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Impediments to Northern Aviation

Due to its geography Canada is more reliant than most countries on internal air travel. This is due to the combination of the sheer size of our country and the fact that even in 2011 there remain many locations without year round road or marine access. This is not likely to change quickly given the climate we live in and the physical challenges in providing these links. The North remains particularly dependent on air travel for everyday necessities such as basic groceries, supplies, and medical travel taken for granted in the South. Fortunately, a network of Northern air carriers has developed over the years to provide safe, reliable transportation to these remote communities. NATA is proud to represent these Northern carriers carrying out this essential service.

Northern Carriers contribute significantly to the Northern economy and over the years have become ever more sophisticated in their aircraft fleet, equipment, capabilities, and service. However, there are a number of impediments to their ability to continue these improvements. Impediments that are beyond their control. These include airport infrastructure, reliable weather reporting, fuel supply in the communities, and the level of service available from Transport Canada (TC).

Airport Infrastructure

Unlike Alaska, which has seen significant investment by the Federal government in paved runways, the Canadian Arctic hardly has any. Outside of the three territorial capitals the Yukon has only one, the NWT has five, and Nunavut has only one. When you consider that not only are most of the airports gravel, but that many of them are also under 1,200 metres in length, you quickly realize that the size and type of aircraft that can use these runways is very limited.

Since the 1980's there have been no transport category commercial jet aircraft produced that are capable of landing on gravel. Of all the gravel capable jet aircraft that were produced in this era only the Boeing B737-200 type remains in service in Canada, virtually all of them serving Northern and remote locations. They are getting very expensive to operate both in terms of fuel and additional maintenance requirements as they age. Without a viable replacement locations accustomed to jet service will eventually find themselves downgraded to smaller, slower turboprops. Not only will this degrade passenger service but it has the potential to increase freight cost.

In addition to being gravel, most of the northern strips are also short, 1,200 metres or less. This further limits the availability of new aircraft types that can properly serve these airports, particularly on a scheduled service post Dec 21, 2010 when new regulations took effect. Most of the new generation aircraft suitable for the smaller markets need 1,520 metres as a minimum standard.

In many airports the issues go beyond the runways and extend to the ramp and maneuvering areas. Here the issues are driven by increased activity and newer aircraft with greater tail height. The tail height is important as in several locations the ramps constructed in the pre-devolution Department Of Transportation era were built too close to the runway. The problem being that modern aircraft with higher tails cannot utilize the entire ramp for parking as they violate the runway slope clearance restrictions. Combine this with the increased flight activity and limited ramp space to begin with and

you have a recipe for disaster. A prime example of this today is Rankin Inlet where numerous safety concerns about ramp congestion and passenger safety have been raised. Here the apron desperately needs expansion.

In many locations there are significant terminal issues. Several have terminals that are handling far beyond their original passenger capacity design. Typically these are also terminals with ramp issues producing stressful situations for the air carriers, airport operators, and of course the traveling public. In some locations the combination of terminal and ramp congestion is resulting in flight limitations.

In addition to serving the Northern communities these airports are very important in terms of Arctic Sovereignty and enabling future resource development. However, the Territories have a very small population base and are not able to internally fund the necessary infrastructure development. All three Territories combined have only about 110,000 people, or about the same size as a Southern mid sized city such as Kingston, Ontario.

The present Federal Airport Capital Assistance Program (ACAP) although beneficial, is limited in both total available funds and in what qualifies for funding. Typically items such as initial paving, runway extensions, terminals, fuel storage, and weather reporting systems do not qualify. Given the strategic and social importance of airport infrastructure in the North serious consideration has to be given to a supplemental program, or Northern ACAP. A program that can assist in upgrading these areas to a standard that will allow air carriers to use newer more fuel efficient aircraft and provide the reliable all weather service to the communities that they deserve.

Approaches

The advent of the Global Positioning System (GPS) has dramatically changed air navigation in the North. This modern satellite based system brought accurate real time position, speed, altitude, and wind information to an area where previously only scattered VORs (Very high frequency Omnidirectional Range) and NDBs (Non Directional Beacons) existed. This has revolutionized non-precision approaches to many airports providing enhanced access under IFR (Instrument Flight Rules) weather. With recent upgrades to the Wide Area Augmentation System (WAAS) enhanced accuracy and the promise of precision approaches in much of the Arctic now exists.

The problem with all of this lies in the approval process for these approaches. Here we are experiencing significant delays in their design and approval. Nav Canada, who is responsible for the design portion, has responded by hiring an outside design agency and significantly ramping up their capacity. However, Transport Canada on the approval side has not done the same, resulting in a bottleneck.

There are even more significant problems in getting approaches put in place for temporary strips, such as ice landing strips. These strips are extremely important for resource sector development, in many cases their only opportunity during the year to use larger aircraft to move in equipment and supplies. When they are limited to VFR (Visual Flight Rules) use only the numbers of days these strips can actually be accessed becomes a hardship. The problem here does lie primarily with Transport Canada. Given the current time it takes to get an approval through TC for an approach to an ice strip it is impossible to have it in place before the season ends and the strip is no longer usable. Some major developments have been trying for five years to get one in place and are extremely frustrated. This is putting a damper on an area that contributes significantly to the Northern economy. Transport Canada needs to deal with the issue of point in space approaches once and for all and put clear guidelines in

place for their development and use. Such an approach would be well suited for ice strips and eliminate many of the obstacles currently in place.

