



Beyond, Every Day.

Mail: PO Box 23750, Airport Postal Outlet
 Richmond, BC V7B 1Y7 CANADA

MINUTES OF REGULAR MEETING

Aeronautical Noise Management Committee (ANMC)
Thursday 14 June 2016 - 1:00PM Vancouver International Airport, Link Boardroom 1

Those in attendance were:

Chairperson:	Marion Town	Director Environment, YVRAA
Secretariat:	Catherine Alderson	Administrative Assistant, YVRAA
Participants:	Marlene Keefe	Air Canada Pilots Association
	Scott Macpherson	Canadian Business Aviation Association
	Gary Abrams	City of Richmond (citizen representative)
	Joan Caravan	City of Richmond (staff)
	Ron Sorensen	City of Surrey (citizen representative)
	Alena Straka	City of Vancouver (staff)
	Rick Hedley	Corporation of Delta (citizen representative)
	Paula Kolisnek	Corporation of Delta (staff)
	Don McLeay	National Airlines Council of Canada (NACC)
	Greg Dansereau	NAV CANADA – Vancouver Area Control Centre
	John Napier	NAV CANADA – Vancouver Area Control Centre
	Brent Bell	NAV CANADA – Vancouver Tower
	Brett Patterson	Director Airside Operations, YVRAA
	Rachel Min	Noise Information Officer, YVRAA
	Mark Cheng	Supervisor, Noise Abatement & Air Quality, YVRAA
Guest:	Tim Nikolai	NAV CANADA – Flight Operations

Next ANMC Meeting: 12 September 2016	
Catherine Alderson	July 4, 2016
Secretariat Signature	Date

1.0 INTRODUCTIONS AND ADOPTION OF AGENDA

Marion Town welcomed members and reviewed the meeting agenda.

2.0 REVIEW OF PREVIOUS MEETING'S MINUTES

Marion advised that the minutes of the ANMC meeting on 3 March 2016 have been finalized and are posted on the YVR website (www.yvr.ca).

3.0 ILS CHECKS

Mark introduced Capt. Tim Nikolai from NAV CANADA who was invited to the meeting to present information on Instrument Landing System (ILS) flight checks and current issues and challenges with conducting these checks during the day at YVR. Capt. Nikolai is an experienced pilot and is the Chief Pilot at NAV CANADA.

As background, Capt. Nikolai explained that the ILS provides guidance to aircraft on approach via a localizer which helps aircraft line up with the runway centreline and a glide path which stabilizes aircraft on a 3° descent profile. The ILS technology has been in use in aviation since the 1950s and is very reliable.

One of the responsibilities of NAV CANADA is to perform routine checks and maintenance on ILS throughout the country to ensure they are calibrated and accurate. These checks are required by Transport Canada to maintain the certification of the ILS.

Each ILS requires two checks per year: a minor check in the winter; and a major check in the summer. NAV CANADA conducts these checks using their specially equipped CRJ 200 aircraft. A video clip providing further information on ILS flight inspections is available at the following link:

<https://www.youtube.com/watch?v=LCvKU8kesOM>

At YVR, flight checks are currently performed during the daytime. However, NAV CANADA is now experiencing challenges doing these checks during the daytime due to the high volume of air traffic in the Vancouver terminal airspace. This often results in an extension of the inspection time as the flight check aircraft is asked to hold at low altitudes until the airspace is clear for them to perform their tasks. In addition, there is a higher level of risk when conducting checks during the daytime due to the high volume of small aircraft operating in the area from other aerodromes under visual flight rules (VFR).

Consequently, NAV CANADA has approached the Airport Authority with a proposal to perform their major checks in the summer early in the morning, approximately 30-minutes before sunrise, to enhance the level of safety and to shorten the duration of the flight checks.

Capt. Nikolai also added that NAV CANADA is working to reduce operational, environmental, and noise impacts from future ILS checks and foresees further improvements in efficiencies to reduce the duration of flight checks which will directly reduce associated impacts.

Based on the discussions with NAV CANADA about the issue, Mark advised that the Airport Authority has agreed to accommodate the request for an earlier start time to include, the following ILS checks scheduled for the summer:

- Runway 26L on August 7th
- Runways 08R, 26L, and 13 on August 31st

Since the flight paths for the ILS checks for Runways 08R, 08L, and 13 occur over Strait of Georgia, no community issues are anticipated.

By undertaking ILS checks in the early morning for Runways 26L and 26R, efficiencies due to lower aircraft traffic volumes may result in less impact on the community. The Airport Authority will also work with NAV CANADA to identify mitigation opportunities.

Per normal practice, the Airport Authority will issue community advisories in advance of these dates.

4.0 NACC – ENVIRONMENTALLY RESPONSIBLE AIR TRAVEL

Don McLeay presented information on commitments and activities by the National Airlines Council of Canada (NACC) on reducing emissions. NACC is the national association that represents Air Canada, Jazz, WestJet, and Air Transat.

