Instrument Landing Systems (ILS) Project

Industry Day Presentation

June 1, 2021

Today's presentation's for the ILS project will be provided in English only, but questions may be asked in either official language.

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

Agenda

- Login and Connectivity confirmation
- Welcome and Administration
- Government of Canada Project Team introduction
- Process Overview -Tim Blahey, Contracting Authority (PSPC)
- RCAF Project and Requirements Overview – Major Bruce Dearing, Project Manager (DND-RCAF)
- Industrial and Technological Benefits Overview (ISED) – Ms. Akashdeep Gill
- Closing remarks
- Questions

One on One Meetings
(One hour blocks)

- Non mandatory one on one Supplier meetings are due to begin immediately after the close of the Industry Day presentations.
- Meetings will run from June 1 to 4, 2021.
- Provides interested Industry participants with the opportunity to ask further questions and / or present any suggestions etc. on the ILS project requirements in a private setting.
- Potential suppliers who have registered by May 18 per the ILS RFI on Buy and Sell have been advised of their date and time slot for their one hour virtual meetings.

Welcome and Administration Process Overview

Tim Blahey

Contracting Authority/Industry Day moderator
Detection, Simulation and Optical Systems Division (DSOS)
Defence and Marine Procurement-QT
Public Services and Procurement Canada/Government of Canada
Cell: 873-354-1679
Tim.Blahey@pwgsc-tpsgc.gc.ca

Administrative Points/Virtual Presentation Housekeeping

- Kindly observe MS Teams Live Event Etiquette.
- Please leave all cameras off to preserve bandwidth during the presentation. Only the presenters will be visible on screen.
- Please mute microphones when not speaking.
- If you wish to ask a question during the presentation, kindly use the “raise hand” feature on MS Teams.
- Note that there will also be a formal question and answer period at the end of the presentations.

Government of Canada ILS Project Team

- Tim Blahey, Contract Authority, PSPC.
- Major Bruce Dearing, Project Manager, DND (RCAF).
- Captain Dave Bourrier, Project Director, DND (RCAF).
- Ms. Julia Clouthier, Procurement Authority, DND.
- Mr. Piyush Agarwal, Contractor, DND.
- Ms. Juthika Hasan, Project Officer, Industrial and Technological Benefits Branch, ISED.
- Ms. Jocelyne Lafrenière, Independent Fairness Monitor.

Administrative Points Communication

- ALL questions, comments, communications and contact during the Request for Information (RFI) process MUST flow through the PSPC Contracting Authority or their representative ONLY.

- No offline discussions regarding this specific requirement, other requirements, or current process are allowed with any other representatives of Canada (including PSPC, DND/CAF or ISED).

Industry Day…
What's it all about?

- A forum where Industry representatives will be presented with an overview of the ILS requirement, and an opportunity for Canada to address any questions that Industry may have.
- It also ensures that the Government of Canada exercises its due diligence, and maintains the integrity of the ILS procurement process.
- PSPC, in consultation with a 3rd party Fairness Monitor, will ensure that the resulting Government of Canada procurement processes are conducted in a fair, open and transparent manner.

Industry Day (cont.)

- This is not a solicitation, and a formal Request For Proposal (RFP) may or may not be established directly as a result of this Request For Information (RFI) process.
- The intent of the ILS RFI process (including Industry Day) is to provide industry with information related to the ILS project, and to seek information from Industry to assist the ILS team to:

I. Request information and feedback, and establish budgets by receiving indicative cost estimates from Industry.

II. Determine the capability of Industry to satisfy the requirements.

III. Investigate issues that would impact any resulting solicitation and/or DND's requirements for this project.

IV. Inform Industry of the possibility of the application of the Industrial and Technological Benefits (ITBs) Policy, including Value Proposition (VP).

Questions

- There will be a General Question and Answer period at the conclusion of the morning's presentation.
- ALL Questions from Industry and Answers from Canada (both from today's presentation, and subsequent one-on-one meetings) will be documented and posted on www.buyandsell.gc.ca at a future date.
- No company information, identified as confidential, industry sensitive or proprietary, will be shared.

