
INDUSTRY NOISE MANAGEMENT BOARD

Update – CENAC 6 DEC 2018



HELIOS REVIEW



Published September 2017

NAV CANADA RESPONSE

Published November
2017

- Response included implementation plans and timelines



RECOMMENDATION 2A

Create an Industry Noise Management Board

- › INMB created
 - Co-Chaired by NAV CANADA & NACC
- › Membership includes representatives from:
 - NAV CANADA
 - National Airlines Council of Canada
 - › Air Canada, WestJet, Air Transat, Jazz
 - GTAA
 - Transport Canada (Observer)



NACC
National Airlines
Council of Canada



Transports
Canada

Transport
Canada

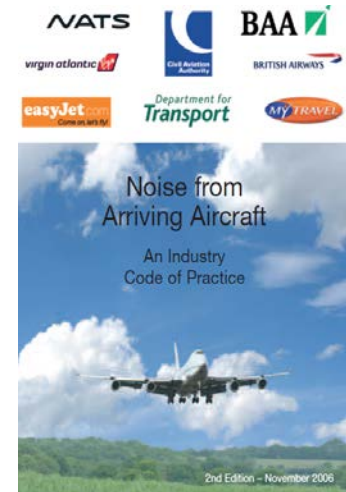
- › Status: **COMPLETE**

RECOMMENDATION 2B

INMB to develop Industry 'Code of Conduct'

- › The INMB has completed work on *Quieter Operations – A Guide for Pilots and Controllers*.

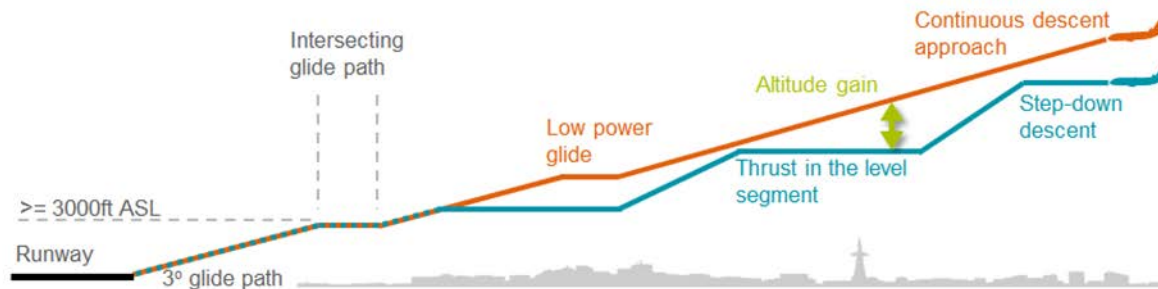
- On track for publication near end of 2018
- Will be disseminated to airlines, ATC
- Will become part of initial ATC training nationally



- › Status: **COMPLETE** (Publication by December 31st)

RECOMMENDATION 2C

Achieving Low Power/Low Drag Descent



- › Definition of CDO will be included in *Quieter Operations Guide*
- › Guidance for aircrew on flap settings and LP/LD Operations
- › Guidance for aircrew on later landing gear deployment
- › Recommendation 2C status: **COMPLETE**

RECOMMENDATION 2D

Evaluate Reduced Landing Flap Operation

- › Safety concerns have been raised about reduction in 'landing flap' close to the runway
- › The INMB agreed to include recommendations for arrival/approach flap settings in the *Quieter Operations Guide*
- › Recommendation 2D status: **COMPLETE**

