



RETURN BIDS TO:

RETOURNER LES SOUMISSIONS À:

**Bid Receiving - PWGSC / Réception des soumissions
- TPSGC**

11 Laurier St. / 11, rue Laurier

Place du Portage , Phase III

Core 0B2 / Noyau 0B2

Gatineau

Québec

K1A 0S5

Bid Fax: (819) 997-9776

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

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

Title - Sujet S-Band High Power Amplifiers		
Solicitation No. - N° de l'invitation W7714-166181/A		Amendment No. - N° modif. 003
Client Reference No. - N° de référence du client W7714-166181		Date 2016-02-25
GETS Reference No. - N° de référence de SEAG PW-\$\$QF-116-25624		
File No. - N° de dossier 116qf.W7714-166181	CCC No./N° CCC - FMS No./N° VME	
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2016-03-14		Time Zone Fuseau horaire Eastern Standard Time EST
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: Field(qf div.), Andrea		Buyer Id - Id de l'acheteur 116qf
Telephone No. - N° de téléphone (819) 956-0264 ()		FAX No. - N° de FAX () -
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

Amendment 003 is raised to:

- 1) Extend the solicitation closing date from Monday, February 29th, 2016 at 2:00 p.m. EST to Monday, March 14th, 2016 at 2:00 p.m. EST.

2) **LINE ITEM DETAIL PAGE**

DELETE:

Description

S-Band High Power Amplifiers
Specifications:
Frequency Range: 2.02-2.12 GHz
Gain: 50 dBm
Output: 100W
Operating Temperature: -30C to +
55C
Weatherproof enclosure
o
Required with S-Band High Power
Amplifiers:
Adaptors (as required)
QTY one (1) User and installation
manual (paper hard copy or PDF 1
soft copy)

INSERT:

Description

See ANNEX "A" – STATEMENT OF REQUIREMENT (attached)

3) **TABLE OF CONTENTS**

INSERT:

ANNEX "A" – STATEMENT OF REQUIREMENT

ANNEX "B" – MANDATORY TECHNICAL SPECIFICATIONS STATEMENT OF COMPLIANCE

4) **PART 1 - GENERAL INFORMATION**

1.2 Requirement

DELETE:

The requirement is detailed under the "Line Item Detail" page of this document.

INSERT:

The requirement is detailed under Article 6.2 of the resulting contract clauses.

5) PART 1 - GENERAL INFORMATION

INSERT:

1.3 Best Delivery Date - Bid

While delivery is requested by June 30, 2016, the best delivery that could be offered is _____.

6) PART 3 – BID PREPARATION INSTRUCTIONS

INSERT:

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

Section I: Technical Bid (1 hard copy)

Section II: Financial Bid (1 hard copy)

Section III: Certifications (1hard 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

Bidders must submit duly completed Annex "B" – Mandatory Technical Specifications Statement of Compliance.

Section II: Financial Bid

Bidders must submit firm prices for all items in the "Line Item Detail" page of this document.

Section III: Certifications

Bidders must submit the certifications required under Part 5.

7) PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

DELETE IN ITS ENTIRETY:

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

INSERT:

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

4.1 Evaluation Procedures

Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.

- a) The price of the bid will be evaluated in Canadian dollars, Applicable Taxes excluded, DDP destination, Canadian customs duties and excise taxes included.
- b) Bids submitted in foreign currency will be converted to Canadian currency for evaluation purposes. The noon exchange rate given by the Bank of Canada in effect on the bid solicitation closing date will be applied as a conversion factor to the bids submitted in foreign currency.

4.2 Mandatory Technical Specifications

In accordance with Annex "B" – Mandatory Technical Specifications Statement of Compliance, the Bidder must confirm that it has met all of the specifications that has been deemed mandatory by the Department of National Defence (DND) by providing a check-mark (✓), on an item by item basis, in the column marked 'Compliant'.

By inserting a check-mark (✓) for each article within the 'Compliant' column, the Bidder indicates to Canada that they are in full compliance with the requirement as stated. No further explanation is necessary.

4.3 Basis of Selection – Mandatory Technical Criteria

A bid must comply with the requirements of the bid solicitation and meet all mandatory technical evaluation criteria to be declared responsive. The responsive bid with the lowest evaluated price will be recommended for award of a contract.

