International Civil Aviation Organization

Twentieth Meeting of the ICAO Aeronautical Information Services − Aeronautical Information Management Implementation Task Force (AAITF/20)

Chitose, Japan, 09 − 13 June 2025

Agenda Item 5: Regional AIM Guidance and Planning

INCREASING AVAILABLE ICAO 5LNC WAYPOINTS IN THE APAC REGION

(Presented by AUSTRALIA)

SUMMARY

This paper presents a proposal to evaluate options to increase the number of suitable five-letter pronounceable name-code identifiers in the APAC region.

1. **INTRODUCTION**

1.1 The requirements pertaining to ICAO 5LNC waypoints are contained in the paragraphs below of Annex 11, Appendix 2:

> *3.1 Where a significant point is required at a position not marked by the site of a radio navigation and, and is used for ATC purposes, it shall be designated by a unique five-letter pronounceable name-code. This name-code designator then serves as the name as well as the coded designator of the significant point.*
>
> *3.2 The name-code designator shall be selected so as to avoid any difficulties in pronunciation by pilots or ATS personnel when speaking in the language used in ATS communications.*
>
> *3.3 The name-code designator shall be easily recognizable in voice communications and shall be free of ambiguity with those used for other significant points in the same general area.*
>
> *3.4 The unique five-letter pronounceable name-code designator assigned to a significant point shall not be assigned to any other significant point. When there is a need to relocate a significant point, a new name-code designator shall be chosen. In cases when a State wishes to keep the allocation of specific name-codes for reuse at a different location, such name-codes shall not be used until after a period of at least six months.*
>
> *3.5 States' requirements for unique five-letter pronounceable name-code designators shall be notified to the Regional Offices of ICAO for coordination*

1.2 Annex 11 Appendix 2 paragraph 3.3 requires designators to be dissimilar to other designators in the general area. The ICARD proximity tool helps to satisfy this requirement.

1.3 As per AAITF/11 WP 08 paragraph 2.13 and AAITF/8 WP 07 paragraph 2.5, sounds-like checks should be carried out within 250NM for TMA waypoints or 500NM for En-route waypoints.

1.4   States from APAC are finding it increasingly difficult to find suitable designators that satisfy the above-mentioned proximity checks. Indonesia presented AAITF/19 WP 06 noting challenges in securing approval for new 5LNC's primarily due to sound-like proximity issues.
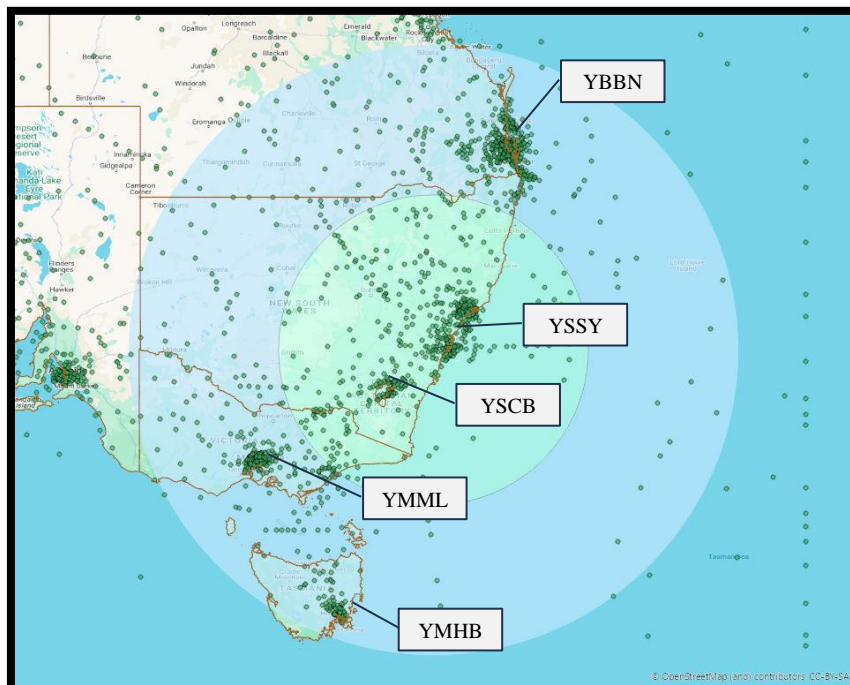
1.5   As more states in the APAC region replace duplicated designators as per ICAO State Letter AN 11/45.5-17/101 to comply with Annex 11 Appendix 2 Paragraph 3.4, the availability of suitable designators is further decreasing in the region.

1.6   Aviation infrastructure in the APAC region is forecast to continue growing. Many existing airports are planning to extend or add runways and new domestic and international airports are being built. Significant airspace and route changes are often required to support these significant investments and subsequently the demand for ICAO 5LNC waypoints is expected to follow the same upward trajectory.

