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Terms of Reference

Review of Surveillance Requirements

for the vicinities of

North-Western Québec

(Lac Brisay, Chibougamau, Chisasibi, Kuujjuaq)

and

Northern Ontario

(Hearst, Big Trout Lake)

NAV CANADA
Level of Service
151 Slater Street
Ottawa, ON K1P 5H3

February 2024

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1.0 Purpose

The objective of this Terms of Reference (TOR) is to initiate an Aeronautical Study (the “Study”) to review the surveillance requirements for the vicinities of north-western Québec (Lac Brisay, Chibougamau, Chisasibi and Kuujuaq) and northern Ontario (Hearst and Big Trout Lake).

2.0 Scope of Study

The Study will assess the surveillance requirements for the identified vicinities of north-western Québec and northern Ontario.

The Study will include formal stakeholder consultations to determine if any issues exist and what mitigations may be required if changes are recommended to the surveillance requirements.

3.0 Background

Transport Canada's Radar Modernization Program (RAMP), implemented in the early 1980s, included 22 Terminal Surveillance Radars (TSR) and 17 enroute Secondary Surveillance Radars (SSRs). Between 1995 and 2000, NAV CANADA installed seven additional SSR radars, used for high-level enroute surveillance, under the Northern Radar Project. All 46 of these radar systems have now reached the end of their operational life.

The global aviation industry is currently transitioning from Independent to Dependent surveillance. The introduction of new additional layers of surveillance capability, such as Automatic Dependent Surveillance-Broadcast (ADS-B), is independent of the availability of an SSR facility and may be capable of satisfying the surveillance requirements within current SSR coverage areas.

NAV CANADA has been using ground-based ADS-B since 2008. The widespread employment of ADS-B, coupled with the aging ground equipment, presents an opportunity to determine surveillance requirements in the vicinities of the existing ground-based SSR facilities. This nonphysical objective will define the operational surveillance need in a specific area and remove any implementation method to achieve that requirement. However, once a surveillance requirement is defined, a recommendation to decommission an SSR facility would follow if a need were not established.

Areas served by SSRs in northern Québec and Ontario have been identified to be completed together in a single study due to the geographic and service similarities these facilities provide within the air navigation system.

With the aging equipment and the widespread employment of ADS-B, an Aeronautical Study is warranted to review the surveillance requirements in the identified ground-based surveillance areas.

4.0 Methodology

The Study will identify, assess, and analyze information gathered through data collection and customer and stakeholder consultation. The Study will:

- 1) Confirm stakeholder requirements for the service(s) under review;
- 2) Analyze the concerns and issues raised by the stakeholders;
- 3) Develop possible solutions and options;
- 4) Conduct a Hazard Identification and Risk Assessment on issues, as required;
- 5) Present recommendations for Executive Management and Board of Directors approval;
- 6) Coordinate with the appropriate managers who would be involved with the technical and operational implementation of any proposed service change; and,
- 7) Coordinate with Transport Canada.

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

5.0 Human Resources

The Study team will be multi-disciplinary, with representation as required from crucial technical, operational, and support areas.

The Study team will ensure that consultation with affected or interested stakeholders is sufficient before making recommendations to senior management.

The Study team will conduct a risk analysis and may call upon stakeholders to contribute to assessing some risk scenarios.

Team Leader: Manager, Level of Service

Advisor: Director, Stakeholder and Industry Relations

Contributors:

Specialist, Level of Service,
Managers/Staff in various Flight Information Regions,
Aeronautical Information Management,
NAV CANADA Technology Group,
NAV CANADA Corporate Performance,
NAV CANADA Stakeholder and Industry Relations, and
Others as required.

6.0 Work Management Plan

TOR approval: February 2024

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

1. Develop a Communication and Consultation Plan – Winter 2024
2. Study commencement – Winter 2024
3. Consultation – Winter 2024
4. Assess consultation input – Winter 2024
5. Conduct Issues Hazard Identification and Risk Assessment – Spring 2024
6. Finalize Aeronautical Study Report – Summer 2024
7. Executive Management and Board of Directors approval – Summer 2024
8. Issue a Notice of Proposal (if required) – Summer 2024
9. Circulate to Transport Canada for safety review – Fall 2024

Following Transport Canada review:

10. Issue a Concurrence Notification (if required) – TBD
11. Coordinate implementation plan and dates with appropriate departments – TBD
12. Prepare Aeronautical Information Management Submission – TBD
13. Prepare and publish Aeronautical Information Circular – TBD
14. Prepare and publish Notice –TBD
15. Implement – TBD
16. Monitoring / Post-Implementation Reviews – TBD

** Study timelines may be subject to adjustment.*

7.0 Materiality of the changes

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

8.0 Finance Resources

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 implementing the engineering-related recommendations from the study.

9.0 Consultation

An appropriate consultation plan will be prepared.

Aviation organizations representing airports, general aviation, business aviation and others, as appropriate, will be consulted during the Study. A complete list of customers and stakeholders consulted will be attached to the Study.

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

Courier/Civic Address	Mailing Address
NAV CANADA Level of Service 151 Slater Street Ottawa, ON K1P 5H3	NAV CANADA Level of Service PO Box 3411, Station T Ottawa, ON K1P 5L6

10.0 Safety Management Plan

NAV CANADA will prepare a project safety management plan, identifying implementation responsibilities resulting from the Study, including mitigation and monitoring actions to implement the service change.

11.0 Authority

This document has been issued under the authority of the Assistant Vice President, Stakeholder and Industry Relations.