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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

Maritime Aircraft Division/Division de aéronefs
maritimes

11 Laurier St. / 11, rue Laurier

8C1, Place du Portage

Gatineau

Québec

K1A 0S5

Title - Sujet Tactical Control Radar systems	
Solicitation No. - N° de l'invitation W8475-155257/A	Amendment No. - N° modif. 006
Client Reference No. - N° de référence du client W8475-155257	Date 2016-10-05
GETS Reference No. - N° de référence de SEAG PW-\$SBQ-164-25949	
File No. - N° de dossier 164bq.W8475-155257	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2016-10-31	Time Zone Fuseau horaire Eastern Daylight Saving Time EDT
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Chénier, Suzanne S.	Buyer Id - Id de l'acheteur 164bq
Telephone No. - N° de téléphone (873) 469-3829 ()	FAX No. - N° de FAX (819) 997-0437
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 No. - N° de l'invitation
W8475-155257/B

Amd. No. - N° de la modif.
006

Buyer ID - Id de l'acheteur
164BQ

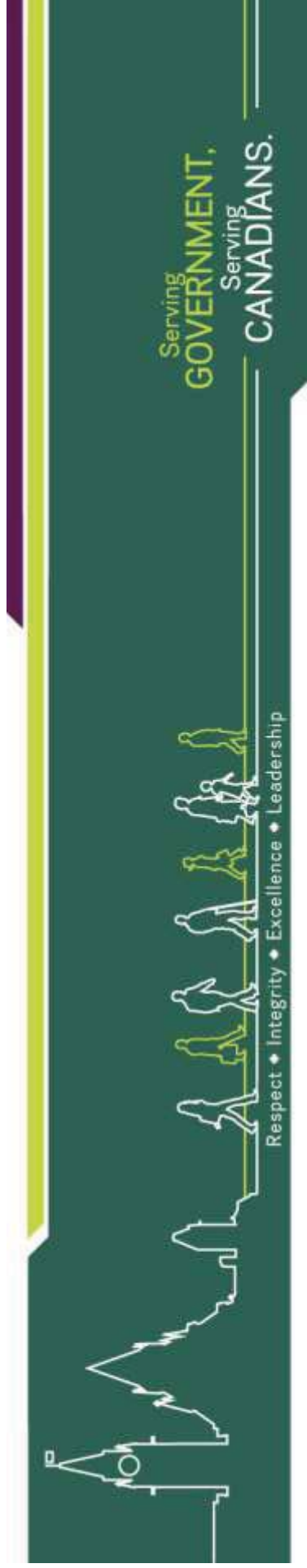
Client Ref. No. - N° de réf. du client
W8475-155257

File No. - N° du dossier
164BQW8475-155257

CCC No./N° CCC - FMS No./N° VME

The purpose of Amendment 006 to this Letter of Interest is to provide the presentation given by Canada at the Industry Day event.

All other terms and conditions of this Letter of Interest remain the same.



Tactical Control Radar Modernization Project

Industry Day

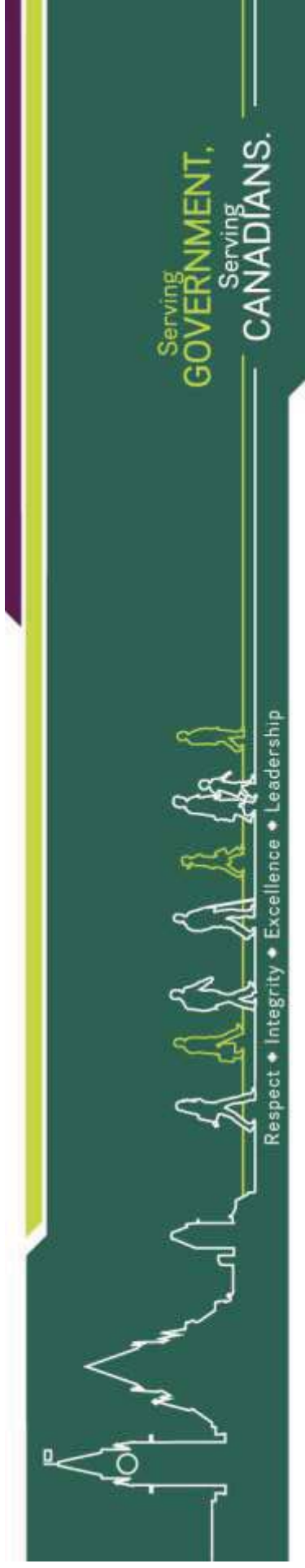
19 September 2016



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Tactical Control Radar Modernization Project

Administrative Points

Darren Langdon
Deputy Contracting Authority
Maritime Aircraft Division – BQ
Aerospace Equipment
Program Directorate



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Today's presentation will be given in English, but questions may be asked in either official language.

Both the English and French versions of the presentation will be made available on www.buyandsell.gc.ca shortly.

Agenda

- Administrative Points
- Tactical Control Radar Project Team
- Procurement, Evaluation and Contract Structure
- Tactical Control Radar Project Overview
- Technical Requirement and Evaluation
- Project Security Requirements
- Schedule
- Defence Procurement Strategy and Industrial Technical Benefits, including Value Propositions
 - Market Analysis Highlights
 - Proposed Value Proposition Evaluation Framework
 - Panel for General Questions

Security

- All visitors **MUST** be escorted by an authorized representative of Canada at all times.
- Visitor badges **MUST** be worn at all times, clearly visible and above the waist.