Process Overview

Who is PSPC?

- Public Services and Procurement Canada (PSPC) (formerly referred to as Public Works and Government Services Canada or the Department of Public Works and Government Services) is the department of the Government of Canada with responsibility for the government's internal servicing and administration.

- While the stylized name of the department has changed, the legal name of the department remains the Department of Public Works and Government Services.

What Does PSPC Do?

- Provides innovative common services to the Government of Canada.
- Provides Government Departments with vital services such as Pay and Pension administration, IT Services, Procurement, Real Property and Translation Services.
- PSPC is committed to delivering these services in a more efficient and economical manner, while always improving on how the government does business.

PSPC Acquisitions Branch
(Procurement)

- - The Acquisitions Branch provides Departments and Agencies with expert assistance at each stage of the supply cycle, and offers tools that simplify and accelerate the acquisition of goods and services.
- - These purchases range from office supplies, to military aircraft and ships, to security systems, and everything in between.
- - PSPC facilitates open, fair and transparent procurement services to the government at best value, worth approximately $14 billion annually through some 60,000 procurement-related transactions.
- - Ensures that the government exercises due diligence and maintains the integrity of the procurement process.

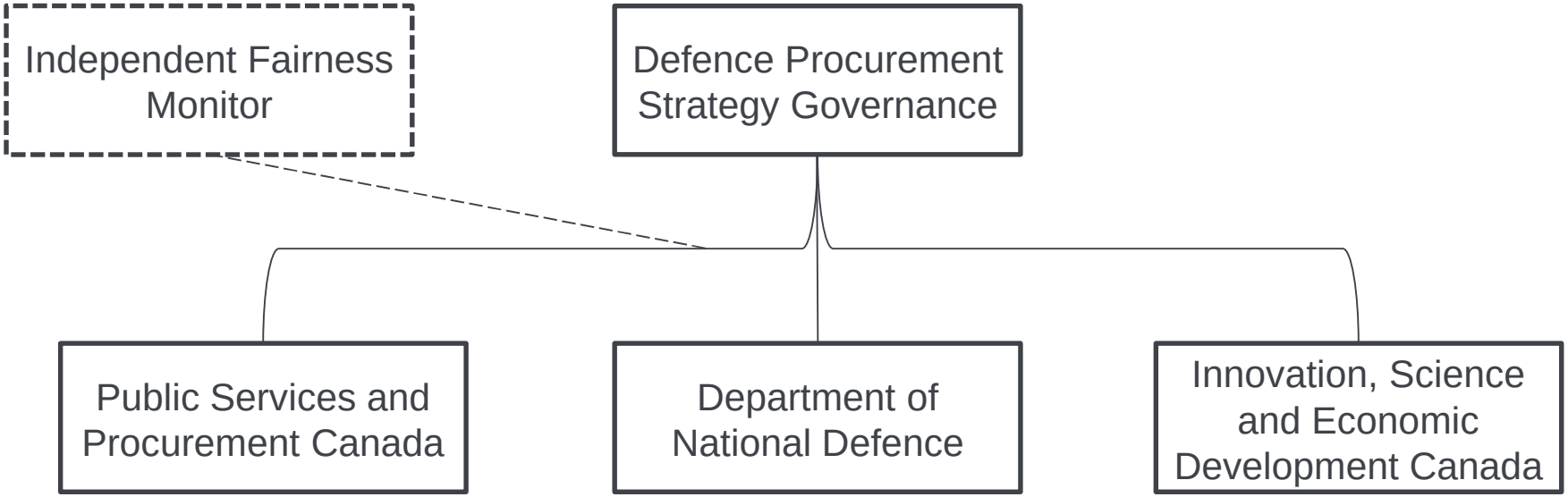
Role of the Fairness Monitor (FM)

- The FM is an independent third-party, holding a professional designation/accreditation, engaged by Departments to observe and render impartial decisions, and attest as to whether decisions taken by the department are fair, open and transparent.

- Observe activities undertaken during the engagement process, and provide an unbiased and impartial opinion on their fairness, openness, and transparency.

- The FM **will not** offer subject matter expertise, advice or guidance.

