International Civil Aviation Organization

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

Chitose, Japan, 9 – 13 June 2025

Agenda Item 4: AIS-AIM Updates

5ANNC UTILIZATION AND RECOMMENDATIONS TO ICARD

(Presented by Japan)

SUMMARY

This paper presents the use of Five-Alphanumeric Name-Code (5ANNC) in Japan and the current issues of the ICAO International Codes and Route Designators (ICARD) application, and proposes improvements in the regulatory and functional aspects to prevent future depletion of Five-Letter Name Code (5LNC), which are easy to pronounce.

1. INTRODUCTION

1.1 Annex11 Appendix 2 paragraph 3.1 states that *'Where a significant point is required at a position not marked by the site of a radio navigation aid, and is used for ATC purposes, it shall be designated by a unique five-letter pronounceable "name code".*' Known as the 5LNC, this code is obtained by each State through the ICARD application.

1.2 Annex 11 Appendix 2 paragraph 3.1 *Note.* states that *'The principles governing the use of alphanumeric name-codes in support of RNAV SIDs, STARs and instrument approach procedures are detailed in the PANS-OPS (Doc 8168).'* These alphanumeric name-codes are referred to as 5ANNC.

1.3 PANS-OPS (Doc 8168) Volume II Part III Section 5 paragraph 1.6.1 states as follows:

> *1.6.1 Waypoints used in support of RNAV SIDs, STARs and instrument approach procedures shall be designated by either a unique, five-letter, pronounceable "name-code" or a five-alphanumeric name-code. The following principles apply:*
>
> *a) waypoints shall be designated by a five-alphanumeric name-code only if they are used for waypoints unique to one aerodrome that has a properly assigned four-letter location indicator (in accordance with Doc 7910);*
>
> *b) in the following cases a unique, five-letter, pronounceable "name-code", in accordance with Annex 11, shall be applied:*
>
> *1) final waypoint of a SID;*
>
> *2) initial waypoint of a STAR;*
>
> *3) waypoints common to more than one terminal control area or used in a procedure*

common to more than one airport which are not used for en-route; and

4) waypoints for ATC purposes.

1.6.2 The following criteria apply when five-alphanumeric name-codes are used:

a) the five-alphanumeric name-code convention that is adopted shall be applicable to all aerodromes within the State;

b) five-alphanumeric name-codes should contain characters taken from the airport designator, and/or characters indicating the use of the significant point, with all combinations containing no more than three digits;

c) the convention and the rules of application shall be published in the State AIP;

d) the five-alphanumeric name-code shall be unique within the terminal area in which it is used;

e) as global uniqueness cannot be assured, all waypoints that have a five-alphanumeric name-code identifier should be clearly listed as terminal waypoints in the AIP; and

f) as global uniqueness cannot be assured for waypoints containing five-alphanumeric name-codes, to avoid any potential misselection by the pilot, ATC should not use waypoints designated by five-alphanumeric name-codes in any re-routing from the en-route structure into a terminal procedure.

1.4 ICARD 5LNC User Guidelines Section 4 states that '*Checking the sound-like proximity of a 5LNC is mandatory and is the responsibility of the Authorized User.'* The scope of checking proximity in APAC region is also described in AAITF/18-WP/08, 2.9 Notes for new 5LNC requests, which states that *'Proximate 'sound-like' checking shall be conducted before submission. 250NM shall be used for Terminal Airspace, 500NM shall be used for Enroute airspace and Flight Information Region (FIR) boundary points.'*

2. DISCUSSION

The use of 5ANNC in Japan

2.1 The number of 5ANNC in Japan is 865 as of 20 March 2025, accounting for about 24% of all five letter codes in Japan, including 5LNC. 5ANNC in Japan is mainly used for waypoints on standard instrument departure (SID), standard instrument arrival (STAR) and instrument approach procedure (IAP) where ATC does not issue direct routing to aircraft. The active use of 5ANNC is considered to have a certain effect in preventing the future depletion of 5LNC, which are easier to pronounce.