Washrooms

- Out the doors and to the RIGHT and LEFT down first hallway before the elevators (both men and ladies)
- Escort will be provided

Emergency Procedures

- In the event of an emergency, follow instructions given by both Commissionaires and/or meeting facilitator/presenter.
- In the event of fire, do not use elevators.
- Use the nearest emergency exit.
- Meeting area will be the first lamp post, nearest Blvd de la Carrière, in the Canadian Tire parking lot (next door).

Tactical Control Radar Industry Day

An open forum where Industry representatives will be presented an overview of the requirement and for Canada to answer any questions.

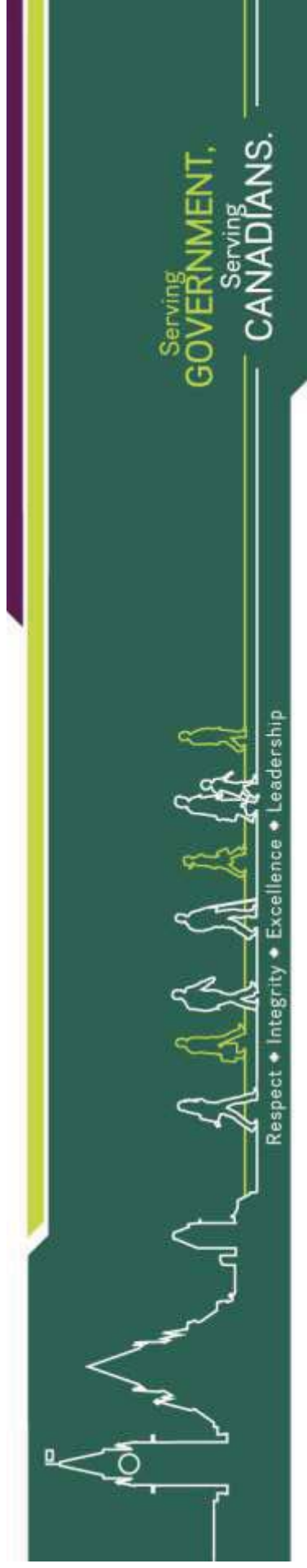
Tactical Control Radar Industry Day

One on One Meetings

Provide interested Participants with the opportunity to present any suggestions on the TCR Modernization Project requirements.

Questions

- Time has been allotted for Questions and Answers after each section is complete.
- There will be a final General Question and Answer period at the conclusion of the presentation.
- ALL Questions and Answers will be recorded and posted on www.buyandsell.gc.ca.
- No Company confidential, industry sensitive or proprietary information will be shared.



Tactical Control Radar Modernization Project

Public Works and Government Services Canada

Suzanne Chénier

Contracting Authority

Maritime Aircraft Division – BQ

Aerospace Equipment Program
Directorate



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Discussion Points

- Governance
- Proposed Bid Evaluation Overview
- Instructions to Bidders
- Certifications
- Contract Structure

Tactical Control Radar Project Team

Public Works and Government Services Canada

Project Contracting Authority – Ms. Suzanne Chénier

Deputy Contracting Authority – Mr. Darren Langdon

Department of National Defence

Project Manager – Mr. Barry Stokes

Deputy Project Manager – Ms. Marie Kiropoulos

Project Procurement Authority – Ms. Melissa Childs

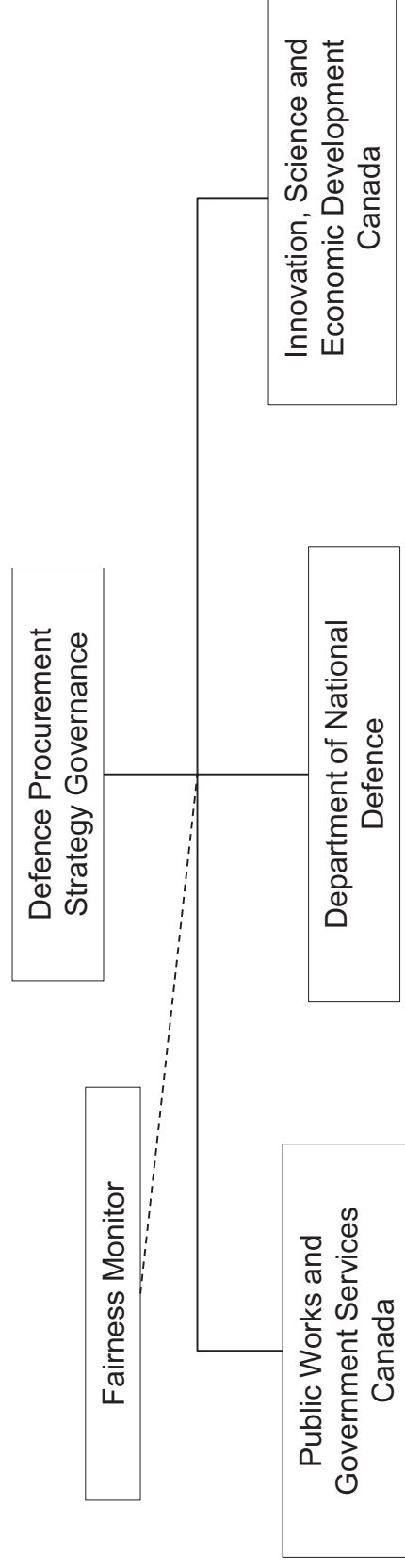
Innovation, Science and Economic Development Canada

Project Manager, Industrial and Technological Benefits – Mr. Efim Chor

Independent Fairness Monitor

Ms. Elizabeth Buckingham

Governance

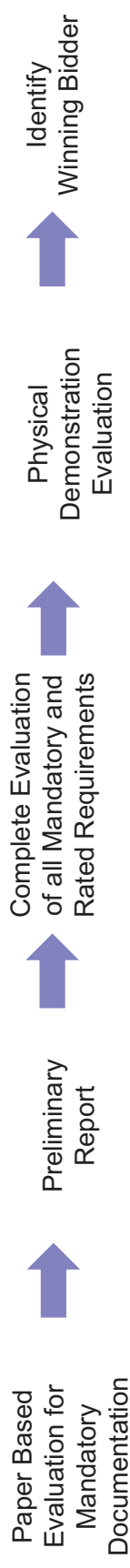


NOTE: Any and all communication to and from Canada MUST flow through the PWGSC Contracting Authority or PWGSC designated representative.