RECOMMENDATION 2E & 2F

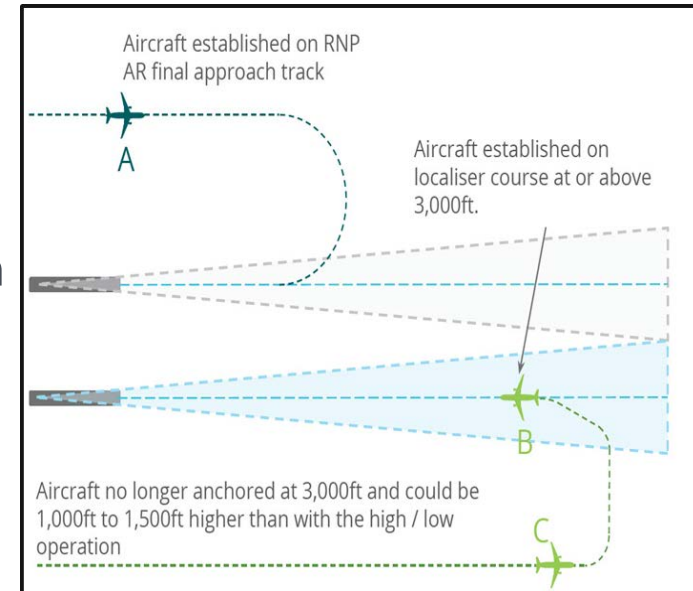
Publication of CDO achievement & annual CDO performance targets

- › NAV CANADA has developed means of measuring CDO achievement rates in the downwind areas
- › The CDO definition published in the guide will lay the foundation to report quarterly
- › Recommendation 2E status: **READY**
- › Recommendation 2F status: **Collection of 1st year of baseline data to begin Jan 2019**

RECOMMENDATION 3A (&3B)

Design RNP-AR procedures that can reduce the need for a high / low operation

- > New 'Established on RNP-AR' separation standard approved by ICAO
- > NAV CANADA has worked with TC to gain approval for use in Canada
- > Potential concept designs for Toronto Pearson can now be investigated



- > Recommendation 3A (&3B) status: **New standard APPROVED**
- > **Concept of Operations for Toronto Pearson being developed**

RECOMMENDATION 3C & 6A

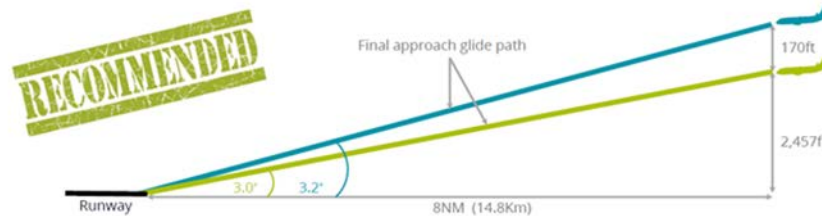
Publish RNAV approaches which will allow for an increase in Continuous Descent Operations

- › New RNAV approaches have been designed to each runway and will be published February 28th
- › Will be used in lower traffic periods, and in conjunction with 'short cuts' to reduce downwind usage
- › Recommendation 3C & 6A status:
COMPLETE (Pending Publication February 28th)



RECOMMENDATION 4

Consider 3.2 ω descent angles for RNAV approaches

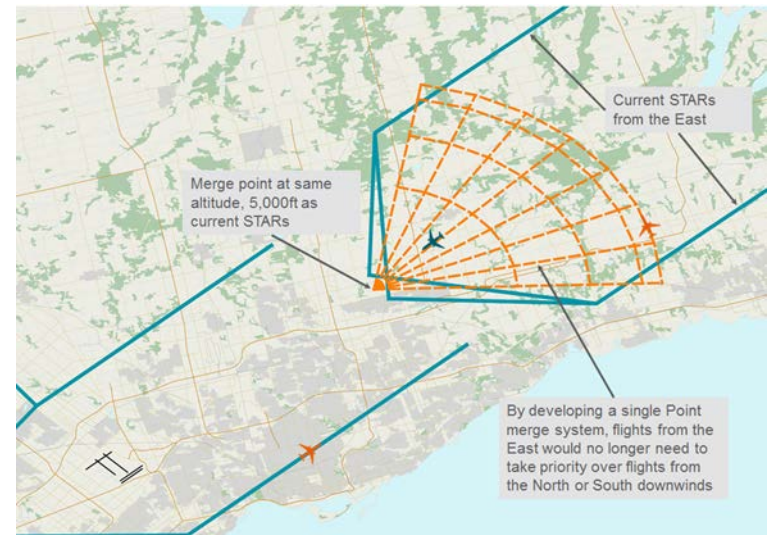


- > After considerable review, the INMB did not agree to endorse 3.2 ω published descent angles on RNAV approaches
 - Due to risk of unstable approaches in certain weather conditions
- > INMB members are currently assessing the use of GLS which could enable steeper approach paths.
 - GLS would not be impacted by same weather conditions
- > Recommendation 4 status: **ONGOING**