8) **PART 6 – RESULTING CONTRACT CLAUSES**

DELETE:

6.2 Requirement

The requirement is detailed under the "Line Item Detail" page of this document.

INSERT:

6.2 Statement of Requirement

The requirement is detailed under ANNEX "A" – STATEMENT OF REQUIREMENT (attached).

9) **PART 6 – RESULTING CONTRACT CLAUSES**

DELETE IN ITS ENTIRETY:

6.4.1 Delivery Date (Mandatory)

INSERT:

6.4.1 Delivery Date

Goods shall be delivered on or before _____ *(to be inserted at contract award)*.

6.4.2 Accelerated Delivery

Every effort will be made to improve delivery without any additional cost to Her Majesty.

10) **PART 6 – RESULTING CONTRACT CLAUSES**

DELETE IN ITS ENTIRETY:

6.16 Shipping Instructions – Free on Board Destination and Delivery Duty Paid

INSERT:

6.16 Shipping Instructions - Delivery Duty Paid

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

Incoterms 2000 "DDP Delivered Duty Paid" Defence R&D Canada-Ottawa, Building 29,
3701 Carling Avenue, Ottawa, Ontario, K1A 0Z4 Canada.

11) **INSERT new Annexes:**

ANNEX "A" – STATEMENT OF REQUIREMENT (attached)

ANNEX "B" – MANDATORY TECHNICAL SPECIFICATIONS STATEMENT OF COMPLIANCE (attached)

12) **RESPOND TO BIDDERS QUESTIONS**, as follows:

Question #:	Question:	Answer:
1	C/W or Pulse?	A Continuous Wave (CW) amplifier is required and only a CW amplifier will be accepted. The device will be used for communication on continuous wave carrier signal. It will not be used for a pulsed signal such as Radar.
2	Do you need a power supply with unit?	Yes, a power supply that will meet the needs of the unit is required. The unit must not rely on any additional electronics that are not supplied to function.
3	Is there a certain weatherproof enclosure they require, does it need a heater?	It is up to the supplier to determine what weatherproof enclosure is required to meet the specifications detailed in Annex "A" – Statement of Requirement. The weatherproof enclosure needs to protect against dirt and water (rain/snow/ice).
4	Do you need VSWR, Overdrive, Current, protection?	Voltage standing wave ratio (VSWR), Overdrive and/or Current protection are not a requirement.
5	Do they need a control system of any kind? Do they need a display and Ethernet and SNMP?	a. Yes, at minimum a 5V remote on/off relay switch control system is required. b. No display is required.
6	Does it need fixed RF Gain or adjustable?	Fixed
7	What kind of output sample port does it need?	N/A
8	What are the limits for Gain Flatness, Intermodulation Distortion, AM/PM Conversion, Noise Figure and Input/output VSWR?	Gain flatness - +/- 1.5 dB Maximum Intermodulation distortion – 54 dBm OIP minimum AM/PM conversion – N/A Noise figure – 5.5 dB Maximum
9	What are the requirements for input-output connectors?	120 Volt NEMA L5-15 OSN 410-1 Female or Required Adapter SMA Female or Required Adapter 5 Volt High Commands On

Question #:	Question:	Answer:
		0 Volt Low Commands Off None Specified but must come with corresponding mate accessory described in section 6.3 of the statement of requirement.
10	Is it possible to explain the application of it?	See background information in Annex "A" – Statement of Requirement. It will be installed in the rear hub on the back on the dish antenna.
11	Will this be used in "mobile applications" or is it to be installed outdoors near an existing building never to be moved?	It will be installed in the rear hub on the back on the dish antenna.
12	What will be the wavefrom used to drive the amplifier? (CW, Digital Broadband, other?)	Continuous Wave
13	What Linearity and Intermod specs required?	54 dBm OIP3 Minimum
14	Does the customer need to control the output power level or will it be simply driven from "off" to 100Watts?	It will simply be driven from off to 100 watts.
15	We have supplied Outdoor solutions with both A/C and Heating built in...does the end user need this?	-30C to +55C Minimum
16	The Power Supply would normally be integrated within the enclosure...is is needed? (we can provide electrical requirements if not)	Incorporated inside unit
17	Any other system or usage information would be helpful for me to better formulate a solution.	See background information in Annex "A" - Statement of Requirement.
18	What is the delivery timeframe requirement?	Please refer to Amendment 003, item 5) Part 1 – General Information, article 1.3 Best Delivery Date – Bid.
19	Preferred Interface / RF Connectors?	120 Volt NEMA L5-15 OSN 410-1 Female or Required Adapter