Proposed Bid Evaluation Overview

- Bid Evaluation completed by Government of Canada team
 - PWGSC, DND, ISEDC and Contracted Resources
- DND will lead the Technical Evaluations
- PWGSC will lead the Financial Evaluation
- ISEDC will lead the ITB/VP Evaluation
- 2 Step Evaluation process
- Only PWGSC and ISEDC will have access to any Financial information

Evaluation Flow:



Instructions to Bidders

Important Notes

- Clauses, terms and conditions are not negotiable
- Bids will remain valid for 540 calendar days
- Joint Ventures (JV) - bids and any resulting contracts must be signed by ALL members of that JV
- Bids to PWGSC Bid Receiving Unit only
- All enquiries must be submitted to the PWGSC Contracting Authority or PWGSC designated representative
- Resulting contract(s) will be interpreted and governed by the laws in force in the province of a winning bidder's choice

Certifications

- Bidders will be required to submit certain Certifications WITH their bid
 - e.g. the applicable Integrity Provisions documentation
- Bidders may be required to submit other Certifications, to be identified during a Request for Proposal, prior to any Contract award but not necessarily at the same time as their bid proposal

Contract Structure

Contract may be let in either of the following (to be clarified prior to release of the

Request for Proposal):

- one contract for all contract deliverables, including optional In Service Support

OR

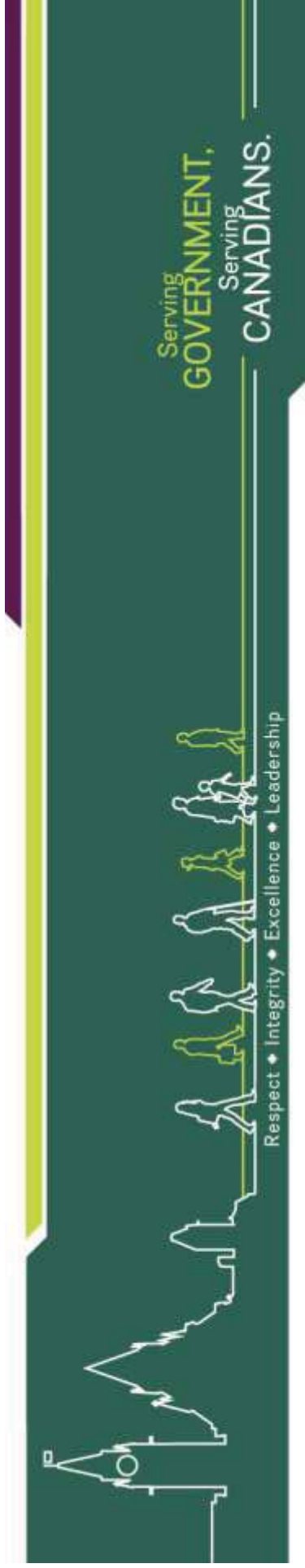
- one contract for the acquisition and
- one separate contract for the In Service Support of all purchased equipment
- Both Contracts awarded to the same winning bidder

Contract Structure

Method of Payment

- Acquisition of the initial 2 TCR Systems:
 - 1 Firm Lot Price and paid out in 12 buckets upon the successful completion of each of the 12 Milestones
- Optional 3rd TCR System (should it be purchased):
 - 1 Firm Lot Price paid upon acceptance of the system
- In Service Support
 - Combination of (depending on what aspect is being paid for):
 - Firm Fixed Price
 - Price plus Markup
 - Ceiling Price
 - Firm Labour Rates

Questions?



