

Airspace Change Communications and Consultation Protocol

A voluntary protocol of the aviation industry
June 2015

Preface

The primary duty of the aviation industry in Canada is to ensure the safety and security of aircraft and passengers. Collectively, we endeavour to achieve this while balancing costs, efficiency, noise, and aircraft environmental emissions.

The aviation sector in Canada serves over 120 million passengers a year and contributes more than \$35 billion dollars to the national GDP. It supports the economic and social goals of the country by providing for the essential transport of goods and people in the country with the second largest landmass in the world. We must also consider the impact of our operations on airlines, the traveling public and the communities we serve, as well as the significant economic benefits aviation provides.

NAV CANADA and the Canadian Airports Council have signed this protocol to signal an industry-wide commitment to open and transparent engagement with our stakeholders and community. We recognize that airspace and airport operations, and updates or changes to these operations, can impact communities in material ways. Our aim is to minimize these impacts while ensuring we collectively provide the critical infrastructure required to support social and economic growth at a local, regional and national level.

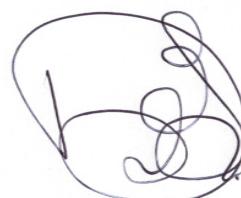
This document, the Airspace Change Communications and Consultation Protocol (ACCCP), outlines our commitment to transparency and effective engagement with communities potentially affected by proposed changes to airspace.

A Work in Progress

This document is not intended to end the conversation on aircraft noise and its impact on communities in Canada. Rather, from a genuine interest in ensuring open and collaborative communications, this document is intended to frame the conversation and outline our approach to engagement with communities on the challenges posed by aircraft noise. While intended to be broadly appropriate throughout the country, for some airports and communities it will serve as a guide for the development of local Public Participation Plans.



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1.0 Purpose

The aviation industry is committed to engaging with the public on changes to airspace design over residential communities. Neighbourhoods and individuals expect to be informed and consulted when changes to airspace are proposed that would alter current aircraft noise exposure in their neighbourhoods.

This protocol describes our approach to engagement with our stakeholders, including the communities, in which we operate, the value we place on that engagement and the various methods of consultation that the industry will use. This protocol establishes a framework to ensure residents have the opportunity to know that a change may be taking place, why the change is necessary, and to learn and understand how the change may affect them. It also enables residents to provide input that will be taken into consideration as part of the design process. The industry is committed to identifying impacted stakeholders and communicating in transparent, timely, and easy-to-understand ways.

Different levels of community outreach and engagement are appropriate depending on the type of change being proposed. In all cases, the goal will be to inform residents so that they are aware of a change, and not surprised by it. For larger-scale projects, such as changes to existing flight paths or the addition of a new runway, a robust public participation process with the opportunity for comment and response, is appropriate and will be undertaken.

1.1 Background

The aviation sector in Canada serves over 120 million passengers a year and contributes over \$35 billion dollars to the national GDP. While contributing greatly to the economy, providing vital air services to the remote areas and the North, and supporting the community's desire for air travel, aircraft noise and emissions challenges are also important factors being considered by Canada's aviation sector when contemplating airspace changes.

The aviation industry is committed to reducing its impact on the environment and has set ambitious goals in that regard. Over the years, airlines have upgraded their fleets to reduce both noise and emissions. As a result, aircraft operating around the world today are approximately 30 dB quieter (a 90 per cent reduction in the noise footprint area) compared to early jet aircraft. Already with one of the youngest, quietest and most efficient fleets in the world, airlines in Canada are investing more than \$20 billion over the next thirteen years in newer, more modern and quieter aircraft.

In addition, the aviation industry in Canada has made commitments to reduce greenhouse gas emissions and all parties are signatories to *Canada's Action Plan to Reduce Greenhouse Gas Emissions from Aviation*. This plan identifies a number of key measures to reduce greenhouse gas emissions, including efficiently designed airspace that improves capacity, reduces unnecessary track miles flown and provides for more efficient trajectories and direct routings. The aviation industry recognizes there is a need for an appropriate balance between reducing emissions and noise impacts, particularly at lower altitudes. The industry's challenge is to ensure that noise abatement measures and emission reduction strategies complement each other and can be accomplished without significant negative impact or compromise to either.

1.2 Roles and responsibilities

Managing aircraft noise exposure on a community is a collective effort of a number of parties. This section provides a high level summary of roles and responsibilities of key parties.