NACC carriers provide a significant impact on national economy by providing air services for passengers and cargos, creating jobs, and benefitting the tourism sector. According to an economic impacts study done by Dr. Fred Lazar, economic impacts of NACC carriers was in the range of \$35 to \$60 billion in GDP (2-3.4% of Canada's GDP) not including potential tourism-induced effects in 2011.

While providing significant benefits, the aviation industry is well aware of its environmental impacts, and is undertaking many measures to reduce these impacts. As background, with regards to emissions, passenger air travel currently accounts for approximately 2% of all fossil fuel-related emissions worldwide. In 2011, aviation emissions made up 4% of domestic emissions from transportation and 1% of total emissions in Canada.

In an effort to reduce emissions from aviation, the Canadian aviation industry and Transport Canada signed Memorandum of Understanding (MOU) in 2005. This was a voluntary agreement based on the template and guidance materials on voluntary measures issued by the International Civil Aviation Organization (ICAO) to address greenhouse gas emissions. The MOU included the following targets:

- An average of 1.1% per annum improvement in litres of fuel per revenue tonne-kilometre (RTK); and
- A cumulative improvement of 24% in 2012 compared to the 1990 baseline.

The 2005 MOU was successful, and both targets were exceeded. Newer more efficient aircraft introduced into airline fleets in the 1990's was one of the main contributors to meeting and exceeding the targets.

In an effort to continue with reducing the impact from emissions, the aviation industry and Transport Canada created Canada's Action Plan to Reduce Green House Gas Emissions from Aviation (referred to as the "Action Plan") in 2012.

The Action Plan set an aspirational goal to achieve an average annual improvement in fuel efficiency of at least 2% per year until 2020 from a 2005 baseline, measured in litres of fuel per RTK. Three key areas to meeting this goal were identified as: fleet renewal and upgrades; more efficient air operations; and improved capabilities in air traffic management.

NACC carriers have achieved a 1.32% average annual improvement in fuel efficiency and achieved a reduction of 11.22 mega tonnes of CO₂-equivalent (CO₂e) between 2005 and 2015. A review of the Action Plan in 2015 determined that the aspirational goal of 2% per year improvement would be difficult to achieve.

However, industry remains committed to reducing emissions and will benchmark against both the 2% aspirational goal in the Action Plan and reaching other targets set by international aviation community, such as:

- An annual average of 1.5% improvement in fuel efficiency from 2009 to 2020;
- Carbon-neutral growth from 2020; and
- Reduction of net aviation emissions by 50% by 2050 compared to 2005 baseline.

NACC believes that the next big gain in emission reduction will be through the use of alternate fuels, and have been actively supporting advancement in the use of renewable aviation fuels in Canada since 2012 through work with a various research institutions and universities.

Marion added that airports are also a signatory to the Action Plan and help support emission reduction initiatives by building and designing efficient airfields to streamline the movement of aircraft on the ground, supporting the introduction of Performance Based Navigation (PBN) procedures and other measures to facilitate efficient aircraft movement in the air, and supporting technologies to introduce bio jet fuel.

Over and above those collaborative measures referenced in the Action Plan, the Airport Authority is working to reduce GHG emissions through investments in renewable energy systems, lighting and building improvements, electrification and rightsizing of its fleet and working with tenants to reduce their footprints.

The Airport Authority's Environmental Management Plan also includes ambitious environmental targets, and these targets are driving innovation. It is important for the industry to be open and collaborative to move towards shared environmental goals. The Airport Authority is constantly reporting on what the airport is doing and benchmarking against other local governments and provinces.

5.0 INCREASED GLIDESLOPE RESEARCH UPDATE

Rachel provided an update on the research project to better understand the use of increased glide slopes at other international airports for noise reduction.

The glideslope is one component of the ILS that provides vertical guidance to arriving aircraft during landing. The international standard for a glideslope is 3° with the exception of airports that require a steeper approach due to terrain and obstacles in the vicinity of the airport.

In recent years, Frankfurt Airport (FRA) and London-Heathrow Airport (LHR) have trialed the use of a steeper 3.2° glideslope for noise reduction. Compared to a 3° glideslope, the 3.2° glideslope provides a slight increase in distance between the aircraft and residents on the ground by having the aircraft at a higher altitude along the approach.

The Airport Authority is undertaking research on the 3.2° glideslope trials at FRA and LHR and to learn from their experiences. As part of the research work, the Airport Authority has completed a literature review of these trials, and provided the following summary of results:

Overview of Trials at Frankfurt Airport

FRA was the first airport to trial the use of a slightly steeper approach which was proposed as a noise mitigation measure for the construction of their new runway. Prior to the trial, German Aerospace Centre conducted a simulator study and determined that a 3.2° glideslope does not require modification to aircraft or flight procedures, and projected noise reductions in the range of 1-2 dBA¹.