2.   DISCUSSION

2.1   Australia is experiencing a shortage of suitable ICAO waypoint designators especially on the east coast of the country where several large international airports are well within 500NM of one another. Australia has encountered significant difficulty to source the required number of new enroute 5LNC waypoints to enable the required airspace and route changes associated with the operation of a second international airport in Western Sydney.
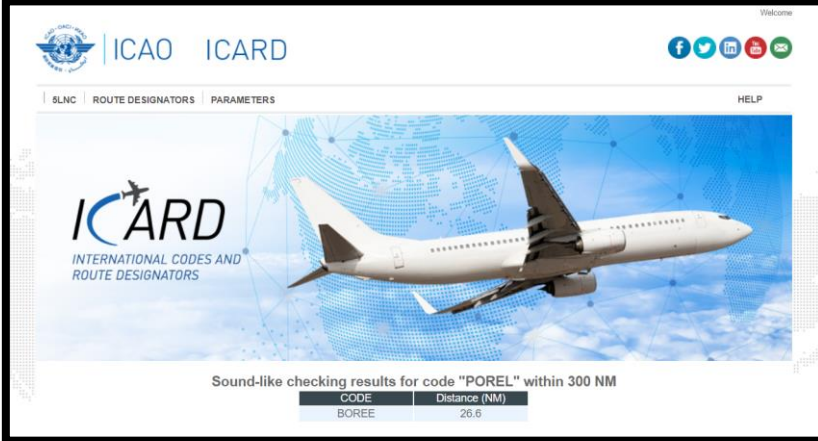
2.2   The figure below depicts the current ICAO 5LNC waypoint density on the Australian east coast. A 500NM buffer area centered on Western Sydney (blue area) includes several major international airports, namely YBBN, YMML, YBCG, YSCB, YMHB and subsequently reduces the availability of new enroute 5LNC waypoints.

2.3   The above limitation is further exacerbated by the previously reported shortcomings of the ICARD sounds-like tool. The reliability of the underlying algorithm responsible for identifying similar sounding designators is low. The tool has failed to pick up similar sounding waypoints within the chosen

proximity radius or returned a false positive as illustrated below. This is in line with Indonesia's Working Paper AAITF/19 – WP/06 para 2.2.

Example 1: False Positive

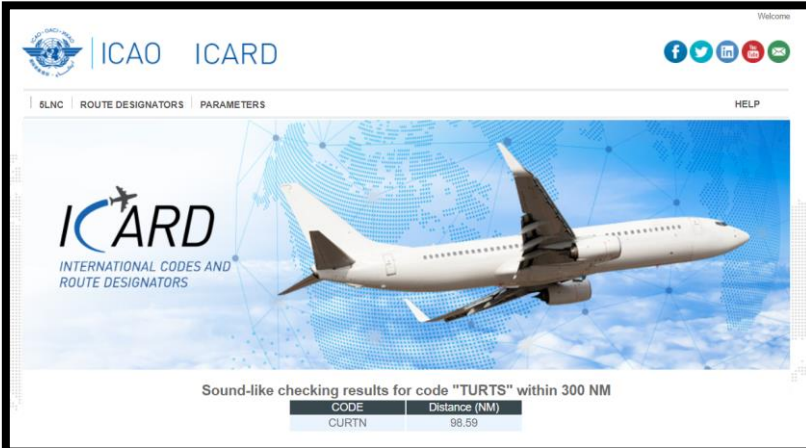Example 2: False Positive

Example 3: False Negative

2.4   Australia understands that it is ultimately the data manager's responsibility to satisfy Annex 11 paragraph 3.1 - 3.5. It is worth noting that Annex 11 does not define the dimensions of the area of interest around each waypoint when considering sound-like conflicts but instead mentions "the same general area."

2.5   Australia notes that the only identified references to the 500NM radius specification for the Enroute waypoint proximity check are listed below and does not provide clear guidance to ICARD users

    a) AAITF/11 WP 08 paragraph 2.13

    b) AAITF/8 WP 07 paragraph 2.5

    c) Screenshot from the ICARD 5LNC User Guideline on page 26 as per below screenshot

2.6   Australia notes the ICAO/EUROCONTROL 5LNC Task Force was established in 2017 to evaluate the pronounceability of the 5LNC available in the ICARD European (EUR)/North Atlantic (NAT) reserve list and to identify related issues which may have applicability at the global level. It is also noted that the ICARD proximity radius check requirement in the EUR/NAT region is 300NM for enroute waypoints.

2.7   Australia also highlights the APAC ICAO Regional Office's proposal from AAITF19 for states to review current PBN SID and STAR procedures and consider using 5-character alphanumeric designators for waypoints with non-compulsory reporting status, which would help to alleviate some of the 5LNC designator limitations in the APAC region, especially in areas with a high density of 5LNCs. Australia has maximized the use of 5-character alphanumeric designators on the SID and STAR procedures for the new Western Sydney Airport. 99 of the required 151 new terminal waypoints are 5-character alphanumeric designators.

2.8   Australia proposes that an APAC 5LNC Ad Hoc Group be formed to analyse the work carried out by the ICAO/EUROCONTROL 5LNC Task Force and evaluate any suitable means to increase the number of suitable identifiers in the APAC region. Suggested scope of the group included but not limited to:

    a) Review of current 5LNC management practices of APAC states.

    b) Review of 5LNC guidelines and practices in other regions.

    c) Review of current ICAO APAC guidelines (including proximity checks)

    d) Consideration of work underway by ICAO regarding ICARD.

    e) Recommend changes as appropriate.

3.   ACTION BY THE MEETING

3.1   The meeting is invited to:

a)   note the information contained in this paper; and

b)   consider and discuss the proposal under paragraph 2.8; and

c)   discuss any relevant matters as appropriate.

– END –