RECOMMENDATION 7A

Investigate Single Point Merge

- › Initial consultation with AVINOR (Norwegian ANSP)
- › Integration with AMAN has been investigated and is possible
- › Initial review has been discussed at INMB although further review is required
- › Recommendation 7A status:
ONGOING



RECOMMENDATION 8A

Implement Arrivals Manager System (AMAN)

- › Arrival Manager System purchased
- › Factory Acceptance testing successfully completed
- › Operational simulation successfully completed

- › Recommendation 8A status: **Final Operational Readiness tests currently occurring**

RECOMMENDATION 8B & 8C

Extend horizon of AMAN system

Invest in development of Time Based Operations

- › These are longer term items that require both further research and ongoing development
- › Updates will be provided when relevant developments occur
- › Recommendation 8B & 8C status: **ONGOING**

WHAT ELSE IS INMB DOING?



OTHER INMB INITIATIVES

- > New section in Canada Air Pilot for YYZ Operations
 - Will ensure specifics of Quieter Operations Guide gets right to the Flight Deck

- > Reduced use of reverse thrust at night
 - Guidance contained in *Quieter Operations Guide* and also Canada Air Pilot publication

- > New STAR vertical profiles
 - Removal of 'anchor altitudes' and low altitude restrictions
 - Possible increase in altitude of up to 1500ft in certain locations

TORONTO/LESTER B. PEARSON INTL. ON
CYYZ

CONTINUOUS DESCENT OPERATIONS (CDO)

User Instructions

CDO is a combination of aircraft operating technique and arrival procedure design with appropriate ATC clearances to enable arriving aircraft to fly a continuous descending path with a minimum of level flight segments until intercepting the final landing guidance to the runway (e.g. ILS). Ideally the aircraft will fly the continuous descent in the lowest power and drag configuration as is safely possible and consistent with stable approach criteria.

LOW POWER / LOW DRAG

Operators should ensure that aircraft are operated in a manner that causes the least disturbance practicable in areas surrounding the airport. Pilots are encouraged to:

- use minimum flap settings to meet necessary speed restrictions
- avoid early lowering of the landing gear. Where practical, the landing gear should not be deployed before being established on final approach and descending below 2000' AAL.

Pilots and controllers shall not allow CDO to impact safety of flight. To maintain safe operating parameters and/or to comply with ATC instruction, CDO may not always be possible.

SPEED RESTRICTIONS

All speed restrictions are to be flown as accurately as possible. If unable to conform to speed restrictions, inform ATC and state what speeds can be used.

DESCENT ON STAR

Pilots will be expected to manage continuous descents using VNAV systems |

When ATC assigns a lower altitude, pilots shall descend on the STAR profile to the assigned altitude. Charted altitude restrictions above the assigned altitude remain mandatory.

DOWNWIND DESCENT GUIDANCE

The goal of Downwind Descent Guidance is to enable CDO until the base turn vector.

Pilots should expect further descent clearance with a crossing altitude for one of the four downwind waypoints. Near this waypoint, pilots can anticipate a vectored base leg however controller instruction may vary based on traffic separation requirements.

- Pilots are expected to fly a continuous descent to this waypoint.
- If the crossing restriction is not met, an extended downwind may be required
- ATC will provide a base turn vector in a separate clearance

Never turn base without a clearance. If a base turn instruction has not been received, the pilot must continue flying the STAR.

Sample ATC phraseology:

"NAVCAN123, DESCEND TO 3000. CROSS MAROD LEVEL."