Tactical Control Radar Modernization Project

Department of National Defence

Barry Stokes

Project Manager

Radar and Communications Systems

Directorate of Aerospace Equipment

Program Management

Melissa Childs

Procurement and Finance Officer

Tactical Control Radar

Directorate of Aerospace Procurement



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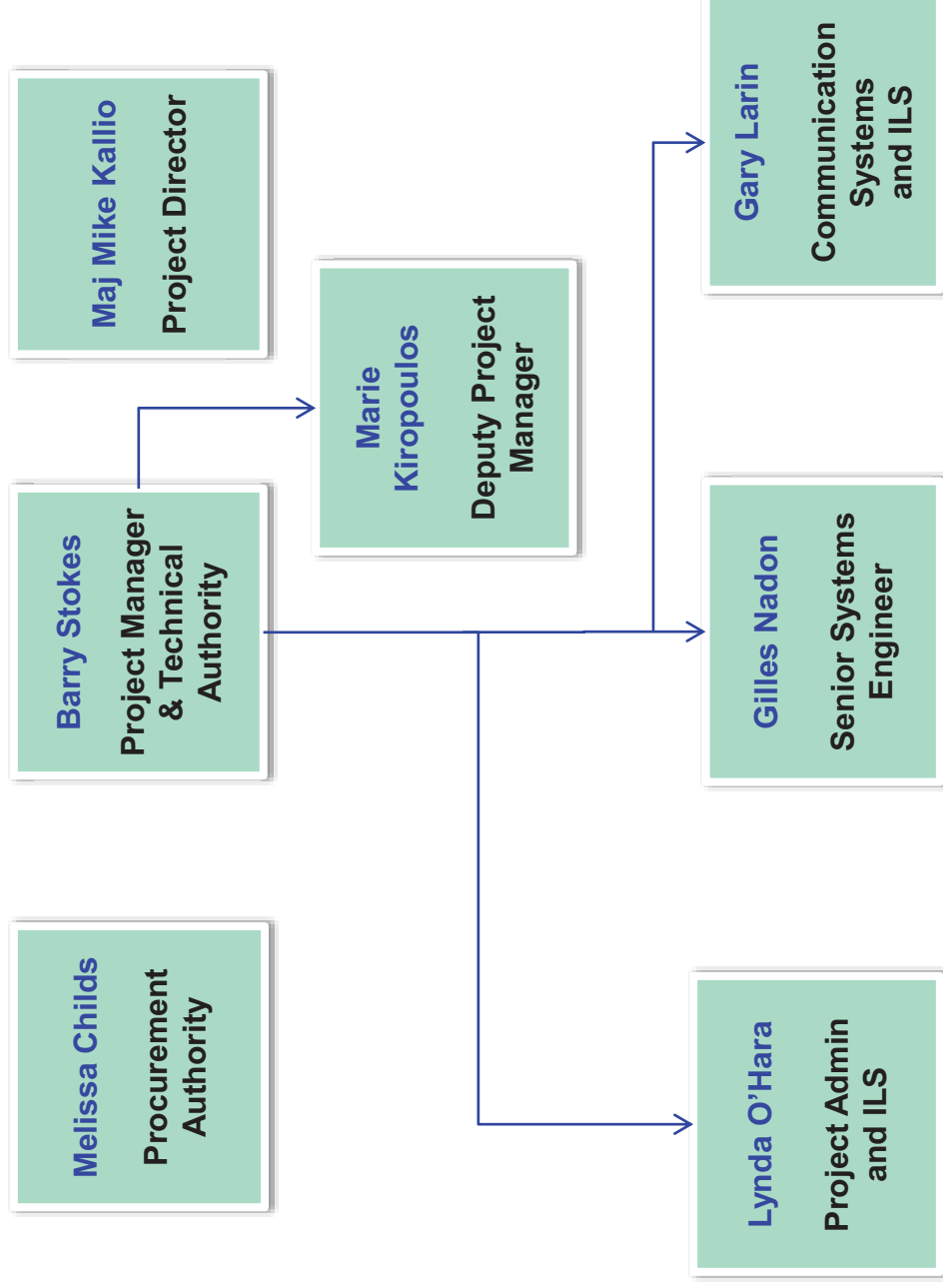
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Discussion Points

- Project Team
- Project Overview
- Technical Requirement
- Technical Evaluation
- Security Requirements
- Project Timelines

DND Project Team



42 Radar Squadron (CFB Cold Lake)



Radar Head



RTOC

12 escadron de radar (CFB Bagotville)



Radar Head



RTOC

Project Overview

- Tactical Control Radar (TCR) Modernization Project may procure up to three new TCR Systems
- The TCR Systems would be delivered to 42 Radar Squadron, Cold Lake, AB and 12 escadron de radar Bagotville, QC
- Systems support Force Generation (FG) flying activities, North American Air Defence (NORAD) operations and deployed operations or training exercises

Project Overview

(Continued)

- The scope of the project may include:
 - Replacement or integration of the ancillary equipment required for operations, such as radios, satellite communications, data link equipment and system control panels
 - Infrastructure design to identify what modifications are necessary for the existing buildings to accommodate all or part of the TCR System
 - The initial provision of spares (Optional) and all licenses
 - In-Service Support (Optional)

Technical Requirements

- Provision of modern, non-developmental solid-state, transportable 3D long-range air defence tactical control radar systems
- Systems must consist of fully tested, accepted, configured and integrated subsystems and associated equipment
- TCR Systems would be delivered and tested to 42 Radar Squadron (Rdr Sqn) 4 Wing, Cold Lake and 12 escadron de radar (ER) 3 Wing, Bagotville

Technical Requirements

(Continued)

- The TCR system must be compatible with the existing HESV Pallet Loading System (PLS) and road transport vehicles
- The system and subsystems must operate on 120/208 VAC \pm 2%, 60 Hz, three (3) phase
- Primary Surveillance Radar (PSR) Height Accuracy of 3000 ft. up to 180 NM for heights below 100,000 ft.
- Secondary Surveillance Radar (SSR) must be an AIMS certified at the box level

Technical Requirements

(Continued)

Priority Filtering

The Radar Subsystem must accomplish priority filtering by message type (RTQC/M4T, STATUS, BEACON, EMERGENCY, STROBE, M4, SEARCH/BEACON, BEACON, and SEARCH) must be implemented when the radar target peak capacity is exceeded in order to allow system controllers to continue to provide close control of aircraft.

Technical Requirements

(Continued)

Detection Volume.

The PSR must detect and report targets and on or off selectable clutter information during continuous radar operation and without shifting within the minimum elevation coverage defined as 20 degrees and -6 degrees from the horizontal plane of the radar.