2.2 During interviews conducted by ICARD planners in Japan, several domestic operators shared their perspectives on the use of 5ANNC. The following advantages were noted:

i) It can be predicted that there is a low chance of receiving a direct routing instruction to the waypoints of 5ANNC.

ii) 5ANNCs are generally easier for pilots to understand than 5LNC, particularly in cases where ATC communication may be affected by a strong or unfamiliar accent.

2.3 In some states, it seems that all waypoints except for the starting point of a STAR are composed of 5ANNC, and since ATC frequently issues direct routing instructions, there are cases where pilots must concentrate on the two/three-digit numbers during voice communication. Therefore, there is an opinion that some ingenuity is needed in the allocation of numbers. Overall, operators are already accustomed to using 5ANNC, so it doesn't seem to be strange, and there are many positive opinions.

2.4 On the other hand, there have been cases in Japan of changes from 5ANNC to 5LNC: as shown in **Figure 1**, the CB750 of RJCB RNP RWY17(AR) in Hokkaido was changed to the 5LNC IKUBO with effect from 17 April 2025. A total of five name changes from 5ANNC to 5LNC were made in the same period. This is due to the establishment of a terminal radar control facility in April 2024 that has jurisdiction over Eastern Hokkaido region, which has made it possible to provide more precise radar control operations around the airport and has led to ATC issuing direct routing instructions more frequently.

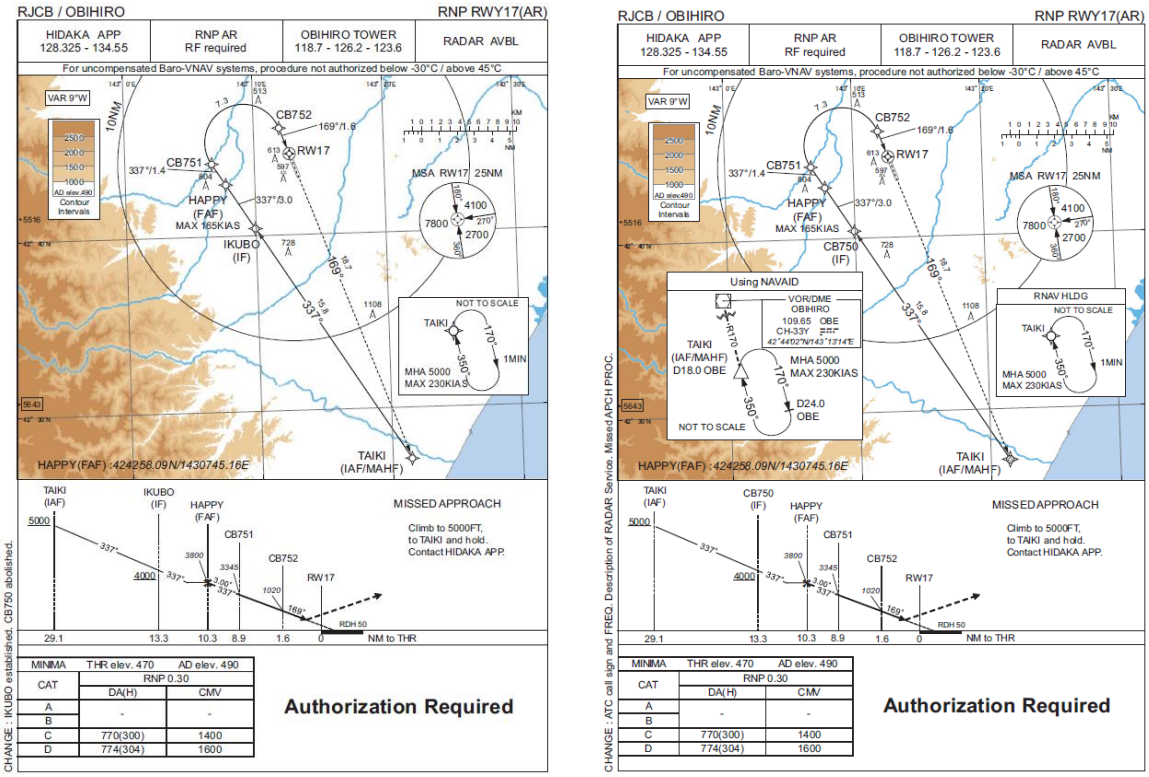

Figure 1: IF of RJCB RNP RWY17(AR) changed from 5ANNC to 5LNC

2.5 It is difficult to determine future operational assumptions when setting up a new SID or IAP, and it is necessary to simultaneously consider not only the use of 5ANNC, but also the expansion of 5LNC through ICARD rule changes and the enhancement of the ICARD application.