International Civil Aviation Organization

The International Civil Aviation Organization (ICAO) is an agency of the United Nations and was created to promote the safe and standardized development of international civil aviation. ICAO sets standards and regulations necessary for aviation safety, security, efficiency and regularity, air navigation, and environmental protection (including noise and emissions). ICAO endorses the concept of a "Balanced Approach" to aircraft noise management. This approach aims to identify and implement the most cost effective means to address noise problems at an airport, including: noise reduction at source; land-use planning and management; and, noise abatement operational procedures and operating restrictions.

Transport Canada

Transport Canada is the regulator of aviation in Canada. Its role is to develop transportation policies and legislation that provide for a high level of safety and security and support a successful, stable aviation sector in Canada. The responsibilities of Transport Canada with regards to noise include reviewing, approving, and publishing of new proposed noise control measures at airports, as well as conducting enforcement of suspected violations to published Noise Abatement Procedures.

Transport Canada establishes noise and emissions standards and is responsible for setting the criteria that governs flight path design. These standards and criteria are based on the United States Standard for Terminal Instrument Procedures (TERPS). Transport Canada must also review and approve any new or proposed changes to Noise Abatement Procedures at an airport. The proponent of any proposed noise abatement procedures must follow the requirements outlined in *Advisory Circular (AC) No. 302-002 Implementation of New or Amended Noise Abatement Procedures*.

Transport Canada document TP1247, which provides guidance for land use planning authorities on noise levels that is compatible with residential areas.¹ It uses the Noise Exposure Forecast (NEF) system, which encompasses a summation of noise from all aircraft operating in an area, the number of times a disturbance occurs and the daily distribution of noise events. Transport Canada discourages residential and other non-compatible land uses in areas exposed to greater than NEF 30 (NEF 25 at new aerodromes). However, significant disturbances are often reported by individuals living in areas where noise falls below this threshold. Nothing in this document is intended to modify existing requirements.

Airport Operators

Canada's largest airports were commercialized or transferred to private operation under the Government of Canada's National Airport Policy starting in the 1990s. Today, most major commercial airports in Canada are operated by local airport authorities – in most cases, non-share capital corporations with full responsibility

¹ TP1247E 2013/2014. *Land Use In The Vicinity of Aerodromes*. 9th Edition. Transport Canada. Part IV – Aircraft Noise.

for managing airport operations. Canada's airports are responsible for managing their facilities and runways in ways that ensure safe operations and support the ongoing demand for air services, including managing the airport's growth. In many cases, airports have been assigned the responsibility for noise management, which includes responding to community concerns, noise monitoring and developing Noise Abatement Procedures for their airport.

NAV CANADA

NAV CANADA provides air traffic management and information services in Canadian airspace and international airspace delegated to Canadian control. NAV CANADA is responsible for the safe co-ordination and the efficient movement of aircraft and is also responsible for planning and managing airspace, including flight paths and airways used by airlines. Major facilities operated by NAV CANADA include control towers, area control centres, flight information centres and flight service stations. In addition, the Company operates and maintains navigation and approach aids and equipment.

Airlines and other operators of aircraft

Airlines and other aircraft operators are responsible for conducting their operations in accordance with Transport Canada regulations and published Noise Abatement Procedures. Airline and air operator subject matter experts also are actively involved in working groups and teams that support improvements to aviation safety and efficiency through responsible development of performance-based navigation and airspace design.

Municipalities and other levels of government

The role of municipalities is to ensure compatible development occurs around the airport through the development and exercise of land use planning controls. While Transport Canada provides guidelines for land use in the vicinity of airports, planning is delegated to local cities that may or may not choose to follow the guidelines.

Some provinces, such as Alberta, have taken proactive steps to protect land around airports through provincial regulations (i.e. Alberta's *Municipal Government Act* provides for Airport Vicinity Protection Areas).

2.0 Noise management

When airports were transferred to local control under the National Airports Policy, a fundamental principle was that noise issues are best handled at the local level. Local airport personnel have intimate knowledge of regional matters and are generally best able to respond to local concerns. Therefore, airports will be the single point of contact for the public to register complaints.

Many larger airports have comprehensive noise management programs with dedicated personnel and support resources. To support engagement with the community, airport noise offices have trained personnel and access to sophisticated noise monitoring and flight tracking systems to track noise levels in

the community and ensure concerns against a specific flight can be fully investigated. These tools allow the airport operator to track, analyze and identify trends, and report on concerns received. This data is made available to the community and presented to relevant airport committees. Contact information for where and how the public can register noise concerns is available on airport websites.