Technical Evaluation

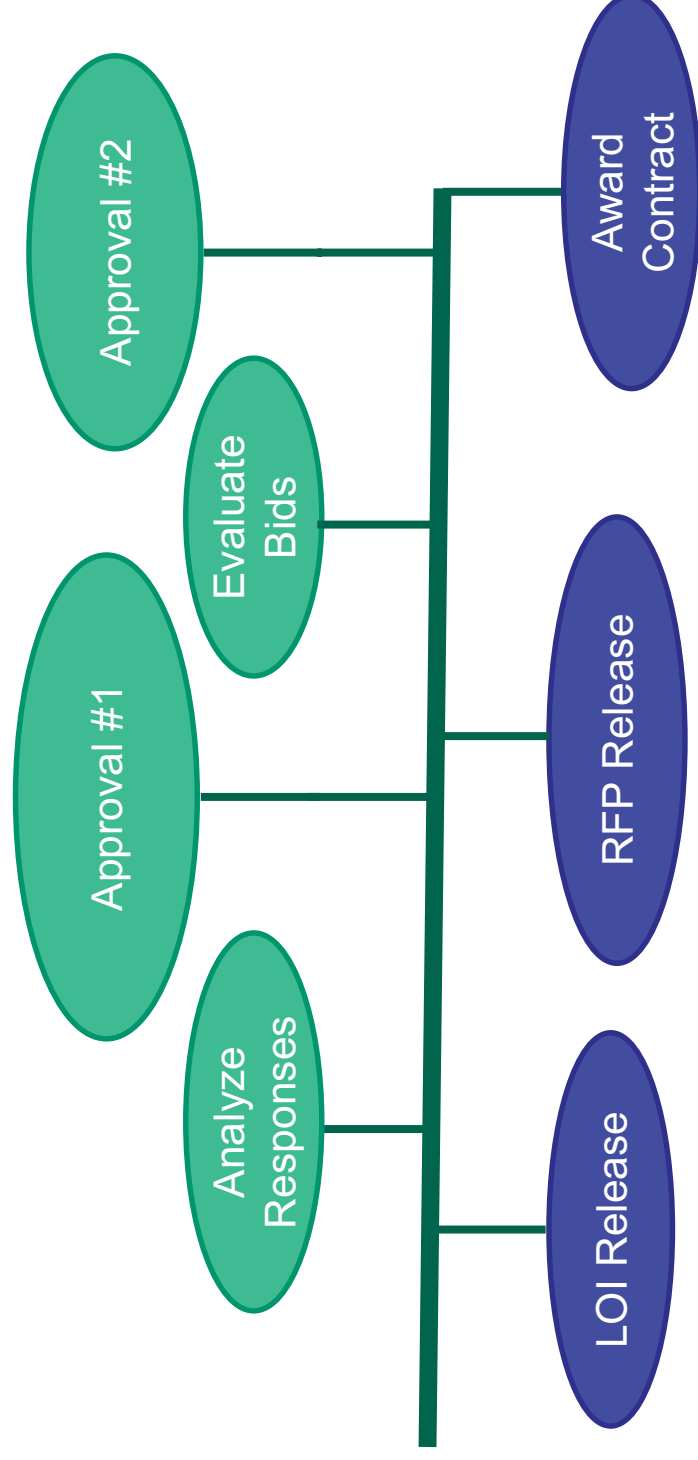
- Two phase evaluation
 - Phase one - Assessment of technical bid
 - Mandatory and rated criteria
 - Phase two - Physical demonstration of capability
 - Limited to Radar System only

Security Requirements

- Project is subject to:
 - Controlled Technology Access and Transfer (CTAT)
 - International Traffic in Arms Regulations (ITAR)
- Project has an National Security Exception (NSE)
- Restricted to Canadian and U.S. Citizens

