



**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**

**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**

<b>Title - Sujet</b> Dual Output Pulse Generator	
<b>Solicitation No. - N° de l'invitation</b> W7714-207158/A	<b>Date</b> 2019-09-11
<b>Client Reference No. - N° de référence du client</b> W7714-207158	
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$\$HN-445-77715	
<b>File No. - N° de dossier</b> hn445.W7714-207158	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> <b>on - le 2019-10-23</b>	<b>Time Zone</b> <b>Fuseau horaire</b> Eastern Daylight Saving Time EDT
<b>F.O.B. - F.A.B.</b> <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input checked="" type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Ladouceur, Joanne M.	<b>Buyer Id - Id de l'acheteur</b> hn445
<b>Telephone No. - N° de téléphone</b> (613) 296-4282 ( )	<b>FAX No. - N° de FAX</b> ( ) -
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b>  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**

**Issuing Office - Bureau de distribution**  
Electrical & Electronics Products Division  
L'Esplanade Laurier  
East Tower, 4th floor,  
Ottawa  
Ontario  
K1A 0S5

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



Destination Code - Code destinataire	Destination Address - Adresse de la destination	Invoice Code - Code bur.-comptable	Invoice Address - Adresse de facturation
D - 1	Bldg 560 Receiving 560 Mount Sorrell Road RALSTON, AB T0J 2N0 CANADA	I - 1	DEPT OF NATIONAL DEFENCE DEFENCE R&D CANADA-OTTAWA 3701 CARLING AVE, BLDG 29 OTTAWA, ON K1A 0Z4 CANADA W7714 Attn: JAIME.SAULNIER@FORCES.GC.CA



Item Article	Description	Dest. Code Dest.	Inv. Code Fact.	Qty Qté	U. of I. U. de D.	Unit Price/Prix unitaire FOB/FAM Destination	Plant/Usine	Delivery Req. Livraison Req.	Del. Offered Liv. offerte
1	Dual Output Radio Frequency Pulse Generator	D-1	I-1	1	Each	\$ XXXXXXXXXXXX		See Herein	

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## **PART 1 - GENERAL INFORMATION**

### **1.1 Security Requirements**

There is no security requirement associated with the requirement.

### **1.2 Requirement**

The contractor must provide the goods in accordance with the technical requirements stated herein.

#### **1.2.1 Delivery Requirement**

Delivery is requested to be completed by March 31, 2020.

#### **1.2.2 Delivery Offered**

While delivery is requested as indicated above, the best delivery that could be offered is\_\_\_\_\_.

### **1.3 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.

### **1.4 Trade Agreements**

The requirement is subject to the provisions of the World Trade Organization Agreement on Government Procurement (WTO-AGP), the North American Free Trade Agreement (NAFTA), the Bilateral Trade Agreements, and the Canadian Free Trade Agreement (CFTA).

## **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) (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 (2019-03-04) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

Subsection 5.4 of 2003, Standard Instructions - Goods or Services - Competitive Requirements, is amended as follows:

Delete: 60 days

Insert: 90 days

### 2.1.1 SACC Manual Clauses

SACC Reference	Section	Date
<u>A9033T</u>	Financial Capability	2012-07-16
<u>B1000T</u>	Condition of Material	2014-06-26

### 2.2 Submission of Bids

Bids must be submitted ONLY TO THE BID RECEIVING UNIT by the date, time and place indicated on page 1 of the bid solicitation. Do not send proposal directly to the Contracting Officer.

PWGSC Bids Receiving Unit  
11 Laurier Street, Place du Portage, Phase 3, Core 0B2,  
Gatineau, Québec, K1A 0S5  
Tel.: 819-420-7201 Fax: 819-997-9776

#### 2.2.1 Technical Documentation

**TECHNICAL/DESCRIPTIVE LITERATURE FOR PRODUCTS PROPOSED MUST BE SUBMITTED AS PART OF THE BID PACKAGE PRIOR TO THE BID CLOSING DATE. FAILURE TO COMPLY WILL RENDER YOUR BID NON RESPONSIVE.**

#### 2.3 Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than five (5) 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 Ontario.

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 follow the format instructions described below in the preparation of hard copy 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](https://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=32573) (<https://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=32573>). 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.

### **3.1.1 Exchange Rate Fluctuation**

The requirement does not offer exchange rate fluctuation risk mitigation. Requests for exchange rate fluctuation risk mitigation will not be considered. All bids including such provision will render the bid non-responsive.

## **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 specified below.

#### **Evaluation Criteria**

All bids must be completed in full and provide all of the information requested in the bid solicitation to enable full and complete evaluation.