Governance


Independent Fairness Monitor
Defence Procurement Strategy Governance
Public Services and Procurement Canada
Department of National Defence
Innovation, Science and Economic Development Canada

Industry Engagement

The RFI process with Industry Engagement allows:

- Canada to refine and finalize the requirement based on technical feasibility, set realistic budgets, and to develop an informed procurement approach and contracting nuances.
- Industry to provide crucial feedback on the requirement, procurement approach and offer potential alternatives.

Request for Information (RFI) Structure

The ILS RFI was published on Buy and Sell on March 2/2021, and was structured in the following manner:

Parts 1-8 : Purpose, Background Information, Potential Scope and constraints, Schedule, Contracting Authority, Questions submitted by Industry, Additional Information requests, and Fairness Monitor

Annex A – Questions to Industry

Annex D – Acronyms and Abbreviations

After Industry Engagement

- After analyzing Industry feedback, Canada will:
  - Establish realistic and achievable requirements
  - Develop accurate project budgets
  - Gather information for draft Request(s) for Proposal (as applicable)
- The objective is to gather the most realistic information as possible to achieve these goals, from the RFI, Industry Day, and One on Ones.

- Canada is open to further discussion on a case by case basis (depending on availability and schedule) – as arranged through PSPC.

Anticipated Resulting Procurement(s)

- Provide DRAFT Request(s) for Proposal to solicit feedback on the final requirements, procurement strategies and evaluation plans (Draft RFP likely but not guaranteed).
- Procurement Strategies are presently being developed. Industry Engagement and Options Analysis will help to influence the development of these procurement strategies for acquisition of the initial ILS equipment and services, as well as for the long-term sustainment support for the life of the equipment.
- The project is also considering contracting out ILS as a service, rather than procuring and owning the systems outright.

Project & Requirement Overview

Major Bruce Dearing
Project Manager
Instrument Landing Systems (ILS) project
Royal Canadian Air Force
Department of National Defence

ROYAL CANADIAN AIR FORCE

AVIATION ROYALE CANADIENNE

Industry Day

ROYAL CANADIAN AIR FORCE INSTRUMENT LANDING SYSTEMS FOR AIR TRAFFIC CONTROL (ILS) W8475-20ILS1

1 June 2021

Capt David Bourrier - Project Director
Directorate Air Domain Development (DADD) 4-3-2

Maj Bruce Dearing – Project Manager
Director Aerospace Equipment Program Management (DGAEPM) R&CS 4-2

Disclaimer

The ILS Project is in Options Analysis and, as such, the scope and requirements described within are subject to refinement.

The contents of this presentation may feature market items as representative images for the sole purpose of describing potential capability.

Overview

- Background
- Current Situation
- Business Need
- Scope Outcomes
- Scope of Work
- Virtual Site Locations Visits

Background

- **The Department of National Defence (DND)** has an ongoing requirement to provide accurate reliable precision navigation approaches to Royal Canadian Air Force (RCAF), civilian, and allied aircraft, at all it's RCAF Main Operating Bases (MOBs).

- **Instrument landing systems (ILS)** enable aircraft to conduct a safe, precision approach to a runway, during conditions of low cloud ceiling and low visibility.

Background

Without near term replacement equipment, the current cadre of Philips ILSs (one of three OEMs presently utilized by DND) will experience an increased failure rate, reducing the ability of DND aircraft to effectively conduct missions during periods of inclement weather.

Canada

Current Situation

The Estimated Life Expectancy (ELE) &
Present locations for the various RCAF ILS equipment:

Original Equipment Manufacturer (OEM)	ELE	3 Wing	4 Wing	5 Wing	8 Wing	14 Wing	15 Wing	19 Wing	Totals
		Bagotville, QC	Cold Lake, AB	Goose Bay, NL	Trenton, ON	Greenwood, NS	Moose Jaw, SK	Comox, BC	
Philips 7801	2015	1	1	1		1		1	5
Thales 420	2027	1			2			1	4
Selex 2100	2030 (est.)						2		2
Total ILS per Wing		2	1	1	2	1	2	2	11

Solution Requirement

DND requires an affordable, safe, reliable, sustainable precision approach navigational aid at our RCAF MOBs, which meet the High-Level Mandatory Requirements set forth.

