



Terms of Reference

Review of Primary Surveillance Radar Requirements

NAV CANADA
Level of Service
77 Metcalfe Street
Ottawa, Ontario
K1P 5L6

June 2021

The information and diagrams contained in this Terms of Reference are for illustrative purposes only and are not to be used for navigation.

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1.0 Purpose

The purpose of this Terms of Reference (TOR) document is to initiate an Aeronautical Study to review the requirement for Primary Surveillance Radar (PSR) at 18 NAV CANADA sites nationwide.

2.0 Scope of the study

The Aeronautical Study will review the requirements for the provision of PSR. This study will include formal stakeholder consultations to determine if any issues exist, and what mitigations may be required in the event that changes are recommended to the requirement for PSR.

3.0 Background

Surveillance systems identify position and movement of aircraft, and vehicles, for traffic information and management by Air Traffic Services (ATS). Surveillance in Canada is currently provided through a combination of Primary Surveillance Radar (PSR), Secondary Surveillance Radar (SSR), Wide Area Multilateration (WAM), Automatic Dependent Surveillance – Broadcast (ADS-B) and Airport Surface Detection Equipment (ASDE).

The Radar Modernization Program (RAMP) implemented by Transport Canada in the early 1980's included 22 Terminal Surveillance Radars (TSR) and 17 Independent Secondary Surveillance Radars (ISSRs). The RAMP radars are approaching the end of their life cycle.

PSR allows for the detection and tracking of non-cooperative targets. It is deployed for safety and security reasons and does not rely on any form of airborne avionics (i.e. aircraft either not equipped with a transponder or one that has failed).

There are currently 20 PSR systems operated by NAV CANADA, all of which are reaching the end of their life cycle (see Figure 1). Completed Aeronautical Studies have concluded that the PSR at Regina and St. John's are no longer required and are recommended to be decommissioned. Following the decommissionings, the remaining PSR in Canada will be in the following locations:

Edmonton	Saskatoon	Thunder Bay	Sault St. Marie
Winnipeg	London	Quebec	Moncton
Halifax	North Bay	Vancouver	Calgary
Toronto	Montreal	Victoria	Hamilton
Mirabel	Ottawa		

Table 1 - NAV CANADA PSR Locations (effective August 2021)

4.0 Methodology

An Aeronautical Study identifies, assesses and analyzes information gathered through data collection and customer/stakeholder consultation.

The Aeronautical Study Team will:

- Confirm stakeholder requirements for the service under review;
- Analyze the concerns and issues raised by the stakeholders;
- Develop possible solutions and/or options;
- Conduct a Hazard Identification and Risk Assessment on issues as required;
- Present recommendations for Executive Management and Board of Directors approval;
- Coordinate with the appropriate managers who would be involved with the technical and operational implementation of the proposed service change; and,

- Coordinate with Transport Canada.

The study team will ensure that consultation with affected or interested stakeholders is sufficient prior to making any recommendations to senior management.

A business case will be developed to validate the recommendations as needed.

The study team will conduct a risk analysis and may call upon stakeholders to contribute to the assessment of some risk scenarios.

5.0 Safety Management Plan

The manager responsible for implementing any decisions resulting from this Aeronautical Study will prepare a project safety management plan. The plan will include mitigation and monitoring actions that are required to implement the change in service.

6.0 Human Resources

The study team will be multi-disciplined with representation as required from key technical, operational and support areas.

Team Leader: Manager, Level of Service

Advisor: Director, Stakeholder and Industry Relations

Contributors:

Specialist, Level of Service,
Managers/Staff, Flight Information Regions,
Aeronautical Information Management and Engineering,
Corporate Performance,
Stakeholder Relations and Communications, and,
Others as required.

7.0 Work Management Plan

TOR approval: April 2021

When conducting an Aeronautical Study*, the following will be undertaken:

1. Develop Communication and Consultation Plan – Spring 2021
2. Study commencement – Spring 2021
3. Consultation – Summer 2021
4. Assess consultation input – Summer 2021
5. Conduct Issues Hazard Identification and Risk Assessment – Summer 2021
6. Finalize Aeronautical Study Report – Summer 2021
7. Executive Management and Board of Directors approval – Fall 2021
8. Issue Notice of Proposal (if required) – Fall 2021
9. Circulate to Transport Canada for safety review – Winter 2021/2022

Following Transport Canada review:

10. Coordinate implementation plan and dates with appropriate departments – TBD
11. Prepare Aeronautical Information Management Submission – TBD
12. Prepare and publish Aeronautical Information Circular – TBD
13. Prepare and publish Notice –TBD
14. Implement – TBD
15. Monitoring / Post Implementation Reviews – TBD (conducted 90 days after implementation and if required after one year)

**Aeronautical Study timelines may be subject to adjustment.*

8.0 Finance Resources

Responsible managers are accountable for any travel and related expenses of the study team including the management of overtime.

Service design changes may generate an engineering support requirement. These requirements will be identified as the study progresses in support of initiating project planning for implementation of engineering-related recommendations from the study.

9.0 Materiality of the changes

There is the potential that some of the service delivery options may represent a material change to a significant group of users. If this is the case formal notifications as per the Civil Air Navigation Services Commercialization Act will apply.

10.0 Consultation

An appropriate consultation plan will be prepared.

Aviation organizations representing airport, general aviation, business aviation and others as appropriate, will be consulted during the Aeronautical Study.

A complete list of customers and stakeholders consulted will be attached to the Aeronautical Study.

Should you have any questions or wish to provide input in to the Aeronautical Study, you may do so by emailing studies.etudes@navcanada.ca or by writing to:

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77 Metcalfe St
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11.0 Authority

Assistant Vice President, Stakeholder Relations and Communications.