#### **4.1.1 Technical Evaluation**

All bids must be completed in full and provide all of the information requested in the bid solicitation to enable full and complete evaluation.

##### **4.1.1.1 Mandatory Technical Criteria**

The following Mandatory requirements must be submitted with the bid for evaluation

- Security Clearance as specified herein;
- Technical compliance (description of Annex A herein);
- Acceptance of terms and conditions as mentioned in the bid solicitation;
- Completion of the proposal.

#### **4.1.2 Financial Evaluation**

The following Mandatory factors will be taken into consideration in the evaluation of each offer:

- Compliance with Pricing Basis.

The Offer price will be determined by processing all items at \_\_\_ to \_\_\_ as follows:

Sum of all items total price.

#### 4.1.2.1 Pricing Basis

The bidder must quote firm unit prices in Canadian dollars, DDP Delivered Duty Paid (Ralston, Alberta), Applicable Taxes extra, as applicable. Freight charges to destination and all applicable Custom duties and Excise taxes must be included.

#### 4.2 Basis of Selection

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 on an aggregate basis will be recommended for award of a contract.

### PART 5 – CERTIFICATIONS AND ADDITIONAL INFORMATION

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

The certifications provided by Bidders to Canada are subject to verification by Canada at all times. Unless specified otherwise, Canada will declare a bid non-responsive, or will declare a contractor in default 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 will render the bid non-responsive or constitute a default under the Contract.

#### 5.1 Certifications Required with the Bid

Bidders must submit the following duly completed certifications as part of their bid.

##### 5.1.1 Integrity Provisions - Declaration of Convicted Offences

In accordance with the Integrity Provisions of the Standard Instructions, all bidders must provide with their bid, **if applicable**, the declaration form available on the [Forms for the Integrity Regime](http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html) website (<http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html>), to be given further consideration in the procurement process.

#### 5.2 Certifications Precedent to Contract Award and Additional Information

The certifications and additional information listed below should be submitted with the bid, but may be submitted afterwards. If any of these required certifications or additional information 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 provide the certifications or the additional information listed below within the time frame provided will render the bid non-responsive.

##### 5.2.1 Integrity Provisions – Required Documentation

In accordance with the section titled Information to be provided when bidding, contracting or entering into a real procurement agreement of the [Ineligibility and Suspension Policy](http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html) (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>), the Bidder must provide the required documentation, as applicable, to be given further consideration in the procurement process.

### 5.2.2 General Environmental Criteria Certification

The Bidder must select and complete one of the following two certification statements.

- A) The Bidder certifies that the Bidder is registered or meets ISO 14001.

\_\_\_\_\_  
Bidders' Authorized Representative Signature

\_\_\_\_\_  
Date

**OR**

- B) The Bidder certifies that the Bidder meets and will continue to meet throughout the duration of the contract, a minimum of four (4) out of six (6) criteria identified in the table below.

The Bidder must indicate which four (4) criteria, as a minimum, are met.

<b>Green Practices within the Bidders' organization</b>	<b>Insert a checkmark for each criterion that is met</b>
Promotes a paperless environment through directives, procedures and/or programs	
All documents are printed double sided and in black and white for day to day business activity unless otherwise specified by your client	
Paper used for day to day business activity has a minimum of 30% recycled content and has a sustainable forestry management certification	
Utilizes environmentally preferable inks and purchase remanufactured ink cartridges or ink cartridges that can be returned to the manufacturer for reuse and recycling for day to day business activity.	
Recycling bins for paper, newsprint, plastic and aluminum containers available and emptied regularly in accordance with local recycling program.	
A minimum of 50% of office equipment has an energy efficient certification.	

\_\_\_\_\_  
Bidders' Authorized Representative Signature

\_\_\_\_\_  
Date

### 5.2.3 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 available at the bottom of the page of the [Employment and Social Development Canada \(ESDC\) - Labour's website \(https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#\)](https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#).

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

There is no security requirement applicable to the Contract.

### 6.2 Requirement

The contractor must provide the goods in accordance with the technical requirements and quantities stated herein.

#### 6.2.1 SACC Manual Clauses

SACC Reference	Section	Date
<a href="#">B1501C</a>	Electrical Equipment	2018-06-21
<a href="#">B7500C</a>	Excess Goods	2006-06-16

### 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](#) (2018-06-21), General Conditions - Goods (Medium Complexity), apply to and form part of the Contract.

