



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. 004
Client Reference No. - N° de référence du client W7714-166181		Date 2016-03-01
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 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: 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 004 is raised to:

- 1) **MODIFY** the solicitation closing time to reflect 2:00 p.m. Eastern Daylight Time (EDT).
- 2) Revise ANNEX "A" – STATEMENT OF REQUIREMENT to increase the quantity from 2 to 6 for the 5 volt Relay Command (on/off) Connector Mate as stated at items 5.2.2 and 6.3.

DELETE current ANNEX "A" – STATEMENT OF REQUIREMENT in its entirety.

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

- 3) Revise ANNEX "B" – MANDATORY TECHNICAL SPECIFICATIONS STATEMENT OF COMPLIANCE to increase the quantity from 2 to 6 for the 5 volt Relay Command (on/off) Connector Mate as stated at items 5.2.2 and 6.3.

DELETE current ANNEX "B" – MANDATORY TECHNICAL SPECIFICATIONS STATEMENT OF COMPLIANCE in its entirety.

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

ALL OTHER TERMS AND CONDITIONS REMAIN UNCHANGED

ANNEX "A" – STATEMENT OF REQUIREMENT

(Amendment 004)

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

(Amendment 004)

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	6
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	6	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
(Amendment 004)
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	6	
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	6	Pigtail or end user solderable and assemblable connector	
6.4	5.2.3	Required Adaptors	As Required	As Required	