Another issue is with the allowable tolerance for the survey data for an approach renewal. It is so tight that when modern surveying methods are used quite often it is slightly out of tolerance, just enough to invalidate the data. The problem with this is that the existing approach, which has been safely used for years, is then invalidated until the new one is published, which could take up to a year. This is simply unacceptable. Being a foot out of tolerance on a non-precision approach with a 500 foot decision height should not be invalidating an approach that has safely been used for years. Realistic survey tolerances for non-precision approaches need to be immediately put in place to prevent this happening.

Weather Reporting

For weather forecasting purposes the North is already a data sparse region. Many locations rely on Community Airport Radio Station (CARS) operators to report the weather. Many of these locations at the best of times only provide limited hours of service. Add to that disruptions in service due to chronic staffing issues brought on by competition with the resource sector and other pressures resulting in even worse coverage. There have been an alarming number of canceled or delayed flights in the last year as a result of weather information being unavailable. The trend appears to be getting worse.

The answer in many cases is the installation of modern Automated Weather Observation Systems (AWOS) equipped with strip cameras. These provide uninterrupted 24/7 coverage which not only allow for better flight access but also improve the weather forecasting with the increased data coverage. Nav Canada is the agency responsible for the CARS system in the Territories but is unable, in many cases, to justify adding AWOS capability where they are also bound to continue employing CARS operators. In the Arctic these installations can run close to \$1 million dollars each and require either subsidy or some sort of offset to cost justify.

However, if the Federal government were to look at a partnership approach there is an opportunity. If the Territories provide the civil work necessary with available labour and equipment on site, Nav Canada put in the design and installation component, and the Federal Government put up the equipment cost, it then becomes cost effective on everyone's part.

Fuel Supply

An adequate supply of clean, certified, aviation fuel in the communities is an essential part of providing cost efficient air service to them. When fuel is not available it typically limits available payload on a flight, thereby driving up the cost of the flight. In some cases, depending on weather, it may make a flight impractical.

To their credit, this was recognized by the Territories, particularly, Nunavut and the Northwest Territories, and they put infrastructure in place a number of years ago to provide fuel. Unfortunately, in many cases with increased service and competition, supply has not kept up with demand. Too many times now we encounter fuel shortages and restrictions. This has resulted in flight cancellations and price adjustments. Granted, some of the issues can be managed with better information on unusual demands, such as resource projects or DND exercises, but in many cases total capacity is the issue. Similar to the airport infrastructure issues, the Territories are hard pressed to fund the necessary upgrades to the tank farms. Federal assistance in this area would help insure an adequate supply of fuel for scheduled service, economic development, and sovereignty purposes.

Transport Canada Issues

Apart from the specific Transport Canada approach issues mentioned above, industry has two concerns with Transport Canada that we feel are impediments to Northern aviation. Level of service and regional consistency.

First, level of service. Air carriers are experiencing frustrating delays in Transport Canada approving relativity routine submissions. Items such as manual approvals, bringing new aircraft onto an operating certificate, and other routine requests are taking far too long. In many cases aircraft are sitting waiting for these amendments at great cost to the industry and a loss of service to the traveling public. Yes there are level of service guidelines, but too often the maximum figure seems to be the default minimum, with the clock being restarted for the most minor of reasons. The problem appears to be a major staffing issue, both in terms of total numbers and in expertise. With the coming repatriation of the CAR 604 business operators we feel it will only get far worse. Transport Canada has to decide what they really need to be approving, stop doing non value added work, and staff up to provide a decent level of service.

Second, Regional Disparity. This has been a long on-going issue with the air carriers. Different inspectors in the various regions continue to interpret rules and regulations in different ways. Efforts have been made to deal with this, better guidance material and training being marginally successful, but until a basic structural flaw is dealt with this will continue. Until there is a direct reporting link from the regional Transport Canada aviation personnel to the Director General Civil Aviation this will never be resolved. The person responsible for making the rules has to have the direct authority to guide and influence those who are responsible for implementing and enforcing them. If a region or individual inspector chooses a different path today there is no decisive way to deal with the problem. How it got this way is a matter of history, but certainly now is the time to fix it.

Conclusions

In order for Northern aviation to continue to grow and progress the Federal government has to assist the Territories and other remote regions of Canada in upgrading their infrastructure. This has to go beyond the traditional ACAP funding model and provide a means of properly funding airport improvements over and above the current safety case basis. The North needs longer, paved runways with available fuel and timely weather reporting to properly support the level of service its' communities are looking for in the 21st century.

Good weather information is key to aviation safety, in order to improve both the coverage and reliability of the weather reporting system additional AWOS systems need to be installed under a Federal/Territorial/Nav Canada partnership program.

Structural and staffing obstacles within Transport Canada need to be addressed to ensure a uniform, timely level of service that can properly support both the Northern aviation industry and those looking to invest in the North to whom aviation is essential.