The trials started in October 2012 and lasted for one year. The 3.2° glideslope was offered on their new northwest runway during CAT I conditions only. For the first seven months of the trial, the use of the 3.2° glideslope was voluntary and pilots could either accept or decline the slightly steeper approach. After seven months, the 3.2° glideslope approach during CAT I became mandatory on the northwest runway.

For noise data collection, FRA designated eight measuring points and staff also performed visual observations to verify the use of the 3.2° glideslope by determining when the landing gears were lowered. FRA reported that approaches using the 3.2° glideslope provided a noise reduction benefit in the range of 0.5-1.5 dBA. They also reported that there was no impact on operations and safety and pilot acceptance was high.

As of 19 December 2014, FRA was authorized to make the 3.2° glideslope their standard angle of approach on the new runway during CAT I conditions. It was also reported that residents reported no significant benefits associated with aircraft using the 3.2° glideslope.

Overview of Trials at London Heathrow

The trial of the 3.2° glideslope at LHR was one of the initiatives contained in their Blueprint for Noise Reduction, and the objective of the trial was to assess the operational and noise implication of using a slightly steeper approach and to explore whether they can use an even steeper glideslope.

¹ In general, a change of ±3 dBA is barely perceptible, and a change of ±5 dBA is readily perceptible to the human ear.

The trials at LHR started in September 2015 and were completed in March 2016. The 3.2° glideslope was offered for all four runways only during CAT I conditions. The trial was voluntary but operators were encouraged to use the 3.2° glideslope.

For data collection, LHR set up several measuring points using permanent and mobile noise monitors. LHR is still in the process of analyzing and reporting on the data collected during their trial.

The next steps for the Airport Authority will include arranging discussions with airlines, NACC, and NAV CANADA. Telephone discussions will also be arranged with staff at FRA and LHR to discuss their experiences in greater detail. A final summary of findings will be provided to the Committee at the meeting in December 2016.

6.0 Q2 – 2016 REPORT

Rachel reviewed the Q2 2016 report and provided an overview of noise complaints received between the time period of January to May 2016. During this period, the Airport Authority received 698 complaints from 96 individuals. Of the 698 complaints, 67% (n=465) were registered by one individual.

The Airport Authority works with airlines to manage noise from aircraft in a variety of ways – including recognizing those that most successful at flying more quietly. Rachel acknowledged the following winners of the 11th annual YVR Fly Quiet Awards: WestJet Encore (prop); American Airlines (narrow body); and All Nippon Airways (wide body). The awards were presented at the YVR Chief Pilots meeting in April.

7.0 OTHER BUSINESS

CANADIAN AIRPORT NOISE & COMMUNICATIONS WORKING GROUP

Mark advised that Canadian Airport Noise & Communications Working Group has finalized their terms of reference and selected a chair and a co-chair for two-year terms. Mark was appointed as the chair and Anne Marcotte from Montreal Trudeau Airport was appointed as the co-chair for the Working Group.

The main objective of this group is to provide an opportunity to share information and to coordinate on national issues. Core members on the Working Group include noise management staff from Vancouver, Calgary, Montreal, and Toronto; however, staffs from other airports belonging to the Canadian Airports Council are welcome to participate in discussions.

Q3 MEETING – MASTER PLAN SESSION

Mark advised that YVR Master Plan Team will host a joint meeting with members of the ANMC and the YVR Environmental Advisory Committee on 12 September 2016. The meeting will be facilitated to better engage members from both committees in discussions. Further information and materials will be distributed in advance of the meeting.

NEW YVR WEBSITE AND NOISE MATERIAL TRANSLATION

Rachel advised that the Airport Authority launched a new website at the end of March (www.yvr.ca). Every page on the website is now available in French and simplified Chinese (except news releases and updates). We are now working to translate PDF

materials on noise section of the website into French and simplified Chinese. Translated materials will be available within a couple of months.

UPDATES ON RESA PROJECT

Mark advised that the RESA construction is slightly behind the schedule; however, the project team will endeavor to catch up and complete the work as scheduled. At this time, there are no current plans for an extension to the south runway nightly closures.

NORTH RUNWAY DEPARTURES

Greg Dansereau provided an update on the planned use of the north runway for departures to reduce delays. As a reminder, the Airport Authority had authorized the use of the north runway for departures to reduce delays during the busy summer season.

Greg advised that there has not been enough demand to require the use of north runway for departures up until now. However, based on the forecasted demands in the coming weeks, NAV CANADA foresees the coming need to assign departures on the north runway to reduce delays, and this will begin within the next few weeks.

MEETING ADJOURNMENT

Marion thanked ANMC members for attending and adjourned the meeting at 3:00 PM.