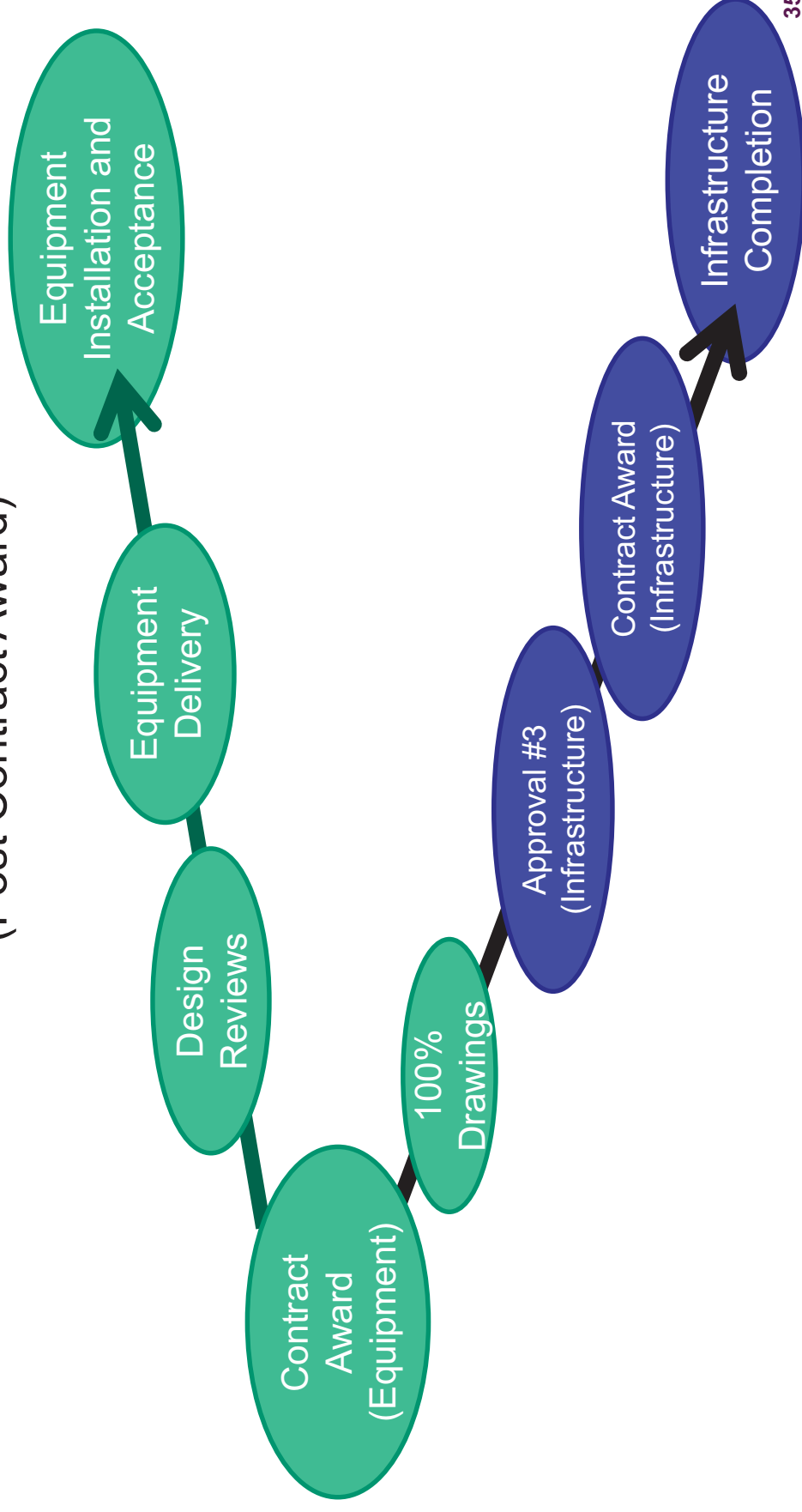
Project Activities

(Prior to Contract Award)



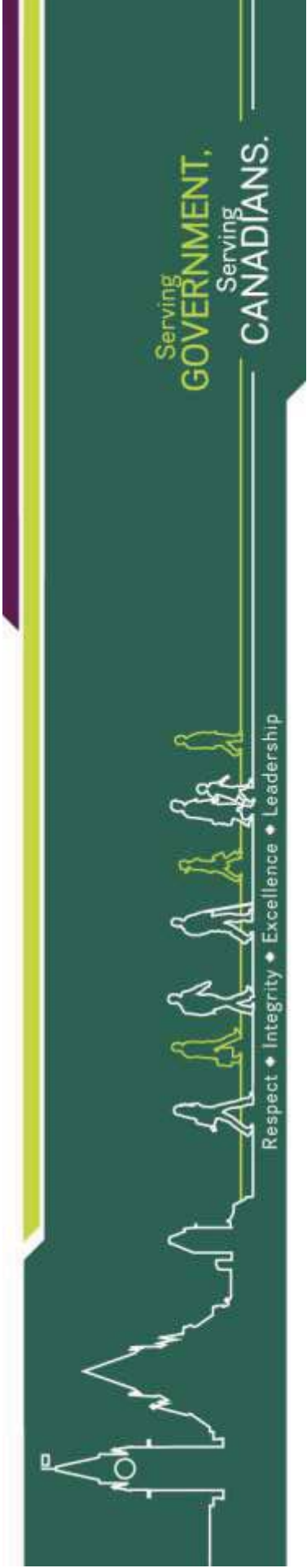
Project Activities

(Post Contract Award)



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Questions?



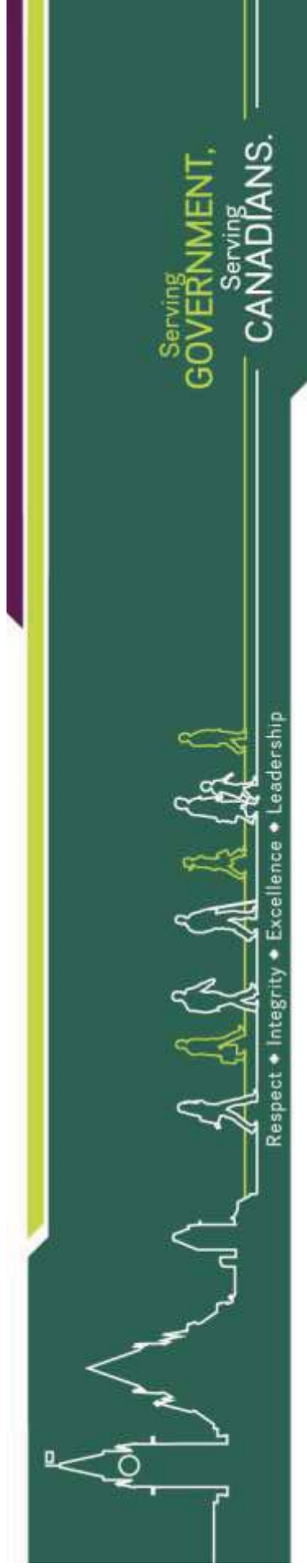
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Tactical Control Radar Modernization Project

Innovation, Science and Economic
Development Canada

Efim Chor

Project Manager

Industrial and Technological Benefits



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Discussion Points

- Objective
- Defence Procurement Strategy
- Industrial and Technological Benefits Policy
including Value Proposition
- Market Analysis
- Proposed Value Proposition Evaluation

Framework

Objective

- The Government of Canada is consulting with industry to support the development of the Value Proposition (VP) evaluation framework for the Tactical Control Radar (TCR) Modernization procurement
 - Present highlights of internal market analysis
 - Obtain industry views on proposed VP evaluation criteria and framework
 - Seek input from industry on structuring the VP evaluation methodology to best leverage this procurement to support long-term industrial benefits in Canada
- Feedback from industry provided during the industry engagement process will be used to inform the development of a draft Value Proposition evaluation approach