The aim of the ILS replacement project is to procure a replacement capability for existing Canadian Forces fixed-base precision approach ILS equipment at Canadian Forces aerodromes that are reaching the end of their Equipment Life Expectancy (ELE) and are no longer economically sustainable.

The Instrument Landing System Replacement Project shall procure between **5 to 14** new Instrument Landing Systems (ILS) for DND operated Aerodromes.

Also in consideration for the project is contracting ILS as a service, rather than procuring and owning the systems outright.

ILS Project High-Level Mandatory Requirements

1. The ability to assure Category I precision approach capability (both a primary and an alternate) is available to military and civilian aircraft within the parameters as specified in International Civil Aviation Organization (ICAO) document Annex 10.
2. The ability to support future Category II and Category IIIA approach capability.
3. The ability for Air Traffic Management (ATM) personnel to remotely monitor the integrity of the ILS equipment, to ensure it is operating within acceptable parameters.

(*The aviation standard ILS Categories listed below determine how close an aircraft can get to the ground on approach before deciding whether to land, with lower altitude possibilities (larger category numbers) being more desirable for increased performance).*

1.Category I ILS – 200ft (60m)

2.Category II ILS – 100ft to 200ft (30m to 60m)

3.Category III ILS – < 100ft (< 30m)

Solution Options 1/3

Option 0 – Status Quo	Option 1 – Replace Philips 7801s	Option 2 – Replace Philips 7801s Add Second Approach
Unsupportable.	Replace the existing 5 Philips 7801's, with one unit each presently located at: •Bagotville, QC; •Cold Lake, AB; •Goose Bay, NL; •Greenwood, NS; and •Comox, BC **Total ILS - 5**	Replace the existing 5 Philips 7801's as in Option 1, and add a second ILS in: •Cold Lake, AB; •Goose Bay, NL; and •Greenwood, NS **Total ILS - 8**

Solution Options 2/3

Option 3 – Replace all existing ILS systems in service.	Option 4 – Replace all ILS systems, add second approach.	Option 5 – Operate ILS as a service.
Replace all of the existing ILS equipment (from the three OEMs) at: •Bagotville, QC; •Cold Lake, AB; •Moose Jaw, SK; •Goose Bay, NL; •Trenton, ON; •Greenwood, NS; and •Comox, BC. **Total ILS - 11**	Replace all of the existing ILS equipment at the seven CFB Wings, plus add an additional approach at: •Cold Lake, AB; •Goose Bay, NL; and •Greenwood, NS. **Total ILS – 14**	Install, Maintain, and Operate 2 ILS precision approaches at each of the 7 RCAF Wings at: •Bagotville, QC; •Cold Lake, AB; •Moose Jaw, SK; •Goose Bay, NL; •Trenton, ON; •Greenwood, NS; and •Comox, BC. **Total ILS – undefined**

Solution Options 3/3

Option 5 – Operate ILS as a service.

DND is interested in pursuing contracted Instrument Landing Systems Support and Operation to meet the High Level Mandatory Requirements previously identified.
DND will continue to hear proposed solutions from industry on their ability to provide ILS as a service.

The selected bidder would be expected to provide ILS services at the identified Wings for a period of approximately 10 to 20 years, with options to negotiate additional years. ILS as a Service will potentially be planned as a capital expenditure with an annual service cost throughout the service period. The capital expenditure costs will be based on all site requirements including: engineering, civil works, cabling, communications, shelters, A/C, power, etc. The annual service fee for ILS as a Service should include:

1. Replace all ILS systems and include any additional ILS approaches which meets the HLMRs;
2. Installing modern ILS systems to include site preparations, civil works, and certification;
3. Integrated Logistic Support, including repairs, and all flight inspections; and
4. Maintaining the systems with a >98% serviceability rate.

Business Need

The aim of the Instrument Landing System (ILS) replacement project is to procure a replacement capability for existing Canadian Forces fixed-base precision approach ILS equipment at Canadian Forces controlled aerodromes.