<u>Proposed improvements to reduce range of the proximity check</u>

2.6 In the EUR/NAT region, the range of Checking the sound-like proximity is 300 NM, which is significantly smaller than the 500 NM in the APAC region. The risk of future depletion of easily pronounceable 5LNC can be reduced by narrowing the range of the proximity check.

2.7 The key is how to evaluate the concerns about aircraft safety caused by narrowing the range of proximity checks. APAC regional office and other states should work together to collect information from the EUR/NAT region on the assessment method and the review after the introduction of the 300 NM, and then the APAC region should also consider reducing the range.

Proposed functional improvement in ICARD application

2.8 Due to the large-scale setting and revision of the flight procedures and the RNAV routes at RJBB and RJBE with effect from 20 March 2025, it became necessary to obtain 120 new 5LNC. Thanks to the efforts of the APAC regional office staff, Japan ICARD planners managed to get the AIP issued in time, but we would like to propose several improvements to the ICARD application so that each state can smoothly register with ICARD in the future.

2.9 The Proximity check can only be performed in advance with codes that are reserved or allocated on ICARD, and it is not possible to check between unregistered codes extracted by the applicant. There were cases where the application was rejected after it was submitted, even though there were no problems with the proximity check at the time of application, so it took more time than expected to coordinate with the relevant ATC facilities.

Example:

The following are some of the codes that were rejected by the APAC regional office at the time of application for 2.8 due to sound-like proximity issues.

Sound-like checking results for code "NIRUM" within 250 NM

CODE	Distance (NM)
VIRUD	152.45

Sound-like checking results for code "ESMUG" within 500 NM

CODE	Distance (NM)
ATMUG	31

None of the codes were found to have any problems in the proximity check prior to application. Cases that do not fall under the Homophonous 5LNC category are sometimes rejected, and it is unclear what algorithm is used to determine sound-like proximity in ICARD application.

2.10 Proximity issues are one of the reasons why it takes longer than expected for 5LNC to be approved. If each state knows in advance at the application stage which 5LNC are likely to become proximity issues, the process would be more facilitated. Therefore, Japan would like to propose the following ideas for the enhancement of ICARD application functions.

a) Implementing a function in the ICARD application to check in advance whether proximity issues occur between unregistered 5LNC extracted by the applicant.

b) Implementing a function in the ICARD application that allows the applicant to click to check the pronunciation of all the codes in the ICARD data base.

c) Implementing a function in the ICARD application that enables to apply for a unique 5LNC that is not in the global ICARD data base and that each state considers easy to speak.

Although it is considered that b would require difficult functional modifications, it may provide an opportunity to unify speech, which is useful for both ATC and operators in view of the current situation where the reading of speech varies depending on the nationality of the speaker.

2.11 In addition, it may be effective to remove codes that are unlikely to be approved from the reserve list in advance, such as 5LNC starting with X that are difficult to pronounce or 5LNC with a Q inserted. In the case of 2.8, HANQU was selected from the reserve list but was rejected due to a pronounceability issue. HANQU was also the name reported by Indonesia to have been rejected in AAITF/19-WP/06.

2.12 It would also be effective to ensure that each state has properly completed the 5LNC deletion requests in the ICARD application for the 5LNC that have already been abolished in the AIP, and to secure vacant 5LNC to prevent the depletion of 5LNC in the future.

ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the information contained in this paper;

b) discuss narrowing the range of proximity checks in the APAC region; and

c) discuss any relevant matters as appropriate.

– END –