Defence Procurement Strategy

- **Announced in February 2014, by the Ministers of:**
 - Public Works and Government Services
 - National Defence
 - Industry Canada (now Innovation, Science and Economic Development Canada)
- **Goals:**
 - Deliver the right equipment to the Canadian Armed Forces and the Canadian Coast Guard in a timely manner
 - Leverage purchases of defence equipment and services to create jobs and economic growth in Canada
 - Streamline the defence procurement process

Industrial and Technological Benefits (ITB) Policy

- **The VP Guide was released on December 19th, 2014**
- **Four objectives**
 - Support the long-term sustainability and growth of Canada's defence sector
 - Support the growth of prime contractors and suppliers in Canada, including small and medium-sized enterprises in all regions of the country
 - Enhance innovation through R&D in Canada
 - Increase the export potential of Canadian-based firms

The ITB Policy will be broadly applied

- **The ITB policy will apply to:**

- All eligible defence procurement over \$100 million
- All eligible Canadian Coast Guard procurements over \$100 million and for which the National Security Exception applies
- All eligible defence procurements with contract values between \$20 – \$100 million will be reviewed for the use of Value Proposition

The Value Proposition (VP)

- Winning bidders are now selected on the basis of price, technical merit and their Value Proposition
- The VP includes bidder's commitment to undertake work in Canada and will generally account for 10 percent of the overall score
- Companies awarded procurement contracts must undertake business activity in Canada equal to the value of the contract

Value Proposition

- Commitments/activities proposed at bid time
- Rated and weighted during bid evaluation

Outstanding Obligation

- Activities identified after contract award
- Brings identified activities up to 100 percent of contract value

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VP Framework: Proposed Evaluation Criteria Example

Defence Sector	<ul style="list-style-type: none">• Work in Canada specific to the procurement• May include work in Canada's defence sector
Canadian Supplier Development	<ul style="list-style-type: none">• Work undertaken by suppliers in Canada• Work undertaken by SMB suppliers in Canada
R&D	<ul style="list-style-type: none">• R&D undertaken in Canada• R&D in Canadian post-secondary institutions
Exports	<ul style="list-style-type: none">• Strategy to export the procured product from Canada• May include incremental exports in any sector

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The VP Guide is a flexible framework

- **On a procurement-by-procurement basis, there is flexibility to:**

- Increase/decrease the 10% weight of the VP
- Weigh individual evaluation criteria differently
- Apply all or some of the evaluation criteria
- Add additional evaluation criteria
- Apply mandatory requirements
- Develop different rating grids

Informed by:

Industry engagement
Research and analysis
3rd party experts

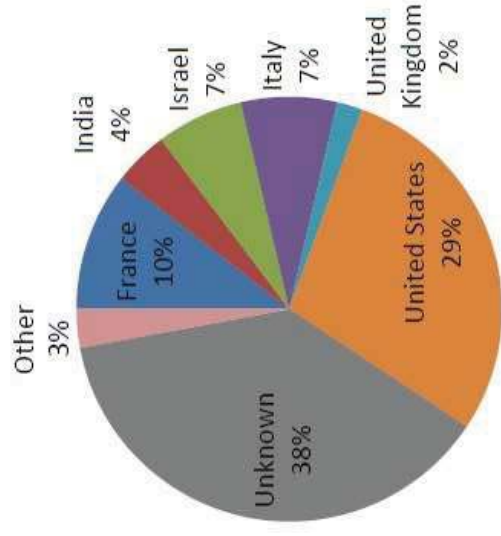
Market Research and Analysis

- **Objective**
 - Develop sound, factual market and bidders analysis to provide information on leveraging opportunities related to the TCR Modernization project and inform the development of the Value Proposition
- **Key Sources of information**
 - IHS Jane's and Avascent international defence sector independent research databases
 - Regional Development Agencies (RDAs) and Other Government Departments' industry capability analysis

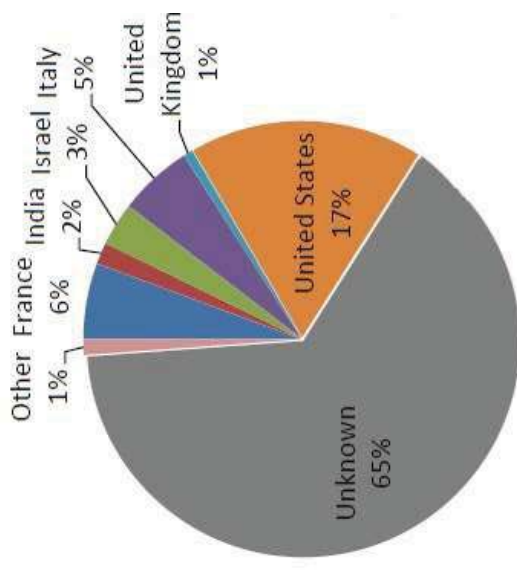
Global Long Range Ground-To-Air Military Radar Market

- Country of final assembly is undetermined for considerable level of market activity for a period of 2015 to 2020

Revenue by Country of Final Assembly ,
2015-2019



Revenue by Country of Final Assembly,
2020-2024



Market Research and Analysis

- The global military radar market is estimated at US \$231B over 2015-2024
- The military long-range, ground-to-air radar market segment represents about 5%-7% of the overall military radar market
 - Air search and early warning systems account for vast majority of this market segment
 - Production and supplier logistics are key revenue streams
- Long-range, ground-to-air military radar market is expected to grow by about 80% to \$7.9B by 2020-2024
- Canada represents approximately 2% of demand for long-range, ground-to-air military radar market
- As a country of final assembly, Canada has less than 1% of the global long-range, ground-to-air military radar market