These new ILS will be a replacement or an addition to the existing ILS capability and will improve airport capabilities under Instrument Meteorological Conditions (IMC).

DND has a requirement to procure (5) Instrument landing Systems (ILS) for delivery to:

- 3 Wing Bagotville;
- 4 Wing Cold Lake;
- 19 Wing Comox;
- 14 Wing Greenwood; and
- 5 Wing Goose Bay, with an option for up to nine additional systems at locations previously identified.

Business Need

1. Each of the ILS systems provided by the Contractor should be a fully functional (latest COTS version) system and should include the following:
   a) Localizer sub-system (including, electronics, antenna and monitoring system);
   b) Glide Path sub-system (including, electronics, antenna and monitoring system);
   c) Siting of the new Localizer and Glide Path sub-systems, including recommendations regarding physical positioning of all components, control cables, electrical power and ground layouts, and grading and drainage;
   d) The Contractor shall conduct any additional siting or geotechnical surveys that may be required, including work related to optional systems;
   e) remote control and monitoring unit (RCMU) with interlock feature in the Technical room;
   f) local/remote maintenance sub-system;
   g) status, control and monitoring components including, but not limited to, monitor status, input/output ports for government owned status and control systems, integral monitoring, and mechanical monitoring;
   h) equipment shelters for the Localizer and Glide Path sub-systems electronics;
   i) antenna support structures/towers (including lightning protection system);
   j) power subsystem (including backup power source);
   k) Initial Cadre Training;
   l) all documentation, planning, meetings and reports to be specified in the Data Item Deliverables (DIDs); and
   m) any other mandatory deliverables, to be identified in the Statement of Work (SOW).

Scope Outcomes

To define the work requirements for the acquisition and implementation of new; Commercial-Off-The-Shelf (COTS), all weather, state-of-the-art, Category 1, Instrument Landing Systems (ILS).

Determine a procurement solution which will be flexible, sustainable and upgradable to meet the needs of the RCAF for the next 10 – 20 years.

Maintenance and Support Concept, for Options 1 through 4, DND technicians will maintain the ILS using a first line maintenance program with limited second line capabilities. Second line functions beyond the capability of DND technicians, as well as 3rd line maintenance Repair & Overhaul (R&O) will be contracted out.

The Maintenance and Support Concept is premised upon the provision of state of the art Commercial Off The Shelf (COTS) equipment incorporating Built-In-Test (BIT), remote maintenance and status monitoring equipment.