While noise programs and procedures may differ slightly among airports to account for regional differences, core elements generally include:

- Procedures to receive and respond to community questions and concerns;
- Committees made up of industry and community representatives that meet regularly on aircraft noise issues;
- Published noise abatement procedures, created in accordance with Transport Canada Advisory Circular 302-002 (Implementation of New or Amended Noise Abatement Procedures);
- Multi-year noise management plans;
- Airport noise monitoring and flight tracking systems.

Receiving and responding to noise concerns is a critical component of a noise management program. Airports routinely make themselves accessible to the community, often through face-to-face meetings, a dedicated noise information telephone line, augmented with a dedicated email, or other community outreach programs.

Safety is everyone's top priority and given the complexity of airspace around major airports, it is not always a simple matter to change air routes or procedures to eliminate over-flights of populated areas. Noise management practices at one airport are often not applicable at another airport due to the differences in the region and nature of aircraft operations. Airport noise management committees provide a forum to discuss all noise issues as membership generally includes all stakeholders. In some communities, they bring together not only the airport with air carriers and NAV CANADA, but also local community organizations and Transport Canada. The scope and mandate of these committees is to provide advice and feedback to the airport operator on noise management efforts, and to find consensus on issues where possible.

As these committees meet on a regular basis, they can provide an avenue to discuss upcoming changes to airspace and procedures and to solicit feedback on mitigation measures and noise monitoring efforts. Other methods to engage with communities may be required, depending on the change being proposed and the anticipated community impact and/or interest.

3.0 Making airspace change

NAV CANADA is responsible for planning and managing Canadian airspace under the *Civil Air Navigation Services Commercialization Act*. However airlines, airports and NAV CANADA all have a role to play when airspace changes are contemplated and/or implemented.

In addition to the primary users of airspace, airlines and other aircraft operators, the parties to this protocol agree that airports are well positioned to contribute to the airspace design process and therefore will be engaged early and throughout the development phase of new procedures or redesign of airspace to provide support and advice to NAV CANADA whenever change is being considered. By contributing their knowledge regarding current noise exposure, identification of noise sensitive areas and other community concerns, the active participation of airports in the design process can result in better design outcomes.

When flight path changes are implemented adverse community reaction can result, particularly if new areas are overflowed. In the case of an airspace change, aircraft operators, NAV CANADA and local airports are committed to a public participation process that provides the community with factual and accurate information before and after a change is implemented. Following implementation of a change, NAV CANADA and aircraft operators will provide appropriate technical expertise to support airport discussions with the community.

The objectives of the advisory and support functions provided by airports include the following:

- Providing NAV CANADA or the proponent of airspace changes with advice and input on flight paths and procedures where opportunity exists.
- Coordinating presentations and facilitate discussions with airport noise committees.
- Gathering information from NAV CANADA and/or the aircraft operators to respond to community questions.
- Ensuring timely and consistent responses are provided to the community.
- Providing the organization that proposes making an airspace change with an understanding of the local area and community issues and provide input into the consultation plan and participate in the consultation process where appropriate.
- Identifying opportunities to consult given their knowledge of the local area.
- Identifying opportunities for before/after noise monitoring.

4.0 When consultation will occur

We are committed to open and timely communication and consultation. Communication and consultation will occur on a range of issues, for example:

- infrastructure projects, which may result in or require changes to flight paths or the manner a flight path is used, and
- flight path and procedural changes, particularly if residents are newly overflowed

While open and timely communication with potentially affected communities is always the goal, the consultation procedures outlined in this protocol will apply to proposed changes to arrival and departure

instrument procedures at airports with more than 60,000 annual Instrument Flight Rules (IFR) movements.² At airports with lower traffic volumes, but which are nevertheless located in metropolitan areas, this protocol serves as a useful guide for the industry and can be tailored to individual circumstances as appropriate.

For greater clarity, additional details on the types of changes that will take place and the use of this protocol are contained in the following section. Nevertheless, nothing in these sections is intended to preclude communication and consultation when doing so would further the shared objectives of this protocol.