Strategic Considerations for VP

- Canada has a relatively limited industrial capability related to the military radar market
- An existing Canadian supply chain consists of the following related capabilities:
 - Program management
 - Sub-system components providers
 - System integration, installation and testing
 - Integrated logistics support including training
 - In-service support
- Within the global military radar maker, R&D activities are driven primarily by government funded activities
- Given the strong growth projections for long-range, ground-to-air radar military market, high value export opportunities may be realized in partnership with Canadian companies, particularly with regards to training.
- Third party analysis indicates strong potential for indirect R&D opportunities in Canada as well as leveraging of existing industrial capabilities in the commercial radar market

TCR Modernization - Proposed VP Evaluation Criteria

Defence Sector	<ul style="list-style-type: none">• Commitment to perform Direct Work in Canada specific to the procurement
Canadian Supplier Development	<ul style="list-style-type: none">• Commitment to undertake Work by SMB suppliers in Canada• Commitment to undertake Work by non-SMB suppliers in Canada
R&D	<ul style="list-style-type: none">• Commitment to undertake R&D in Canada related to defence or commercial radar applications
Exports	<ul style="list-style-type: none">• Commitment to provide training and radar systems sustainment for international customers in Canada

VP Evaluation Questions Defence Sector

Objective:

Motivate direct work in Canada to develop and enhance industrial capabilities related to this procurement.

1. How much direct work, as a percentage of bid price, related to this procurement will you undertake in Canada and in what areas?
2. To what extent will you be able to submit identified transactions for direct work at time of bid, as a percentage of bid price?

VP Evaluation Questions Supplier Development

Objective:

Expand and grow Canadian supply chains in defence and commercial sectors.

1. How do you intend to enhance Canadian presence within your supply chain in defence and commercial sectors of the economy?
2. Generally, 15% Small and Medium Business (SMB) participation is a minimum mandatory requirement. Should Canada motivate SMB activities above this mandatory requirement? Please explain.

VP Evaluation Questions Research and Development (R&D)

Objective:

Incentivize investment in R&D activities in Canada in radar technologies and other high-value areas.

1. What R&D investments in Canada do you plan on making as a result of this procurement in either defence or commercial sectors? To what extent, as either a percentage of bid price or in absolute dollar value terms will you be able to commit at bid time?
2. Should more points be awarded to commitment in R&D activities related to radar technologies for either defence or commercial applications?

VP Evaluation Questions Exports

Objective:

Position Canadian companies to pursue export opportunities related to defence or commercial radar markets.

1. To what extent as a percentage of bid price, will you be able to commit to export activities for Canadian-based operations?
2. Recognizing that in-service support is a strategic capability and that Canada has strength related to systems training, to what extent will you be able to commit to exporting radar training and sustainment activities from Canada?
3. Are there other high-value activities in Canada across all sectors of the economy that can be exported as a result of this procurement?

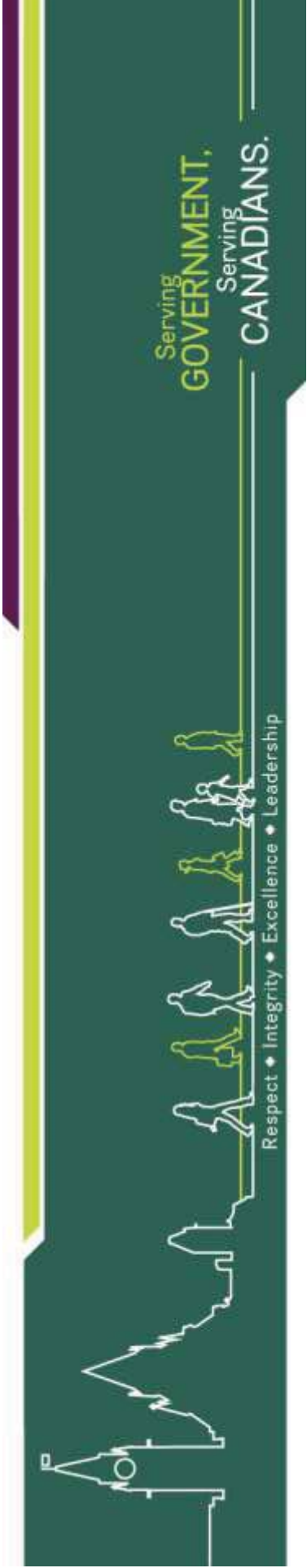
VP Evaluation Questions - Other

1. Are there other high-value business activities not captured by the proposed VP evaluation framework, which you believe would strengthen the Canadian economy?
2. Generally, VP accounts for 10% of the total evaluation score in relation to price and technical merit. Please provide your recommended weighting for this procurement with supporting rationale.
3. Please provide your weighting recommendation for the proposed VP evaluation criteria (total of 100%):
 - Defence Sector
 - Supplier Development
 - Research and Development
 - Exports
 - Other (if applicable)

More Information

1. For more information on Industrial and Technological Benefits as well as the Value Proposition Guide, please visit: <http://www.ic.gc.ca/itb>
2. Please provide your written feedback to the questions on the Proposed Value Proposition Framework for the TCR Modernization Project by September 28, 2016
3. Questions regarding clarification, as well as scheduling of one-on-one meetings following the release of the Letter of Interest must be sent to the Contracting Authority
4. After assessing industry feedback resulting from this LOI, Canada will release in early 2017, draft RFP ITB documents consisting of bidder instructions, evaluations plan and terms and conditions.

Questions?



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Questions

Panel for General Questions and Answers

- Ms. Suzanne Chénier - Project Contracting Authority
- Mr. Barry Stokes - Project Manager TCR
- Ms. Melissa Childs - Project Procurement Authority
- Mr. Efim Chor - Project Manager, Industrial and Technological

Benefits

Contacts

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Darren Langdon

Deputy Contracting Authority
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