Scope of Work

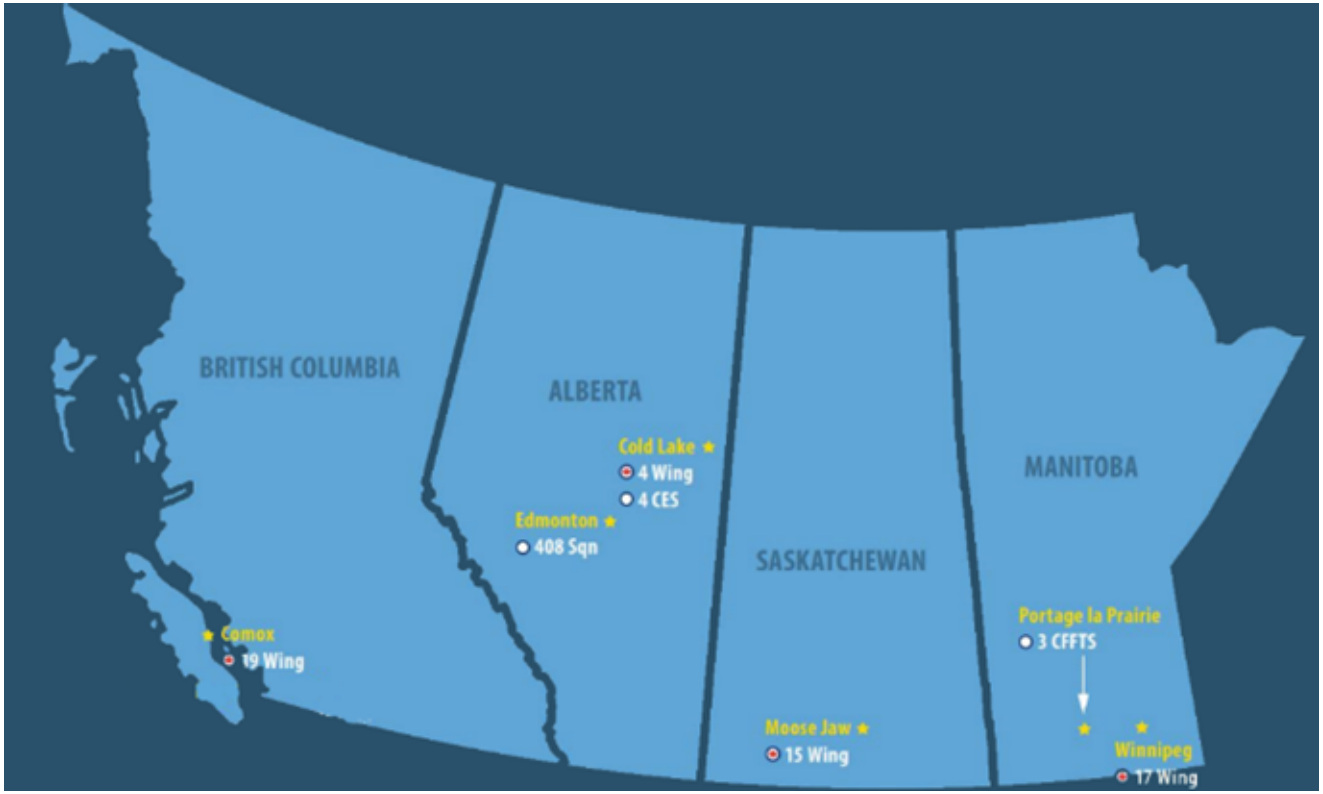
The level of work and DNDs anticipated Scope of work for the project will include:

- Site Surveys;
- Removal of existing equipment;
- Site Preparation;
- Factory Acceptance Tests;
- Site Installations;
- Site Acceptance Tests;
- Flight Checks/OT&E/ Commissioning; and
- Completion of all ILS System's Installations and Flight Checks.

RCAF Wings Across Canada

Canada

RCAF Wings - Canada West



RCAF Wings – Canada Central & East

Locations of existing ILS
19 Wing – Comox, BC

Locations of existing ILS
4 Wing – Cold Lake AB

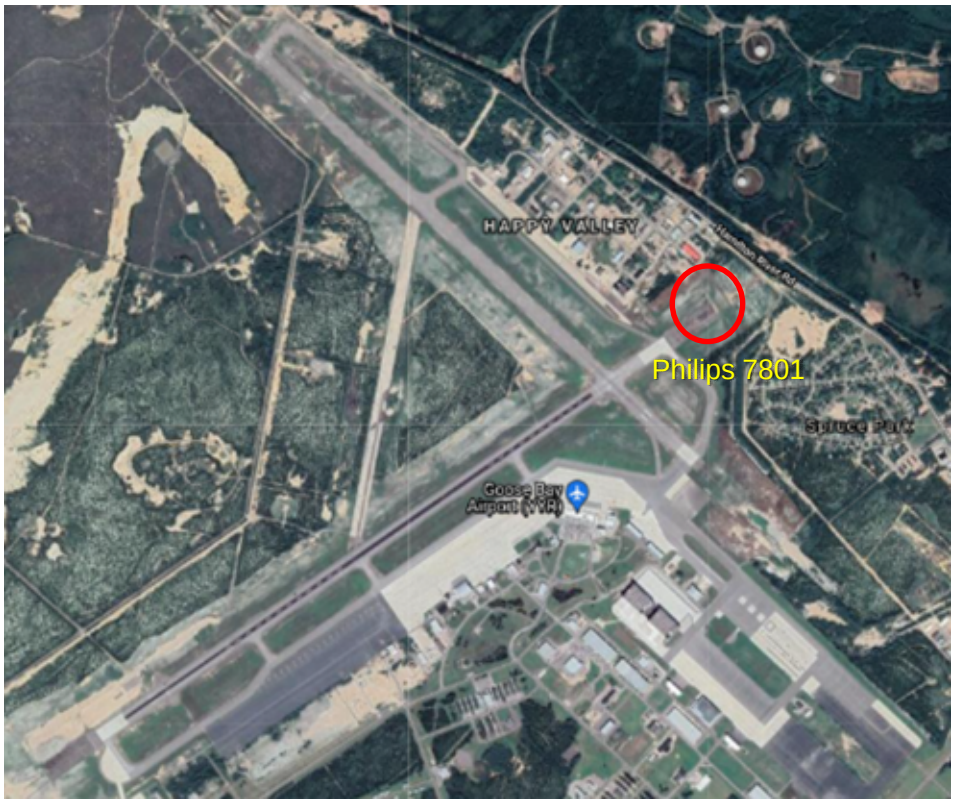
Locations of existing ILS
15 Wing – Moose Jaw SK