4.1 Types of airspace changes

When flight path design changes are expected to result in aircraft over-flying new areas around an airport, residents and local municipal governments in the newly affected areas will be informed. Even when new flight paths result in aircraft flying at high altitudes and the noise impact to residents is anticipated to be minimal, residents will be informed in advance of the change to build awareness and understanding.

Whenever flight path design changes are proposed at lower altitudes, consultation will be necessary prior to implementation. The following principles will be applied:

1. Flight path design changes that affect the lateral positioning of an Instrument Flight Rules (IFR) flight path on which aircraft will operate at an altitude below 4,000 ft above ground level (AGL) over a residential area will be subject to analysis of environmental impact, including noise impact and to a public consultation process as described in Section 5.

Environmental impact analysis should consider anticipated noise and emissions, including the number of people likely to be positively and/or negatively affected, flight frequency, distribution of traffic night/day, and the pre-existing exposure to aircraft operations.

2. For flight path design changes to IFR flight paths above 4,000 ft AGL communication will occur to ensure transparency of decision making and provide information on anticipated impact, particularly for changes between 4,000 and 6,000 ft AGL. For flight path changes above 6,000 ft AGL but still in the vicinity of an airport, communications will be tailored depending on the potential for new communities to be overflowed.
3. There may be occasions where the trialing of a new flight procedure would be useful to determining its impact on efficiency and/or noise. Affected communities will be informed prior to the commencement of any trial, with full consultation undertaken as per this protocol before a procedure change is made permanent.
4. Airspace or procedure changes sometimes occur that do not change the lateral location of the flight path but nevertheless affect noise profiles or flight frequency.

² For the purpose of determining which airports meet this criterion, TP 577 will be used, *Aircraft Movement Statistics: NAV CANADA Towers and Flight Service Stations: Annual Report*.

Flight frequency can be influenced by a number of procedure changes designed to affect hourly airport arrival and departure rates. The changes may be temporary (e.g. due to runway rehabilitation) or permanent. Consultation will be held regarding permanent changes that would increase flight frequency in a particular area below 4,000 ft AGL by 30 per cent or more during the day or by 15 per cent or more during nighttime hours (0000-0600).

5. Where the implementation of new advanced navigational technologies such as RNP results in a new procedure that replicates an existing IFR route or flight path communication will occur to inform communities in advance of the change even though no change in the flight path will occur. For RNP procedures, the airspace change proponent will monitor and report back to noise committees and other stakeholders on how new flight tracks adhered to the existing flight corridor. Where new procedures, including RNP, replicate existing VFR flight paths or a visual flight route, NAV CANADA or the proponent of the change will determine with the airport operator if consultation is required given the area to be overflowed and the projected impact of the added RNP track.

5.0 How consultation will occur

Interested parties will be provided with the opportunity to learn and understand how a change may impact them, why it is necessary and to provide an opportunity for feedback.

We commit to:

- Listening to stakeholders and the community
- Acknowledging and considering feedback
- Communicating decisions and the reasons for them
- Working collaboratively as an industry so the public has a single point of contact and clear understanding how to get more information.

The industry will use a wide range of consultation tools, depending on the situation and scope of the airspace change contemplated. They will range from one-way communication (notices in newspapers) to more robust, interactive discussions with communities and stakeholders.

Consultation materials will be developed to assist those participating in the consultation to understand the expected noise impact of the change, the reasons for it (such as impact on airport capacity, flight safety or efficiency), and any options that were considered. These materials will be made available on the website of the airspace change proponent. The proponent will work with the airport operator to ensure a notice is available on the airport website directing residents to where consultation materials can be located.

The consultation materials developed will be shared with airport noise management committees or community consultative committees as well as with municipal governments, municipal staff, and other local elected officials.

In some instances, public information meetings will be held to enable residents to better understand potential impacts of a proposed change and to facilitate dialogue on options and obtain community feedback.

Regardless of the nature of a proposed flight change, media inquiries will be handled by the airspace change proponent. Technical support from other parties will be provided as required.

In all cases, regardless of the proponent initiating the change, the industry will work collaboratively on communications and/or consultation planning, including the identification of stakeholders.