##### 6.3.1.1 SACC Manual Clauses

SACC Reference	Section	Date
<a href="#">C2800C</a>	Priority Rating	2013-01-28
<a href="#">C2801C</a>	Priority Rating - Canadian Contractors	2017-08-17

### 6.4 Term of Contract

#### 6.4.1 Delivery Date

All the deliverables must be received on or before \_\_\_\_\_ (Delivery as offered and as accepted will be inserted at contract award).

### 6.5 Authorities

#### 6.5.1 Contracting Authority

The Contracting Authority for the Contract is:

*Joanne Ladouceur (M), Supply Specialist*  
Public Works and Government Services Canada - Acquisitions Branch

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Logistics, Electrical, Fuel and Transportation Directorate - "HN" Division  
Building L'Esplanade Laurier, East Tower 140 O'Connor St, 4<sup>th</sup> floor, Ottawa ON K1A 0R5

Telephone: (613) 296-4282  
E-mail address: [joanne.m.ladouceur@tpsgc-pwgsc.gc.ca](mailto:joanne.m.ladouceur@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 Contractor's Representative

Name and telephone number of the person responsible for: (will be inserted at contract)

#### General enquiries

Name: \_\_\_\_\_  
Telephone: \_\_\_\_\_  
E-mail: \_\_\_\_\_

#### Delivery follow-up

Name: \_\_\_\_\_  
Telephone: \_\_\_\_\_  
Facsimile: \_\_\_\_\_

## 6.6 Payment

### 6.6.1 Basis of Payment

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid firm lot prices, as specified in the contract (page 2). Customs duties are included and Applicable Taxes are extra.

### 6.6.2 Limitation of Price

SACC Manual clause [C6000C](#) (2017-08-17) Limitation of Price

### 6.6.3 Single Payment

SACC Manual clause [H1000C](#) (2008-05-12) Single Payment

### 6.6.4 Insurance - No Specific Requirement

SACC Manual clause [G1005C](#) (2016-01-28) Insurance - No Specific Requirement

## 6.7 Invoicing Instructions

1. 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.

Each invoice must be supported by:

- a) a copy of the invoices, receipts, vouchers for all direct expenses, and all travel and living expenses;
2. Invoices must be distributed as follows:
    - (a) The original and one (1) copy must be forwarded to the following address for certification and payment.

Department of National Defence, Defence R&D Canada-Ottawa  
3701 Carling Avenue, BLDG 29  
Ottawa, ON, K1A 0Z4  
Attention: [Jaime.saulnier@forces.gc.ca](mailto:Jaime.saulnier@forces.gc.ca).

(b) one (1) copy must be forwarded to the following address

*Joanne Ladouceur (M), Supply Specialist*  
Public Works and Government Services Canada - Acquisitions Branch  
Logistics, Electrical, Fuel and Transportation Directorate - "HN" Division  
Building L'Esplanade Laurier, East Tower 140 O'Connor St, 4<sup>th</sup> floor,  
Ottawa ON K1A 0R5  
Attention: Joanne Ladouceur (M).

## 6.8 Certifications and Additional Information

### 6.8.1 Compliance

Unless specified otherwise, the continuous compliance with the certifications provided by the Contractor in its bid or precedent to contract award, and the ongoing cooperation in providing additional information are conditions of the Contract and failure to comply will constitute the Contractor in default. Certifications are subject to verification by Canada during the entire period of the Contract.

## 6.9 Applicable Laws

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

## 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) [2010A](#) (2018-06-21), General Conditions - Goods (Medium Complexity));
- (c) Annex A, Statement of Work;
- (d) the Contractor's bid dated \_\_\_\_\_ (*insert date of bid*) (*If the bid was clarified or amended, insert at the time of contract award: “, as clarified on \_\_\_\_\_” or “, as amended on \_\_\_\_\_” and insert date(s) of clarification(s) or amendment(s)*)

## 6.11 Defence Contract

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

## 6.12 SACC Manual Clauses

SACC Reference	Section	Date
<a href="#">D5545C</a>	ISO 9001:2008 - Quality Management Systems - Requirements (Quality Assurance Code C)	2010-08-16
<a href="#">D9002C</a>	Incomplete Assemblies	2007-11-30

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File No. - N° du dossier  
hn445.W7714-207158

Buyer ID - Id de l'acheteur  
hn445  
CCC No./N° CCC - FMS No./N° VME

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### **6.12.1 Shipping Instructions - Delivery at Destination**

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

Delivered Duty Paid (DDP) (Ralston, Alberta) Incoterms 2000 for shipments from a commercial contractor.

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**ANNEX "A"**

**STATEMENT OF WORK**

**1. TITLE**

DUAL OUTPUT RADIO FREQUENCY PULSE GENERATOR

**2. BACKGROUND**

The Threat Mitigation Group at Defence Research and Development Canada (DRDC) Suffield has a requirement for a Dual Output Radio Frequency Pulse Generator for the production of non-repetitive high frequency electrical signals over a wide bandwidth.

