be appropriately lit up, will allow us to include the correct lighting solution.

(d) Does the light source need to be triggered / synched with the high speed camera, or will it be stand alone and turned on independently?

A2:

(a) 300 to 600 watts. As for lumens this depends on lux, distance and viewing angle. 14.4 m² is close to the minimum area that we want to monitor, but we would prefer to place the light source at a distance of 3 meters and thus a wider diffuser angle may allow us to do that. A wider angle is preferable.

(b) Yes, LED is preferable. LED is preferred because almost no heat is emitted and it draws less current (less than 2 amps).

(c) The distance where the light source will be placed will be about 3m - 4.5m away from the area being monitored. A wide diffuser angle, for example 70-90° would be preferable to illuminate an area approximately up to 3.5 m vertical x 4.5 m horizontal (16 m²). Thus, LED wider in the horizontal direction would be better.

(d) It doesn't necessarily need to be triggered automatically. It is acceptable if it is a stand alone.

Q3: Annex "A", Section 5, Mandatory Technical Specifications, Item 8 states: "Must include image Analysis Software". Analysis software is available with many different options and price points. The range in price for analysis software is from \$0 – \$25,000.00+ (and everything in-between) depending on what features are required ie: tracking points, types of analysis, 3D (Multi-camera), file compatibility, SDK options, how many users, etc...

Therefore:

(a) How many track points are required?

(b) What types of analysis will be performed?

Solicitation No. - N° de l'invitation

KM175-121085/A

Amd. No. - N° de la modif.

001

Buyer ID - Id de l'acheteur

tor015

Client Ref. No. - N° de réf. du client

KM175-121085

File No. - N° du dossier

TOR-2-35109

CCC No./N° CCC - FMS No/ N° VME

A3:

(a) The tracking software must be able to track any number of points needed and it should not be limited.

(b) The following types of analysis will be performed:

- Track trajectory of falling snowflakes/rain particles
- Estimate their fall velocity, size, shape and count
- Graphic image capability to view the trajectory of falling precipitation particles