Solicitation No. - N° de l'invitation
W7714-166181/A
Client Ref. No. - N° de réf. du client
W7714-166181

Amd. No. - N° de la modif.
003
File No. - N° du dossier
116qf.W7714-166181

Buyer ID - Id de l'acheteur
116qf
CCC No./N° CCC - FMS No./N° VME

Question #:	Question:	Answer:
		SMA Female or Required Adapter 5 Volt High Commands On 0 Volt Low Commands Off None Specified but must come with corresponding mate accessory described in section 6.3 of Annex "A" - Statement of Requirement.
20	What is the connector input and output required?	OSN 410-1 Female or Required Adapter SMA Female or Required Adapter 5 Volt High Commands On 0 Volt Low Commands Off None Specified but must come with corresponding mate accessory described in section 6.3 of Annex "A" - Statement of Requirement.
21	What is the AC power option required?	120 Volt NEMA L5-15 6 ft Minimum
22	What is the application for the S-Band High Power Amplifiers?	See response to question #10

ALL OTHER TERMS AND CONDITIONS REMAIN UNCHANGED

ANNEX "A" – STATEMENT OF REQUIREMENT

Solicitation No. W7714-166181/A

1. TITLE

S-BAND - HIGH POWER AMPLIFIERS (PRIMARY AND BACKUP)

2. BACKGROUND

The S-Band antenna (and associated transmit chain) at the DRDC Ground Station is the main communication device being used to communicate with the Near Earth Object Surveillance Satellite (NEOSSat), an essential part of DRDC research projects. The S-Band antenna's current HPA is broken. In order to ensure that the S-Band antenna can efficiently send a signal to the satellite, a High Power Amplifier (HPA) is required to increase the power of the signal. A back-up HPA (ie. two HPAs in the total transmit chain) ensures communication with the satellite in case the primary HPA fails. .

3. ACRONYMS

dB	Decibels
dBc	Decibels referenced to carrier signal
dBm	Decibels referenced to milliwatt
DRDC	Defence Research and Development Canada
Ft	Feet
OIP3	Output Third-order intercept point
SOR	Statement of Requirement
TA	Technical Authority
VSWR	Voltage standing wave ratio
W	Watt

4. APPLICABLE DOCUMENTS & REFERENCES

None

5. REQUIREMENTS

5.1 S-Band - High Power Amplifier

Required quantity: 2

The Contractor must provide the requirement with the following specifications:

Number	Specifications	Value
5.1.1	Frequency Range	2.02-2.12 GHz Minimum
5.1.2	Waveform	Continuous Wave
5.1.3	Gain	50 dBm Minimum
5.1.4	Flatness	±1.5 dB Maximum
5.1.5	Linearity	54 dBm OIP3 Minimum
5.1.6	Output power	100W Minimum
5.1.7	Noise Figure@ room temperature	5.5 dB Maximum
5.1.8	Harmonic output	-20 dBc Maximum
5.1.9	Input & output VSWR	2.0:1.0 Maximum

ANNEX "A" – STATEMENT OF REQUIREMENT

Solicitation No. W7714-166181/A

5.1.10	Over/Under Voltage Protection	Required
5.1.11	Reverse Polarity Protection	Required
5.1.12	Over Temperature Protection	Required
5.1.13	RF Sample Port	Not Required
5.1.14	Power Supply	Incorporated inside unit
5.1.15	AC Power Connection for unit	120 Volt NEMA L5-15
5.1.16	AC Power Cable	6 ft Minimum
5.1.17	RF Input Connector	OSN 410-1 Female or Required Adapter as per 5.2.3
5.1.18	RF Output Connector	SMA Female or Required Adapter as per 5.2.3
5.1.19	Output control Interface	5 Volt High Commands On 0 Volt Low Commands Off
5.1.20	5 Volt Relay Command (on/off) Connector	None Specified but must come with corresponding mate accessory described in section 6.3
5.1.21	Dimensions	2 ft x 2 ft x 2 ft Maximum
5.1.22	Weight	75 lbs Maximum
5.1.23	Outdoor Enclosure	Must protect unit against water (rain/snow/ice) and dirt Minimum
5.1.24	Outdoor Operating Temperature Range	-30C to +55C Minimum