5.1 Responsibility for the consultation

The lead responsibility for consultation will be assumed by the organization (the ‘proponent’) that proposes making the change, working in close collaboration with other industry partners. In some instances agreement may be made for an alternate arrangement, however in general:

- In the case of IFR instrument procedure changes at major airports, the proponent will in most cases be NAV CANADA. In instances where privately designed approaches or departures are developed for airports subject to this protocol, either NAV CANADA or the change proponent will be responsible for consultation and communications requirements. This will be determined on a case by case basis between NAV CANADA and the change proponent.
- In the case of airport infrastructure changes that either require new flight paths and/or changes to existing flight paths (e.g. new runway construction) or would otherwise meet the requirements in Section 4.1, the airport operator will be responsible for the public consultation as the proponent. This will be the case even in instances where the airspace redesign is done by NAV CANADA as the technical expert. Consultation will be undertaken in coordination with other existing requirements that such changes may be subject to, such as the *Canadian Environmental Assessment Act (CEAA 2012)*, so as to avoid duplication. NAV CANADA and airports will work together in a collaborative manner when presenting information on proposed changes to communities, regardless of which party is the lead proponent.

5.2 Audience definition

In all cases, regardless of the proponent initiating the change, the industry will work collaboratively on communications and/or consultation planning, including the identification of stakeholders.

Airport noise management committees, where they exist, or a similarly constructed airport community consultative committee will be actively engaged at various stages. These committees will be engaged during the design process, prior to the commencement of consultation and when final decisions are made.

Local and municipal authorities will be consulted directly. Different forms of consultation and engagement with the broader public will be employed depending on the type of change proposed and whether the

impacts are anticipated to affect a broad or narrow group of residents. When impacts are expected to be widespread, broad consultation will be required. When the impacts are anticipated to be more narrow and stakeholders more easily identifiable, direct consultation with a community may be appropriate.

Other organizations that represent the interests of individuals living in the immediate vicinity of the area under which the flight path change is proposed will be included where appropriate in the consultation process (e.g. municipal authorities, community groups, rate payers associations).

In all cases, when a change is being proposed the airport operator will work with the organization that proposes making the change to determine the level of consultation to be undertaken and will take into account the scale and impact of the proposed change and the range of potential stakeholders involved as well as their ability to contribute, either directly, or through a representative body, such as an elected official or neighbourhood association.

5.3 Time period

A sufficient amount of time must be provided for individuals to submit comment. A 45-day minimum comment period will be provided following publication of the consultation materials and community notification.

If public information meetings are held as part of the consultation, notices should be published in newspapers and other sources providing at least three weeks' notice of any meetings.

5.4 Local Public Participation Plans

It is anticipated that in some communities, this document will serve as a guide to develop more specific local Public Participation Plans. For significant airspace changes with material community impacts, these plans will describe how industry will,

- Set the scope for the consultation process
- Identify key stakeholders
- Inform stakeholders, including the community
- Provide an opportunity for further information to be obtained
- Make information accessible and easily understood
- Invite feedback
- Consider feedback before making a final decision
- Communicate our decisions to stakeholders and the community.

Local plans may further describe some of ways that industry will engage with communities. Whichever method is used, consultation will be undertaken in a transparent and accessible manner. The methods of consultation used will be appropriate and proportional to the change being proposed or project being undertaken and the number of stakeholders involved.

6.0 Exceptional circumstances

There are a limited number of situations in which airspace changes may be unavoidable for safety, security or other reasons where full consultation under this protocol may be impossible or impractical. Communications should nevertheless be undertaken where appropriate.

Safety and security related changes

Flight route changes are sometime made to resolve immediate safety issues or for national defence or security reasons. This also applies to redesign of infrequently used routings whose purpose is to maintain safety, such as missed approach procedures.

Airspace classification

Airspace classification determines the type of air traffic control services offered in a particular block of airspace, or designates a block of airspace as restricted to certain activity. Airspace classification changes are made based on the need to provide safe service and do not generally change airspace usage.

Visual Flight Rules (VFR) routes

VFR operations do not generally follow established routes. Under VFR operations, pilots use visual reference to the ground and navigate using coastlines, highways, and other ground based landmarks. As such, VFR operations tend to occur with more randomness. In some instances VFR routes are established to aid pilots in coordinating activities in areas of dense operations. These routes are not mandatory and may be established in uncontrolled airspace. Their purpose is to reduce hazards to flight safety.

Regulatory driven design criteria changes

Flight paths are designed to meet strict design criteria, as outlined in Transport Canada's *Criteria for the Design of Instrument Procedures, TP308*. These criteria are established based on international standards and ensure the safety of procedures. Criteria are updated from time to time and when that occurs, instrument procedures are required to be updated to meet current criteria within set timeframes. NAV CANADA will involve airports as early as possible in this process and work with airports to assess the potential community impacts of any airspace changes.

