



## WORKING PAPER

### TWELFTH AIR NAVIGATION CONFERENCE

Montréal, 19 to 30 November 2012

#### Agenda Item 2: Aerodrome operations – improving airport performance

##### 2.2: Performance-based navigation (PBN) – a practical way to improve airport performance with safety and efficiency

#### PBN – THE AIRPORT VIEW

(Presented by the Airports Council International)

#### SUMMARY

This paper presents the airport operator view on performance-based navigation. ACI wants to stress the potential safety and efficiency benefits of PBN but believes that when new PBN routes are planned, it is important for airport operators to have early involvement with the ANSP, aircraft operators, the civil aviation authority and also the local community. Airport operators have a unique role and responsibility, and need to be able to argue for capacity increases when these are required to meet increasing demand. Noise is a major factor in the acceptability of airport capacity increases.

**Action:** The Conference is invited to consider an additional recommendation, on noise:

- f) requests ICAO to recommend that States, when considering PBN routes arriving at and departing from airports, ensure that air navigation service providers and aircraft operators involve airport operators from the outset so that they may consult fully with local communities in order to avoid adverse noise impact on those communities.

#### 1. INTRODUCTION

1.1 ACI supports the development of performance-based navigation (PBN) approach and departure routes to/from airports, has signed the joint Declaration by industry partners, and also supports the Secretariat WP/6 on PBN for terminal and approach operations.

1.2 PBN enables new routes that can provide benefits for all parties involved – aircraft operators, air navigation service providers, airport operators, etc. These benefits include fuel and time savings through shorter routes, safety improvements and environmental benefits, including an overall reduction in noise. However, there can be increases in noise for some, and this will be described later in the paper.

1.3 Safety can especially be improved for approaches to runway ends that do not currently have precision approaches, where ground based precision navigational aids are not available.

1.4 However, noise is a very important subject for airport operators, which are in the front line for complaints from the surrounding communities; noise issues are inevitable when new routes, are introduced. Airport operators also need to establish and maintain “permission to grow” so that future development of the airport to meet demand is not compromised by noise or other issues.

## 2. BACKGROUND

2.1 PBN offers the ability to fly approaches and departures more accurately, as well as en-route flight paths. With PBN, approaches and departures need no longer be limited by conventional navigational aids or straight-line ILS final approaches. PBN can enable airports to create more capacity in the sky by reorganizing flight tracks, and increase safety on runways where there was no precision approach capability, as well as by enabling continuous descent operations and continuous climb operations which can provide safety and efficiency benefits. Thus ACI wants its members to know about the possibilities of PBN and to get involved - to see whether it could benefit them to adopt it.

2.2 However, new approach and departure routes, and also new ATC procedures (e.g. runway alternation) need especially sensitive handling. It is a major concern for airport operators that they may create “new noise” for people who were not previously affected, and who will protest. Moreover, because PBN approaches and departure routes are very precisely flown, the noise is more concentrated on a small area.

2.3 ACI urges that airport operators must be involved from the very beginning of a PBN project, to bring their experience to bear, and to involve the community - without this, no project can succeed, however well-designed and even with a global reduction in noise. Senior representatives of the ANSP and aircraft operators (e.g. aircraft operator chief pilots) need to make themselves available to explain and listen to airport neighbours - and they should add community relations to their portfolio of skills. Without such relationships of trust and credibility with the community, the airport operator will not be able to argue for needed increases in airport capacity (“permission to grow”).

2.4 Another area of caution is that however well PBN approaches and departure routes are designed, they are worthless if for whatever reason they are not used. For example, in a mixed fleet environment, non PBN capable aircraft flying the conventional approach may make it impossible for the PBN-capable traffic to fly PBN approaches. Solutions can be for the PBN and non-PBN routes to overlay or merge on final approach, as several case studies have demonstrated. ACI proposes to incentivize the aircraft operators to upgrade the avionics of their older aircraft, through advantages for equipped aircraft.

2.5 In summary, PBN can offer advantages, but potential impacts such as community noise exposure and airport infrastructure require early attention – in consultation with the community. All parties need to see a benefit.

## 3. CONCLUSION

3.1 ACI wants to stress the potential safety and efficiency benefits of PBN.

3.2 ACI believes that when new PBN routes are planned, it is important for airport operators to have early involvement with the ANSP, aircraft operators, the civil aviation authority and also the local community. Airport operators have a unique role and responsibility, and need to be able to argue for capacity increases when these are required to meet increasing demand. Noise is a major factor in the acceptability of airport capacity increases.

4. **RECOMMENDATION**

4.1 The Conference should note and take account of the Conclusions and Recommendations in AN-Conf/12-WP/6.

4.2 ACI proposes to add a new subparagraph to **Recommendation 2/x – Performance-based navigation for terminal and approach operations implementation**:

- f) requests ICAO to recommend that States, when considering PBN routes arriving at and departing from airports, ensure that air navigation service providers and aircraft operators involve airport operators from the outset so that they may consult fully with local communities in order to avoid adverse noise impact on those communities.

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