Locations of existing ILS
8 Wing – Trenton ON

Locations of existing ILS
3 Wing – Bagotville QC

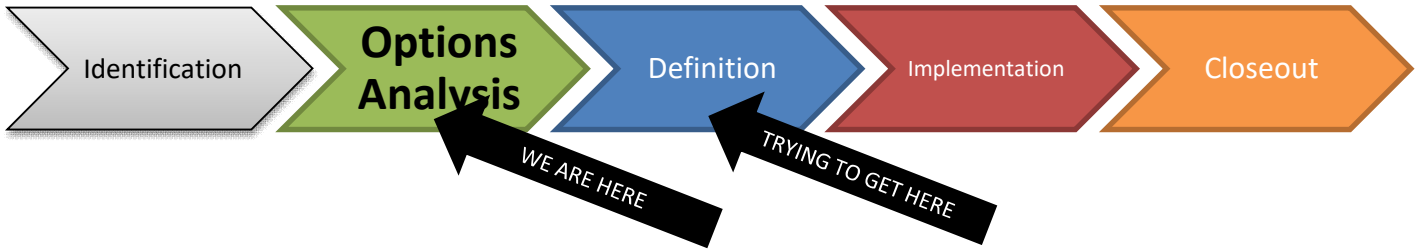
Canada

Locations of existing ILS
5 Wing – Goose Bay NL



Locations of existing ILS
14 Wing – Greenwood NS

Project Structure



- **Identification**: Identify a need and initiate project
- **Options Analysis**: **Analyze options, complete Business Case Analysis (BCA), and obtain indicative project costing.**
- **Definition**: Refine requirements, Draft RFP and obtain substantive costing, RFP.
- **Implementation**: Procure equipment and achieve full operational capability.
- **Closeout**: Review, report and close project.

Approximate Project Schedule

* This table is for illustrative purposes **only**, and in no way denotes a firm project schedule, or the certainty that an RFP will be released for the ILS Replacement Project.

Release of Draft Request for Proposal (Draft RFP)	**Sept 2023**
Final RFP Release	Feb 2024
Contract Award	Aug 2024
Initial Operational Capability	Aug 2026
Full Operational Capability	Aug 2029
Project Close Out	Nov 2029

Support from Industry

How can you help us?

By providing:

- Your expertise in Instrument Landing Systems, and navigational aids.
- Feedback on our high-level requirements and scope of work, as presented in the Request for Information document.
- Costing to support our estimates and budget creation, to enable us to move towards our next approval gateway.

Industrial and Technological Benefits/Value Proposition

Ms. Akashdeep Gill
Project Officer
Industry, Science and Economic Development Canada (ISED)

THE INDUSTRIAL AND TECHNOLOGICAL BENEFITS (ITB) POLICY

The 2014 Defence Procurement Strategy (DPS) has three principal objectives:

1. Deliver the right equipment to the Canadian Armed Forces and the Canadian Coast Guard in a timely manner
2. **Leverage purchases of defence equipment and services to create jobs and economic growth in Canada**
3. Streamline the procurement process

ISED's Mandate is to **foster a growing, competitive, knowledge-based Canadian economy**