Changes made as a result of altered design criteria, which would otherwise meet requirements set out in Section 4.1, will be communicated to residents in potentially affected areas. Where appropriate, local Public Participation Plans will be developed and communicated.

Temporary routing changes

Occasional routing changes that are temporary, such as the need to route traffic around a specific event or due to factors such as runway construction.

Vectoring and visual approaches

Aircraft do not operate solely on designed flight paths. Air traffic controllers provide vectors or visual approach clearance to pilots in order to sequence traffic for safe and efficient flow management or for other reasons such as to avoid severe weather.

7.0 Decision making and communication of final decisions

Following the consultation, input received will be assessed and considered. A final decision by the organization proposing the flight change will be announced along with a description, if relevant, of any changes to the original proposal. The decision will be available on the website of the airspace change proponent and in cases in which the airport is not the proponent, the relevant airport. The decision will be issued at least three weeks prior to implementation. A document summarizing the comments received during the consultation and reasons for the final decision will be available.

7.1 180-day review

For airspace changes subject to consultation under this protocol, an assessment of the change will be made by the organization implementing the change and the affected airport operator within 180 days following implementation. This assessment will examine whether noise levels are in line with what was anticipated and should include actual decibel measurements taken in the affected area.

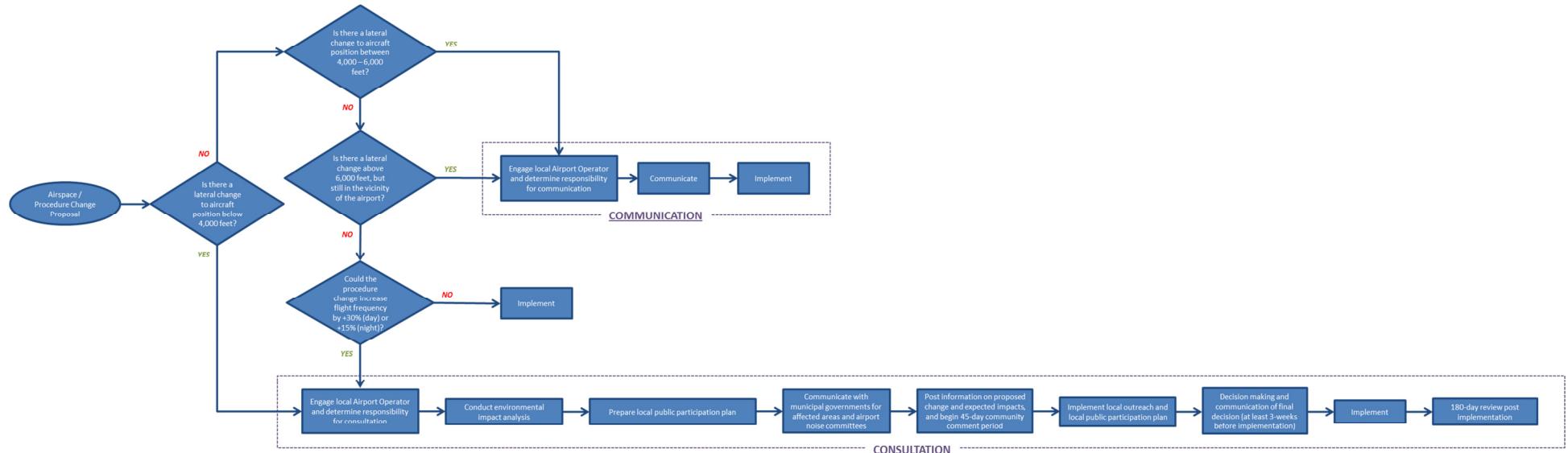
8.0 Commitment to review protocol

As outlined above, this protocol is intended to frame communications and consultations with communities potentially impacted by changes to airspace design.

The aviation industry will continue to be proactive in managing the impact of noise from aircraft operations. As flight propulsion technology and community expectations change over time, the aviation industry will review this protocol to ensure the processes outlined remain relevant and sufficient. A review will be undertaken after one year and every five years from the introduction of a final communications and consultation protocol.

Appendix A

FLOW CHART: Airspace or procedural change proposal



FLOW CHART: RNP procedure proposal