5.2 ACCESSORIES

The Contractor must provide the following accessories for requirement 5.1:

Number	Description	Required quantity
5.2.1	User and Installation Manual	1
5.2.2	5 Volt Relay Command (on/off) Connector Mate	2
5.2.3	Required Adaptors	As required

6. DELIVERABLES

Number	Requirement Reference	Description of the Deliverables	Quantity	Format
6.1	5.1	S Band - High Power Amplifiers	2	Outdoor Enclosure
6.2	5.2.1	User and Installation Manual	1	Paper Hard Copy or PDF Soft Copy (Bilingual)
6.3	5.2.2	5 Volt Relay Command (on/off) Connector Mate	2	Pigtail or end user solderable and assemblable connector
6.4	5.2.3	Required Adaptors	As Required	As Required

**ANNEX “B” – MANDATORY TECHNICAL SPECIFICATIONS
STATEMENT OF COMPLIANCE**

Solicitation No. W7714-166181/A

Bidders must confirm that they meet all of the mandatory specifications below that have been deemed mandatory by the Department of National Defence (DND) by providing a check-mark (✓), on an item by item basis, in the column marked ‘Compliant’

5. REQUIREMENTS

5.1 S-Band - High Power Amplifier

Required quantity: 2

The Contractor must provide the requirement with the following specifications:

Number	Specifications	Value	Compliant
5.1.1	Frequency Range	2.02-2.12 GHz Minimum	
5.1.2	Waveform	Continuous Wave	
5.1.3	Gain	50 dBm Minimum	
5.1.4	Flatness	±1.5 dB Maximum	
5.1.5	Linearity	54 dBm OIP3 Minimum	
5.1.6	Output power	100W Minimum	
5.1.7	Noise Figure@ room temperature	5.5 dB Maximum	
5.1.8	Harmonic output	-20 dBc Maximum	
5.1.9	Input & output VSWR	2.0:1.0 Maximum	
5.1.10	Over/Under Voltage Protection	Required	
5.1.11	Reverse Polarity Protection	Required	
5.1.12	Over Temperature Protection	Required	
5.1.13	RF Sample Port	Not Required	
5.1.14	Power Supply	Incorporated inside unit	
5.1.15	AC Power Connection for unit	120 Volt NEMA L5-15	
5.1.16	AC Power Cable	6 ft Minimum	
5.1.17	RF Input Connector	OSN 410-1 Female or Required Adapter as per 5.2.3	

5.1.18	RF Output Connector	SMA Female or Required Adapter as per 5.2.3	
5.1.19	Output control Interface	5 Volt High Commands On 0 Volt Low Commands Off	
5.1.20	5 Volt Relay Command (on/off) Connector	None Specified but must come with corresponding mate accessory described in section 6.3	
5.1.21	Dimensions	2 ft x 2 ft x 2 ft Maximum	
5.1.22	Weight	75 lbs Maximum	
5.1.23	Outdoor Enclosure	Must protect unit against water (rain/snow/ice) and dirt Minimum	
5.1.24	Outdoor Operating Temperature Range	-30C to +55C Minimum	

5.2 ACCESSORIES

The Contractor must provide the following accessories for requirement 5.1:

Number	Description	Required quantity	Compliant
5.2.1	User and Installation Manual (Bilingual)	1	
5.2.2	5 Volt Relay Command (on/off) Connector Mate	2	
5.2.3	Required Adaptors	As required	

6. DELIVERABLES

Number	Requirement Reference	Description of the Deliverables	Quantity	Format	Compliant
6.1	5.1	S Band - High Power Amplifiers	2	Outdoor Enclosure	
6.2	5.2.1	User and Installation Manual	1	Paper Hard Copy or PDF Soft Copy (Bilingual)	
6.3	5.2.2	5 Volt Relay Command (on/off) Connector Mate	2	Pigtail or end user solderable and assemblable connector	
6.4	5.2.3	Required Adaptors	As Required	As Required	