…to this end, the **Industrial and Technological Benefits (ITB) Policy** seeks to leverage economic benefits from defence procurement

THE ITB POLICY

- **The Industrial and Technological Benefits (ITB) Policy may be applied on ILS in order to leverage economic benefits for Canada.**
  - ISED is responsible for administering the ITB Policy at every step of the defence procurement process, in coordination with our federal partners.
  - Requires that companies awarded a defence and security contract by the Government of Canada undertake business activities in Canada **equal to the value of the contract.**
  - Business activities that can fulfill the ITB obligation can be fulfilled through Direct Work and other Indirect Business Activities.

THE VALUE PROPOSITION

- Under the ITB Policy, contractors bidding on major defence contracts must submit an economic proposal to Canada called a Value Proposition (VP)

- Developed in conjunction with our federal partners and with industry **on a procurement by procurement basis**, these program-specific, targeted commitments and business activities through a Value Proposition (VP) aim to also benefit Canada and encourage growth of the domestic defence industry

THE VALUE PROPOSITION

DIRECT DEFENCE SECTOR WORK	**Support the long-term sustainability** and growth of Canada's aerospace and defence sectors
CANADIAN SUPPLIER DEVELOPMENT	**Support the growth of prime contractors and suppliers in Canada**, including small and medium business (SMBs) in all regions of the country
RESEARCH AND DEVELOPMENT	**Enhance innovation** through R&D in Canada
EXPORTS	**Increase the export potential and international competitiveness** of Canadian-based firms
SKILLS DEVELOPMENT AND TRAINING	**Fill skills and training gaps** within the Canadian economy to support a more innovative Canada

KEY INDUSTRIAL CAPABILITIES (KICs)

WHAT ARE KICs?

- KICs are designed to help target priority areas of investment under the VP in areas of **emerging technology** and **established industrial strength** in Canada
- KICs were developed through analysis and expert input, and validated through extensive industry engagement
- KICs align with Government priorities and focus on defence technologies, but also include commercial and dual-use sectors

EMERGING TECHNOLOGIES

- Advanced Materials
- Artificial Intelligence
- Cyber Resilience
- Space Systems
- Remotely-piloted Systems and Autonomous Technologies

LEADING COMPETENCIES & CRITICAL INDUSTRIAL SERVICES

- Aerospace Systems & Components
- Armour
- Defence Systems Integration
- Electro Optical / Infrared Systems
- Ground Vehicle Solutions
- In-Service Support
- Marine Ship-Borne Mission and Platform Systems
- Munitions
- Shipbuilding, Design and Engineering Services
- Sonar & Acoustic Systems
- Training & Simulation

THE ITB POLICY IS WORKING…

Creating jobs across Canada

- The ITB Policy is estimated to contribute close to $5B to Canada's GDP annually. From 2014-2018, investments helped create or maintain 46,000 jobs annually across manufacturing and service industries, in all regions of Canada

Promoting SMB Partnerships

- Between 2014 and 2018, contractors partnered with more than 400 Canadian SMBs, involving over $3.4B of work in Canada

Supporting the Innovation & Skills Plan

- Close to 40 academic and research organizations benefited from ITB Policy innovation and skills development investment from 2014 to 2018

KEY RESOURCES AND ADVICE

Know the VP and where you fit

This is the road-map for potential opportunities for Canadian industry and stakeholders. **Go to the ITB Website to understand the policy and process**

www.Canada.ca/itb

Talk to your Regional Development Agency (RDA) representative and engage with **Global Affairs Canada's Trade Commissioner Service**

Connect with Potential Suppliers & Research Organizations

Gather additional intelligence and make contacts through trade associations, industry days, conferences and trade shows, including through CADSI and AIAC

https://www.defenceandsecurity.ca/

http://aiac.ca/

Questions

- All questions and answers will be noted, translated and published on www.buyandsell.gc.ca in both official languages, after Industry Day consultations.
- No corporate identification, names, commercially sensitive or not-applicable information will be published or shared.
- Questions may be asked in either official language.

Thank you for your time, and making the ILS Industry Day a success!

Questions?