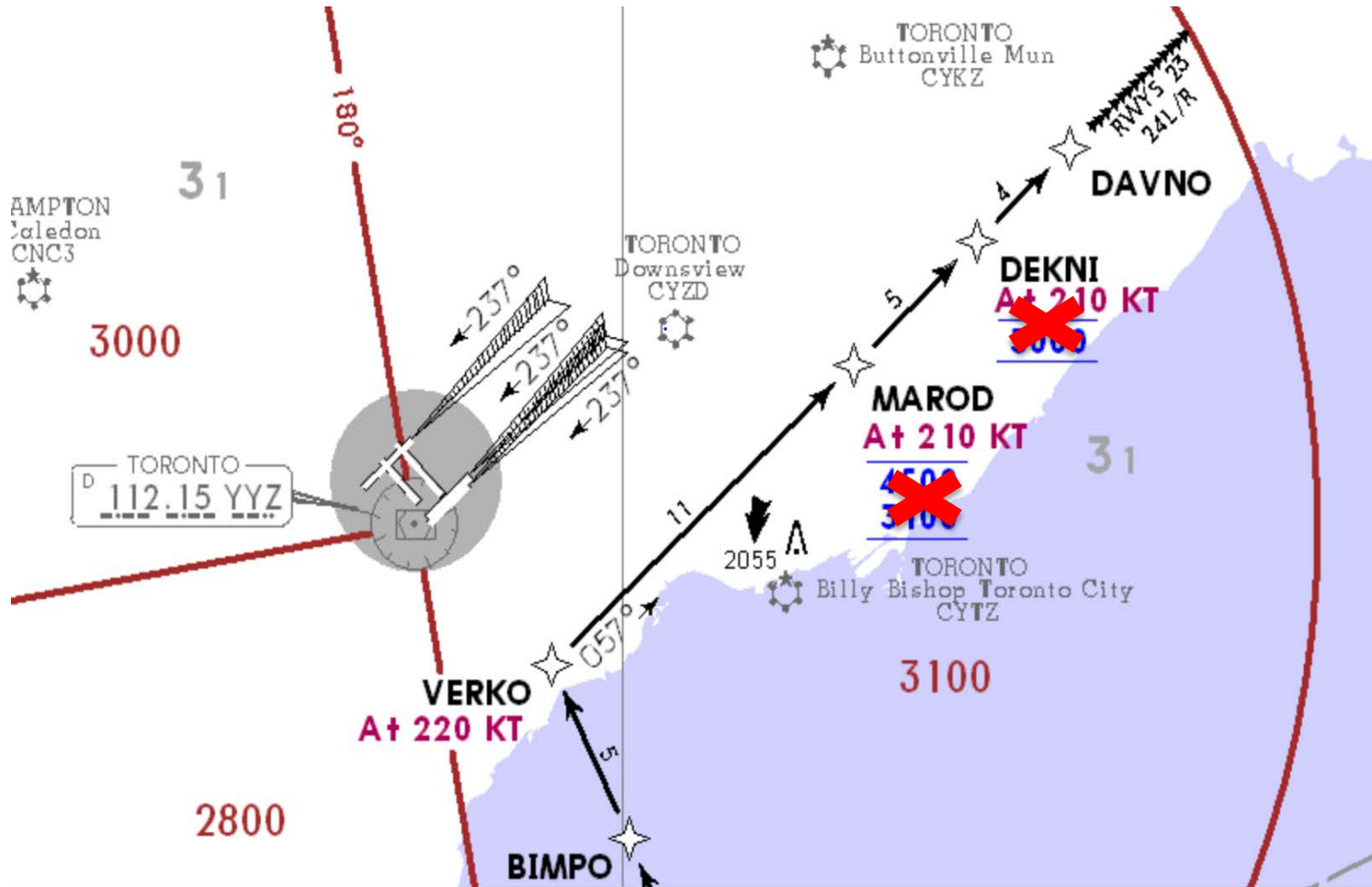
"NAVCAN456, DESCEND TO 4000. CROSS DUNOL LEVEL."

More detailed explanations of how ATC manages downwind traffic can be found in the document "Quiet Operations – A Guide for Pilots and Controllers" available here:
<http://www.navcan.ca/sites/Pages/default.aspx>

CONTINUOUS DESCENT OPERATIONS (CDO) CYYZ

OTHER INMB INITIATIVES

NEW VERTICAL PROFILE ON STARs



QUESTIONS?