**3. ACRONYMS**

DRDC	Defence Research and Development Canada
D/A	Digital to Analog
GHz	Gigahertz
Hz	Hertz
in	Inches
I/Q	In-phase and Quadrature
kg	Kilograms
kHz	Kilohertz
LO	Local Oscillator
MHz	Megahertz
MS	Megasamples
ns	Nanoseconds
Ohm	Ohms
PC	Personal Computer
RF	Radio Frequency
s	Seconds

**4. APPLICABLE DOCUMENTS & REFERENCES**

None

**5. REQUIREMENTS**

**5.1 Dual Output Radio Frequency Pulse Generator** Required quantity: 1

The Contractor must provide the requirement with the following specifications:

<b>Specifications</b>	<b>Value</b>
Chassis	Single, self-contained, and self-cooled for benchtop operation.
Vector Signal Generation	Pulse Generator must be Vector Signal Generator.
RF Paths	Two (2) independent Radio Frequency (RF) outputs (Path A and Path B) capable of being controlled and activated independently and simultaneously.
RF Path Impedance	50 Ohm.
RF Path A Frequency Coverage	100 kHz to 6 GHz.
RF Path B Frequency Coverage	100 kHz to 12 GHz.
Phase coherence	RF Path A and B must be phase coherent from 200 MHz to 6 GHz.

Common Local Oscillator (LO)	LO input and LO output.
Dual RF Pulse	Pulse modulation on Path A and Path B must be able to operate independently and simultaneously.
RF Pulse Mode	Single and double pulse modes on RF Path A and B.
RF Pulse Trigger	From both internal and external sources
RF Pulse Period Coverage	50 nanoseconds (ns) to 50 seconds (s)
RF Pulse Width Coverage	10 ns to 10 s
RF Pulse Resolution	Less than or equal to 5 ns
I/Q Modulation Bandwidth	Internal wideband I/Q modulation bandwidth (in RF) of 500 MHz (+/-250 MHz of center frequency).
I/Q Modulation Bandwidth Upgrade	Availability to upgrade to 2GHz (+/- 1GHz of center frequency) of internal generating bandwidth within the existing single chassis.
I/Q Paths	Two (2) I/Q paths that can be independently routed to RF Path A, Path B, and analog I/Q outputs.
D/A Converter	Data rate greater than or equal to 2000 MHz; Resolution greater than or equal to 14 bits.
Dimensions	Less than or equal to 18 in wide, 10 in high, and 20 in deep.
Weight	Less than or equal to 25 kg
Baseband Generator	Waveform length greater than or equal to 250 Megasamples (MS); Resolution greater than or equal to 14 bits; Sample rate covering 500 Hz to 500 MHz; and a Bandwidth greater than or equal to 500 MHz. Must be available to RF Path A and B independently and simultaneously.
Multifunction Generator	Generate sine wave, pulse, and triangle waveforms with a frequency less than or equal to 10 Hz and up to a frequency greater than or equal to 1 MHz. The multifunction generator must be available to RF Path A and B independently and simultaneously.
Frequency Modulation	Available to RF Path A.
Amplitude Modulation	Available to RF Path A.
Phase Modulation	Available to RF Path A.

## 5.2 Accessories

The Contractor must provide the following accessories for requirement 5.1:

Description	Required quantity
Pulse sequencing software to control RF Path A and RF Path B independently and simultaneously with an external PC. The pulse sequencing software must provide control elements like loops, nested loops, overlays, fillers and subsequences for sequencing applications.	1
Control cable to connect the Pulse Generator to an external PC, using either USB or Ethernet connection.	1

## 6. DELIVERABLES

Number	Requirement Reference	Description of the Deliverables	Quantity
6.1	5.1	Dual Output Radio Frequency Pulse Generator	1

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W7714-207158

Amd. No. - N° de la modif.  
File No. - N° du dossier  
hn445.W7714-207158

Buyer ID - Id de l'acheteur  
hn445  
CCC No./N° CCC - FMS No./N° VME

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<b>6.2</b>	5.2	Pulse sequencing software Control Cable	1 each
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**7. DATE OF DELIVERY**

On or before 2020-03-31.

**8. LANGUAGE OF WORK**

English

**9. DELIVERY LOCATION**

Defence Research and Development Canada – Suffield Research Centre  
Building 560  
Defence R&D Canada - Suffield  
Ralston, Alberta  
T0J 2N0  
Canada